



A NEW DYNAMIC
FOR CHANGE AND INCLUSION

12th

AUTISM-EUROPE
International
Congress 2019

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12th Autism-Europe International Congress

September 13-15th 2019

ABSTRACT BOOK

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We are glad to invite you to the 12th International Congress of Autism-Europe, which is organized in cooperation with Autisme France, in the beautiful city of Nice. Our congresses are held every three years, and we are delighted to be back in France, 36 years after the congress of Paris. It will be a great opportunity to take stock of the progress achieved and look at the opportunities ahead.

The 2019 congress' motto is "A new Dynamic for Change and Inclusion", in keeping with our aspiration that international scientific research on autism should be translated into concrete changes and foster social inclusion for autistic people of all ages and needs. Our congresses therefore strive to be a place where all interested stakeholders can meet to exchange and reflect on

how to shape better lives for autistic people.

On the occasion of this three-day event people from all over the world will come together to share the most recent developments across the field of autism. The congress will address a wide range of issues, including: diagnostic and assessment, language and communication, access to education, employment, research and ethics, gender and sexuality, inclusion and community living, mental and physical health, interventions, strategic planning and coordination of services as well as rights and participation.

We hope you will enjoy this Congress, where we will focus on what is needed to foster societies in which autistic people are included whatever their support needs and

have happy and fulfilling lives.

With kindest regards,



Zsuzsanna Szilvásy
President of Autism-Europe

We are very honoured to welcome the 12th Autism Europe Congress in Nice from 13 to 15 September. Our country, now determined to «put science at the heart of the public policy of autism», has many talented professionals and researchers, who are committed with us to the organization of this event, and the families are looking forward to listen to the outstanding speakers and contributors who will be bringing their skills and enthusiasm to serve the cause of autism.

Our country fully recognizes itself in the motto of the congress: «A new dynamic for change and inclusion» because the inclusive society has now become the reference for disability policy. Yet, this inclusive society is still not a daily reality for many people with autism, but initiatives are multi-

plying, and little by little, the understanding of autism changes as well as practices.

We will be particularly pleased to welcome professionals and families from all over the world to discuss the challenges, the advances, both social and scientific. Diagnoses are still difficult or too late to obtain in many countries, and it is important to share the tools to improve them, as it is essential to develop the means of real inclusion for people with autism, at school and at work, in sports and leisure activities, and also to bring support to families.

We hope that the program of this congress will attract you, and that it will be a success like the previous ones; its goal is to promote the participation of autistic people in all aspects of civic life, in accordance with the UN Convention on the Rights of Per-

sons with Disability, while respecting their differences, which we all strive to better identify and take into account.



Danièle Langloys
President of Autisme France












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EDUCATION	p.33 / p.34 / p.35 / p.43 / p.56 / p.71 / p.81 / p.92 / p.96 / p.98 / p.99 / p.100 / p.103 / p.107 / p.110 / p.113 / p.115 / p.116 / p.118 / p.125 / p.126 / p.127 / p.129 / p.131 / p.139 / p.152 / p.155 / p.161 / p.162 / p.166 / p.171 / p.176 / p.177 / p.187 / p.188 / p.189 / p.190 / p.193 / p.195 / p.196 / p.197 / p.198 / p.199 / p.200 / p.201 / p.202 / p.239 / p.242 / p.246 / p.260 / p.272 / p.290 / p.292 / p.296 / p.329 / p.346 / p.356 / p.361 / p.367 /
EMOTIONAL LIFE	p.81 / p.161 / p.268 / p.285 / p.293 / p.301 / p.303 / p.309 / p.328 / p.330 / p.344
EMPLOYMENT	p.71 / p.72 / p.73 / p.97 / p.150 / p.151 / p.152 / p.153 / p.154 / p.155 / p.156 / p.196 /
EMPOWERMENT	p.40 / p.42 / p.43 / p.49 / p.71 / p.91 / p.98 / p.109 / p.113 / p.115 / p.165 / p.168 / p.175 / p.185 / p.199 / p.289 / p.331 / p.352 / p.353 / p.359 / p.364 / p.367 / p.369 / p.370 / p.372 /
ENVIRONMENT	p.96 / p.97 / p.157 / p.163 / p.223 / p.249 / p.269 / p.288 / p.291 / p.345 / p.368 /
EPILEPSY	p.312 / p.314 /
ETHICS	p.66 / p.67 / p.81 / p.124 / p.325 / p.374 /
FAMILY	p.76 / p.114 / p.119 / p.127 / p.130 / p.139 / p.144 / p.262 / p.283 / p.285 / p.299 / p.314 / p.334 / p.335 / p.336 / p.337 / p.341 / p.344 / p.346 / p.348 / p.349 / p.351 / p.353 / p.355 / p.356 / p.357 / p.358 / p.359 / p.360 / p.361 / p.362 / p.364 / p.365 / p.366 / p.371 /

GENDER	p.59 / p.65 / p.95 / p.111 / p.239 / p.286 / p.319 / p.326 / p.327 / p.329 / p.330 / p.331 / p.332 / p.333 /
GENERAL HEALTH	p.40 / p.42 / p.43 / p.65 / p.86 / p.167 / p.318 / p.325 / p.326 /
INCLUSION	p.33 / p.34 / p.35 / p.43 / p.44 / p.53 / p.56 / p.68 / p.71 / p.72 / p.83 / p.87 / p.92 / p.100 / p.102 / p.103 / p.107 / p.116 / p.118 / p.125 / p.127 / p.131 / p.134 / p.147 / p.148 / p.150 / p.154 / p.182 / p.188 / p.191 / p.193 / p.195 / p.197 / p.199 / p.201 / p.202 / p.227 / p.228 / p.259 / p.276 / p.277 / p.279 / p.280 / p.281 / p.283 / p.284 / p.285 / p.287 / p.290 / p.291 / p.292 / p.293 / p.329 / p.342 / p.356 / p.357 / p.360 / p.369 / p.370 / p.372 /
INFANT	p.46 / p.66 / p.133 / p.245 / p.249 / p.262 / p.338 /
INTELLECTUAL DISABILITY	p.55 / p.63 / p.114 / p.200 / p.234 / p.242 / p.307 / p.317 /
INTERVENTION	p.51 / p.66 / p.74 / p.75 / p.76 / p.79 / p.81 / p.82 / p.107 / p.109 / p.110 / p.111 / p.113 / p.130 / p.133 / p.134 / p.135 / p.136 / p.139 / p.141 / p.142 / p.144 / p.147 / p.167 / p.169 / p.171 / p.193 / p.200 / p.254 / p.260 / p.265 / p.266 / p.269 / p.285 / p.298 / p.307 / p.324 / p.338 / p.344 / p.351 /
LANGUAGE	p.54 / p.55 / p.81 / p.137 / p.141 / p.172 / p.180 / p.251 / p.252 / p.253 / p.255 / p.258 / p.260 / p.262 / p.266 / p.268 /
LEARNING	p.34 / p.75 / p.158 / p.193 / p.196 / p.246 / p.261 / p.311 / p.338 / p.357 / p.366 /
LIFE-LONG	p.111 /
MENTAL HEALTH	p.52 / p.78 / p.141 / p.277 / p.295 / p.296 / p.297 / p.298 / p.299 / p.301 / p.305 / p.306 / p.313 / p.314 / p.326 / p.337 / p.375 /
NEURODEVELOPMENT	p.139 /
NEURO-DEVELOPMENTAL DISORDERS	p.154 / p.206 / p.207 / p.210 / p.212 / p.224 / p.225 / p.238 / p.243 / p.309 / p.318 / p.319 /
NEUROLOGICAL DISORDER	p.209 / p.237 / p.312 /
NEW TECHNOLOGIES	p.46 / p.84 / p.86 / p.87 / p.90 / p.125 / p.126 / p.160 / p.161 / p.162 / p.163 / p.164 / p.165 / p.167 / p.169 / p.170 / p.172 / p.173 / p.174 / p.175 / p.176 / p.178 / p.179 / p.180 / p.181 / p.182 / p.184 / p.185 / p.222 / p.231 / p.273 / p.350 /
NON- OR MINIMALLY-VERBAL	p.238 / p.270 / p.272 /
OLD AGE	p.273 / p.275 / p.301 / p.364 /
ORGANISATION	p.124 / p.129 / p.157 / p.170 / p.335 / p.374 /
PAIN	p.326 /
PARTICIPATION	p.49 / p.67 / p.68 / p.87 / p.287 / p.329 / p.333 / p.370 / p.376 /
PEER HELPER	p.363 /
PERSONALISED SUPPORT	p.71 / p.72 / p.108 / p.128 / p.153 / p.168 / p.171 / p.175 / p.184 / p.187 / p.191 / p.201 / p.240 / p.275 / p.350 /
POLICY	p.67 / p.113 / p.121 / p.122 / p.127 / p.234 / p.376 /
PRESCHOOL	p.83 / p.95 / p.109 / p.110 / p.134 / p.174 / p.178 / p.192 / p.223 / p.225 / p.232 / p.243 / p.312 / p.362 /
PROFESSIONAL	p.117 / p.129 / p.130 / p.336 / p.343 /
PROGRAM	p.33 / p.95 / p.109 / p.328 / p.344 / p.359 /
QUALITY OF LIFE	p.40 / p.42 / p.43 / p.57 / p.59 / p.64 / p.77 / p.122 / p.128 / p.137 / p.144 / p.147 / p.184 / p.229 / p.273 / p.279 / p.283 / p.284 / p.291 / p.297 / p.299 / p.323 / p.327 / p.331 / p.334 / p.342 / p.344 / p.345 / p.346 / p.349 / p.361 / p.372 /
RIGHT-BASED	p.122 / p.195 / p.325 / p.374 /
ROBOT	p.89 / p.166 / p.173 / p.176 /
SELF ADVOCATE	p.372 /
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SEXUALITY	p.195 / p.328
SOCIAL	p.79 / p.80 / p.140 / p.144 / p.148 / p.162 / p.166 / p.174 / p.176 / p.178 / p.179 / p.185 / p.197 / p.213 / p.214 / p.223 / p.237 / p.256 / p.263 / p.268 / p.272 / p.276 / p.286 / p.287 / p.291 / p.295 / p.309 / p.313 / p.318 / p.327 / p.334 / p.366 /
SOMATIC HEALTH	p.320 / p.321 / p.324 /
SPEECH	p.137 / p.259 / p.262 / p.268 / p.270 / p.288 /
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TODDLERS	p.74 / p.132 / p.133 / p.134 / p.142 / p.244 /
TRAINING	p.57 / p.83 / p.84 / p.90 / p.111 / p.113 / p.116 / p.118 / p.126 / p.140 / p.150 / p.164 / p.181 / p.188 / p.228 / p.257 / p.271 / p.274 / p.277 / p.281 / p.320 / p.353 / p.355 /
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PLENARY KEYNOTE

KEYNOTE-01

Understanding sex differences in autism**Authors:**

Simon Baron-Cohen, Autism Research Centre, Cambridge University

Multiple studies now show that in the general population, females on average show higher levels of empathy and males on average show a stronger drive to systemize. Empathy involves both a cognitive element (recognizing another person's mental state) and an affective element (responding to another person's mental state with an appropriate emotion). Systemizing is the drive to analyse or build systems (whether these are mechanical, mathematical, musical, natural, abstract, motoric, or collectible). Systems are anything that follows if-and-then rules.

I present evidence that autistic people score below average on different measures of cognitive empathy and that they are intact and even sometimes superior on measures of systemizing. If one takes the difference (D scores) between one's scores on empathy and on systemizing then autism can be viewed as an extreme of the typical male brain. Autism is strongly genetic and is diagnosed more often in males than females. This is likely to be true even after taking into account under-diagnosis of females. One candidate biological epigenetic mechanism that might influence typical sex differences and may play a role in 'masculinizing' the autistic brain is prenatal sex steroid hormones, that shape brain development, and which themselves are under genetic control. I summarize work from our lab testing whether levels of prenatal sex steroid hormones such as testosterone and estrogen are associated with typical sex differences in empathy and systemizing, and with autism and autistic traits.

Books

Baron-Cohen, S, (2003) *The Essential Difference: men, women and the extreme male brain*. Penguin/Basic Books.

Baron-Cohen, S, et al (2005) *Prenatal testosterone in mind: Studies of amniotic fluid*. MIT Press/Bradford Books.

Links: www.autismresearchcentre.com

Key Journal Articles

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Baron-Cohen, S, et al (2015) 'The "Reading the Mind in the Eyes" Test: Complete absence of typical sex difference in ~400 men and women with autism'. *PLoS ONE*.

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Greenberg, D, M, et al (2018) Testing the Empathizing-Systemizing theory of sex differences and the Extreme Male Brain theory of autism in half a million people. *PNAS*, 115, 12152-7.

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Pohl, et al (2014) Uncovering steroidopathy in women with autism: a latent class analysis. *Molecular Autism*, 5, 27.

Ruta, L, et al (2011) Increased serum androstenedione in adults with Autism Spectrum Conditions. *Psychoneuroendocrinology*. 36(8), 1154-63.

Schwarz, E, et al (2010) Sex-specific serum biomarker patterns in adults with Asperger's Syndrome. *Molecular Psychiatry*. 16 (12): 1213-20.

Warrier, V, et al (2018) Genome-wide meta-analysis of cognitive empathy: heritability, and correlates with sex, neuropsychiatric conditions and cognition. *Molecular Psychiatry*, 23, 1402-1409.

Warrier, V, et al (2018) Genome-wide analyses of self-reported empathy: correlations with autism, schizophrenia, and anorexia nervosa. *Translational Psychiatry*, 8.

KEYNOTE-02

The biological foundations of morality

Authors:

Jean Decety, University of Chicago, United States

Morality is so deeply rooted in our social fabric that it seems difficult to imagine a society without norms that delimit the boundaries of what is right or expected of its members. Throughout the past decades, evolutionary biologists, developmental psychologists, and more recently developmental neuroscientists have begun to examine the psychological, computational and neurological mechanisms underlying the building blocks of morality and prosociality, which emerge early in ontogeny. I will present a series of studies on third-party sociomoral evaluations and fairness sensitivity conducted

with babies and young children. The results illuminate the mechanisms involved in both social evaluations and preferences, as well as their implementation into actual prosocial behavior. I will argue that developmental neuroscience is critical for clarifying the nature and relative recruitment of the mechanisms involved in moral cognition, and the extent to which prosociality is governed by intuitive or deliberative processing.

KEYNOTE-03

What do we (not yet) know about autism and aging?

Authors:

Hilde Geurts, University of Amsterdam, Netherlands

We age and when we age many things are changing. We become more vulnerable for specific physical and mental health conditions, we become slower and often less flexible. However, we might also

become wiser. The question is whether the impact of aging is anything different for autistic adults. An overview will be given what is currently known about being autistic and reaching old age.

KEYNOTE-04

From diagnosis to functioning and quality of life in autism

Authors:

Sven Bölte, Karolinska Institutet, Stockholm, Sweden

Traditionally, autism is viewed and assessed from the clinical symptomatology perspective. Still, for autistic individuals, their families and large parts of society, the dimensions of functioning and quality of life are both more significant and accessible. In this key note lecture, a review is given on quality of life and functioning in autism, and it is discussed why shifting attention from diagnosis to these

dimensions is meaningful and necessary. Particularly, this presentation describes the potential of the WHO International Classification of Functioning, Disability and Health (ICF), and the recently developed ICF Core Sets for autism to facilitate this process

KEYNOTE-05

Empowerment of persons on the autism spectrum within an inclusive society : what should it look like ?**Authors:****Stefany Bonnot-Briey**, Paris, France**Tristan Yvon**, Paris, France**Jean-François Renaut**, Cannes, France**Camille Ribeyrol**, Angers, France

This keynote, led by people with autism, aims above all to give them the opportunity to be physically present and to express themselves. The diversity of the profiles and life situations of the four people participating also reminds us that the autism spectrum is broad and heterogeneous, and that expression does not only involve oral language.

Between the four of them, they will give insights into what an adult life with autism can look like, at home, at work, in the family... Through « sequences » of their daily lives, they will show that living with a disability does not condemn a global and irreversible incapacity, but also makes them « otherwise capable ».

KEYNOTE-06

Developmental Social Neuroscience meets Public Health Challenge : The Next Generations of Children with Autism**Authors:****Ami Klin**, Emory University, Atlanta, United States

This presentation highlights the critical role of early diagnosis and intervention in attenuating the symptoms of autism. Data will be presented on early diagnostic indicators obtained through eye-tracking-based behavioral assays that quantify the social disabilities in autism. The results of these assays were used to generate «growth charts» of normative social engagement, and the deviations from the norm were taken as early indicators of risk. These methods yielded high sensitivity and specificity for the screening of infants. The ultimate goal of this effort is to develop objective and quantitative tools for the detection of autism in infancy, tools that might be deployed in primary care practices. Updates on the development and testing of community-viable tools and their promise will be provided. This work is grounded in recent developmental social neuroscience research

with toddlers with autism, which implicated developmentally very early emerging, and evolutionarily highly conserved, mechanisms of social adaptation that set the stage for reciprocal social interaction, which in turn represent the platform for early social brain development. These mechanisms of socialization are under stringent genetic control, setting the scientific basis for parent-delivered, community-viable, early treatment in which social engagement is ?engineered? via daily activities, thus impacting a child's development during every moment of social interaction during a period of maximal neuroplasticity

SYMPOSIUM

I feel good at school: well-being as the lever for successful education for students with autism

Authors:

Peter Vermeulen, Semmerzake, Belgium

For students with autism, attending school is like having a double curriculum: on top of the standard curriculum with its traditional learning outcomes, there is also a second curriculum: learning to navigate the social school world, coping with the sensory environment, surviving unpredictability and uncertainty, understanding neu-

rotypical communication. No wonder so many students with autism are stressed at school or drop out of school. Ensuring well-being at school is the main key that gives access to education

Inclusive schooling of 51 children with Autism Spectrum Disorders benefiting from a comprehensive support Program, the Intervention-Development-Home-School-Enterprise-Supervision (IDHSES): evolution of their cognitive abilities and autistic behavioral symptomatology

Authors:

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Marion Wolff, UMR 8257 COGNAC-G CNRS/SSA, Faculté des Sciences Fondamentales et Biomédicales, Université Paris Descartes, Sorbonne Paris Cité, Paris, France

Maria Pilar Gattegno, Psychology Office ESPAS-IDDEES, Bordeaux, France

Jean-Louis Adrien, University Paris Descartes, Sorbonne Paris Cité, Boulogne-Billancourt, France

Introduction

As recommended by the European Council, children with ASD should attend mainstream school, but without appropriate professional support they cannot develop their cognitive and behavioral skills. A comprehensive developmental support specifically created for inclusion of children with ASD consists of intensive, individualized coaching at school, including supervision and guidance of parents and teachers. In this study, the objective was to show evidence of both the evolution of cognitive abilities and the reduction in autistic behaviors in children who have individually benefited from this program (between 17 and 35 hours per week) over a period of two years.

Methods

Participants were 51 children with ASD (43 boys, 8 girls) diagnosed by practitioners according to DSM-IV-TR, CIM-10 and DSM-5 criteria, aged from 2 to 8 years, all living in a big city or its suburbs and individually benefiting from this support program piloted by expert psychologists, experienced in ASD. Cognitive assessments with adapted tests to the developmental level of each child, such as PEP-3, EDEI-R, and autistic behavior assessments with CARS were carried out three times (T0, T1 and T2) at 10-month intervals for a period of two years (2014-2016 years). Development Ages and Quotients

and CARS scores were calculated. In addition to the ANOVAs implemented for each dependent variable, a Bayesian approach was developed to obtain predictive probabilities for different observed effects.

Results

Results show evidence of an increase in cognitive ability levels related to decreased developmental delay and a reduction in autistic behavioral symptomatology, regardless of the children's chronological ages and severity' of autism at the beginning of intervention.

Discussion

Like other programs or methods such as ESDM, TEACCH and ABA, this comprehensive support Program (IDHSES) was thus considered beneficial for pre-school and school-aged children with ASD and might be recognized by the authorities, parents and teachers as useful for these children.

Keywords: Education, Inclusion, Program

The «Recourse Classroom» Model: Educational Inclusion in Russian Mainstream Schools

Authors:

Yevgeniy Bondar, AUTISM REGIONS Association, Moscow, Russia

Evgeniya Lebedeva, AUTISM REGIONS Association, Moscow, Russia

Anna Egorova, AUTISM REGIONS Association, Moscow, Russia

Educating children with disabilities in inclusive environment is a relatively new trend for the Russian educational system. Despite the fact that parents in Russia have the right to choose the type of educational placement for their children, inclusion is not realistic for children with ASD in most cases. The main barrier is lack of professionals who are aware of ASD and had training on using evidence-based practices in education of children with ASD. The present talk aims at reviewing recent efforts of developing educational inclusion for autistic children in Russian public schools.

Methods

The “Resource Classroom” inclusive educational model emerged in Russia about five years ago as a result of joint efforts by parent organizations, charities and foreign professionals in the field of educating children with special needs. The model provides flexible and highly individualized educational settings for each schoolkid with ASD according to her/his needs, which include one-to-one instruction, group instruction, and attending a regular classroom with a personal teacher. The process of mainstreaming is gradual and individual. The model relies heavily on evidence-based practices and instructional techniques. During the initial stage of implementation of the model (2013-2015) all the classrooms were supervised and all the staff were trained by foreign experts. The details of the model will be presented in the talk.

Results

Parent organizations were imperative in implementing the model in different cities of Russia and disseminating this experience. Some of the most prominent of these organizations are now united and working together as members of AUTISM-REGIONS Association. Since last year the Association has been running the “Resource Classroom” program nationally. Parent organizations from all Russia are being funded and consulted in order to implement such model in government schools (the funds have been raised by our partner charity organization The Way Out foundation). Thanks to these efforts, almost 200 kids with ASD have been provided with access to free public education in more than thirty primary schools and pre-schools from different parts of Russia.

Discussion

Our main focus at the moment is to assist the government in implementation of the educational inclusion for people with ASD at the state level, including wider adoption of evidence-based practices, establishing programs in ASD in universities, and improving legislation to increase access of education for autistic children.

Keywords: Education, Inclusion, Learning

Reversing the cycle of educational exclusion and poor longer-term outcomes of autistic children and young people by harnessing their intense interests in school

Authors:

Rebecca Wood, London, United Kingdom

Introduction

Despite significant international drivers towards the educational inclusion of autistic children and young people (CYP), they continue to be subject to high levels of school exclusion

and have impoverished longer-term outcomes across a range of measures. In my doctoral study, I wanted to find out if and why autistic CYP are struggling in mainstream schools, to understand the

nature of their inclusion, and to find possible solutions to their poor educational outcomes. I also wanted to explore understandings of autism, and to consider how these link to the participation of autistic CYP in school life.

Methods

In 2015, I spent 5 months in 5 mainstream schools in a single education district. I employed a case study design, operated within an interpretative paradigm and was informed by theories of inclusion, difference and social models of disability. It was a multi-perspective study, incorporating the views of school staff (n = 36), autistic children (n = 10), parents (n = 10) and autistic adults (n = 10). I used mixed methods: questionnaires, focus groups, observations and semi-structured interviews. My data were analysed via thematic analysis resulting in eight, interlinked themes, including the theme of 'Interests', discussed here.

Results

I found that when autistic children are subject to repetitive and highly-prompted activities, their engagement, learning and well-being are poor. By contrast, when they can access their intense interests – often framed pejoratively as 'fixations' or 'obsessions' - a range of inclusionary benefits are achieved, with few drawbacks. The

advantages include better access to the curriculum and assessment, improved communication and socialisation, greater independence, satisfaction and task completion, as well as positive future plans. A reduction in prompting and greater self-efficacy on the part of school staff were also found.

Discussion

The negative association between autism and intense interests needs to be reappraised. Finding ways to integrate this autistic trait into school curricula could benefit autistic CYP and school staff, as well as larger school populations, as all CYP show greater resilience and independence when motivated. School staff must be able to adapt school curricula to support a diversity of learners. While my study suggests a need for further research into the negative manifestations of this trait, it also provides important potential solutions to the fractured educational inclusion and poor longer-term outcomes of autistic CYP.

Keywords: Education, Inclusion

What does genetic research teach us about autism?

Authors:

Thomas Bourgeron, Paris, France

For more than 50 years, the genetic contribution to autism has been highlighted, but it is only at the beginning of the 21st century that the first genes have been identified. Currently, more than a hundred genes are known, while others are being identified. Analysis of cellular and animal models has shown that the majority of these genes play an important role in brain development. In particular, these genes modulate the number and functioning of the points of contact between neurons called synapses. With the new methodologies, it is possible to identify a genetic cause for 10-20% of people with au-

tism and thus reduce the Odyssey of the diagnosis. Based on this knowledge, several French, European, and international initiatives have been launched bringing together clinicians, researchers, family associations and people with autism. In this presentation, I will illustrate the latest advances in this research that aims to better understand the complexity of autism to improve the diagnosis, care and integration of people with autism.

Mismatch negativity as a candidate neurophysiological marker of Autism Spectrum Disorders

Authors:

Marie Gomot, INSERM, Tours, France

Frédérique Bonnet-Brilhault, Université de Tours, France

Introduction

Identifying neurophysiological markers in Autism Spectrum Disorders (ASD) contributes to the understanding of the physiopathological cascades involved in the condition and allows targeting therapeutic interventions. Inflexible behaviours represent essential symptoms of ASD and would develop to maintain a high level of sameness in the environment. Associated with atypical sensory behaviours, this raises the question of how patients perceive and process changes occurring in their surroundings. Among electrophysiological indices, the Mismatch Negativity (MMN), as a brain correlate of regularity violation, is an appropriate tool to address this question. The present study thus aims at establishing whether the electrophysiological response to unexpected change (MMN) could represent a suitable neuromarker of ASD.

Methods

EEG recording during a classical frequency-deviant oddball paradigm was first performed to characterize MMN in fifteen 7 to 12 years-old children with ASD and their aged and gender matched controls. To determine the specificity of MMN particularities in ASD, the same paradigm was then presented to children with other neurodevelopmental disorders (preterm and dyslexia, N=15 per group). Finally in order to assess the stability of the response in ASD throughout development, the MMN was recorded in 54 participants with ASD aged and gender matched with 54 typically developing controls aged 5 to 16 years.

Results

In children with ASD the classical fronto central distribution of the MMN was not found, and this was associated with a latency shortening and a larger P3a response, indicating stronger orientation of attention toward deviant events. These MMN abnormalities identified in ASD, were related to clinical expressions of intolerance of change. Moreover using a transnosographic research strategy, we showed that the atypical processing of change observed in ASD is specific to this pathology as it was not found in patients with other neurodevelopmental disorders. Recordings of the MMN on a larger age range revealed that the latency shortening is present only in children with ASD, with a normalization of the MMN parameters at adult age.

Discussion

Using a same paradigm in different groups of participants to characterize MMN abnormalities, we validated the criteria used to define biomarkers such as causality and specificity. This constitutes a first step in the establishment of the diagnostic and possible prognostic value of MMN in children with ASD.

Keywords: Brain development, Cognition

Full Mutation mRNA from Males with Fragile X Syndrome is associated with Autistic Features

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Introduction

Fragile X syndrome (FXS) is a common monogenic cause of intellectual disability (ID) and autism spectrum disorder (ASD). While it is caused by loss of the FMR1 product (FMRP), mosaicism for active and inactive FMR1 alleles, including pre-mutation (PM: 55-199 CGGs) alleles, is not uncommon. Both PM and active full mutation (FM: ≥ 200 CGGs) alleles often express elevated mRNA levels that are thought to be toxic. This study determined if complete FMR1 mRNA silencing from FM alleles and/or levels of FMR1 mRNA (if present) in blood are associated with intellectual functioning and autism features in FXS.

Methods

This study comprised a large international cohort of 98 individuals (70.4% male) with FXS (FM-only and PM/FM mosaic) aged 1-43 years. Intellectual functioning and autism features were assessed using an age appropriate developmental (Mullen Scales of Early Learning) or intellectual functioning (Wechsler Scale) assessment and the Autism Diagnostic Observation Schedule-2nd Edition (ADOS-2), respectively. FMR1 mRNA was analysed in venous blood collected at the time of assessment, using the real-time PCR relative standard curve method.

Results

FXS females had significantly higher levels of FMR1 mRNA ($p < 0.001$) than males, which were positively associated with age ($p < 0.001$), but not with autistic features and intellectual functioning in females. FM-only males (aged < 19 years) expressing FM FMR1 mRNA had significantly higher ADOS calibrated severity scores compared to FM-only males with completely silenced FMR1 ($p = 0.011$). Though, there was no significant differences between these sub-groups on intellectual functioning scores. In contrast, decreased levels of FMR1 mRNA were associated with decreased intellectual functioning in FXS males ($p = 0.029$), but not autism features, when combined with the PM/FM mosaic group.

Discussion

The findings demonstrate that incomplete silencing of toxic FM RNA may be associated with autistic features, but not intellectual functioning in FXS males aged under 19 years. While decreased levels of mRNA, may be more predictive of intellectual functioning, than autism features. These findings may have implications for patient stratification, design of pre-clinical and clinical trials, and outcome measure development in FXS, though replication in larger independent samples is required.

Immune dysfunction in autism spectrum disorder: from gut to brain

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Introduction

Introduction: Autism Spectrum Disorders (ASD) are characterized by social impairments and stereotypic behavior as well as somatic comorbidities. Some ASD patients have been shown to exhibit gastro-intestinal (GI) distress, intestinal microbiota dysbiosis, altered levels of microbiota-derived metabolites in urine and immune related molecules in serum. Furthermore, preclinical studies have shown that experimental manipulations targeting either the gut microbiota or the immune system could impact behavior in mice. Based on these studies, we hypothesized that an abnormal gut microbiota resulting from specific gene-environment interactions could lead to both behavior and GI symptoms in at least a subset of ASD patients.

Methods

Methods: ASD subjects without intellectual deficit and sex and age matched healthy controls were included and extensively characterized for social difficulties, stereotypic behavior, GI symptoms, gut microbiota composition, serum cytokine levels, bacteria derived metabolites in urine, Human Leukocyte Antigen (HLA) diversity and Pattern Recognition

Receptors (PRRs) genes variants. Effects of fecal supernatant from patients with ASD were tested in mice.

Results

Results: The microbiota in ASD patients was less diverse and characterized by an increased abundance of the phyla Bacteroidetes and Firmicutes. Genetic analysis revealed an association between ASD and HLA-DRB1*11-DQB1*07 as well as with functional variants of the Pathogen Recognition Receptor (PRR) gene DECTIN1. Fecal supernatant from patients with ASD revealed alteration of intestinal permeability, increased production of secondary biliary acids and change of gene expression.

Discussion

Discussion: The gut microbiota in ASD patients exhibit an altered composition. Further investigation of gut-brain interaction could pave the way for the development of innovative diagnostic and therapeutic strategies.

The rights and need fo persons with asd in the field of healthcare

Authors:

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The needs of persons with ASD in the field of health care are not sufficiently taken into account, entailing negative consequences on both their physical and psychological wellbeing. Active measures are needed to ensure equal access to healthcare, including awareness

raising and training of general healthcare professionals, reasonable accommodationS of healthcare premises as well as awareness raising actions to caregivers.

Eating problems in men and women with ASD

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Introduction

Documentation on eating problems in adults with autism spectrums disorder (ASD) is limited and focused mainly on adults with mental retardation and on children (Råstam 2008). Therefore, we do not know whether the eating problems that exist in children with ASD, continue in adulthood. Gaining more knowledge about eating inadequacies in adults with ASD is of clinical importance, especially since this can lead to medical and developmental issues, including under-nutrition.

Methods

The presence of eating problems was assessed in 53 men and 36 women with an ASD and with normal intelligence, with and without housing and residential support. The results were compared to a neurotypical group of 30 men and 38 women. Diagnoses were based on the ADI-R and a DSM-5 interview ASD. Eating problems were assessed using the Dutch translation of the SWEAA (SWedish Eating Assessment for Autism).

Results

Both groups of men with ASD reported difficulty to adapt their eating behavior to other people present (subscale Social situation at meal-time) and having problems doing two things simultaneously during a meal (subscale Simultaneous capacity). Results also indicate that men with ASD who do not receive housing/residential support, had a strong preference for certain foods (subscale Eating behavior) and

experienced eating rituals (subscale Mealtime surroundings). Interestingly, the men with ASD who received housing support did not report problems in these areas. The women with ASD reported more eating problems compared to the control group women on almost all subscales except for Pica and Motor control.

Discussion

Our study is the first to examine eating problems in high functioning men and women with ASD. Our results indicate that men and especially women with ASD experience various eating problems. The extent to which eating problems were reported by the women with ASD is worrying. Given the high significance and the large effect size of four subscales and the total score, it is likely that these problems lead to significant impairment in day-to-day functioning. In the groups of men with ASD, we noticed that those who received housing support reported fewer eating problems than the males without this support. This gives rise to the hypothesis that home support that focuses on gaining and retaining a healthy lifestyle and eating pattern may prevent or reduce eating problems. A replication study should focus on investigating this relationship, since this is of interest in clinical practice.

What does genetic research teach us about autism?

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Introduction

Health and physical issues in Autism has been relegated to the background in order to give more emphasis to increase skills and learning to reduce core symptoms in Autism. Nevertheless recent studies have shown the importance of providing support in this area throughout lifespan improve quality of life of people with ASD and their families. Often, prevention is a more effective intervention, especially with people that present more difficulties understanding the importance of habits that help identify symptoms or physical problems as well as maintaining health. Poor physical wellbeing can impact significantly in other dimensions of QoL (Nieto, C. & Ventoso, R. 2011). Therefore, it must be a priority goal for families, persons, organizations and politicians.

Methods

We did an initial study to measure QoL, and with the results obtained, our organization has developed strategic planning focused on different areas of physical wellbeing and health. One of the main action is empowering people with ASD and their families as well as caregivers and healthcare professionals. The following activities were developed:

Health workshops for families, professionals and people with ASD
Systematic revisions and prevention issues

Awareness Training

Natural environments interventions

Communications strategies

Establishing public-private partnerships

Results

The results we have obtained are related with higher QoL in the Physical Wellbeing dimension and better competence of family, caregivers and health professionals. Also, we have seen arise in demands of partnerships with public health care providers.

Discussion

In conclusion, we are working together with the administration in developing protocol that ensure a better attention primary health care as well as giving control to the people with ASD on the health issues. On the other hand, we emphasis on including goals in all the Individual Plans supports across lifespan through empowering people with ASD and their families. In the future, our aim is to enable autism friendly environment within the healthcare.

Keywords: Empowerment, General health, Quality of life

Dental Health of Children with Autism: Controlling Anxiety Using Dental Care Training via ICT

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Introduction

Offering dental health to children with autism is challenging because it provides various visual/aural stimulations rarely experienced in any other setting. Their different perception of the surrounding world and difficulty accepting unknown social contexts can generate anxiety and fear, which if not adequately addressed, might trigger problem behaviors. This often forces dentists to use potentially dangerous chemical sedation in order to perform dental work on the child. Since digital tools are natural motivators for children, our study aims to expand previous research investigating the full potential of ICT to deliver the awareness and predictability of all dental clinic environment components (settings, tools, noise, procedures).

Methods

A multidisciplinary team applied co-design to selecting and creating digital resources and tools organized in a web application, MyDentist. A clinical protocol was defined and tested with a group of children with autism to implement desensitization and anxiety control in a real dental care setting using the kit of digital resources as assistive technology. Periodic visits (45 min) were scheduled for each child over a 3-month period in the same clinical room to ease familiarization. During dental care, structured training was delivered:

1) familiarization with medical procedures (control visits, dental hygiene, tooth decay treatment, dental sealant), and 2) educational activities (in the clinic) and homework using personalized digital resources.

Results

Results appear to confirm the positive role of supportive technology in anxiety control: (i) Most children showed a positive response, modeling their behavior and becoming increasingly collaborative (ii) Caregivers strongly committed to the protocol were satisfied with their active involvement. (iii) Children who respected the weekly schedule successfully completed the dental protocol in the scheduled time, and their caregivers felt the child-parent relationship was reinforced.

Discussion

This study confirms the importance of ICT tools for reducing anxiety during dental care sessions as well as for active parent involvement in the care of their children. Involving children in content creation during the clinical meeting helps them accept the dental care protocols. A few guidelines for creating accessible digital tools for anxiety reduction can be shared to benefit designers.

25 years of experiences with community living in a Scandinavian country

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Introduction

Health and physical issues in Autism has been relegated to the background in order to give more emphasis to increase skills and learning to reduce core symptoms in Autism. Nevertheless recent studies have shown the importance of providing support in this area throughout lifespan improve quality of life of people with ASD and their families. Often, prevention is a more effective intervention, especially with people that present more difficulties understanding the importance of habits that help identify symptoms or physical problems as well as maintaining health. Poor physical wellbeing can impact significantly in other dimensions of QoL (Nieto, C. & Ventoso, R. 2011). Therefore, it must be a priority goal for families, persons, organizations and politicians.

Methods

We did an initial study to measure QoL, and with the results obtained, our organization has developed strategic planning focused on different areas of physical wellbeing and health. One of the main action is empowering people with ASD and their families as well as caregivers and healthcare professionals. The following activities were developed:

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Keywords: Empowerment, General health, Quality of life

Interactions between autistic and neurotypical adults: self-rated rapport indicates an effect of mis-matched but not absolute diagnostic identity

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Introduction

Lived-experience reports suggest autistic people may find interacting with other autistic people more comfortable and less stressful than interacting with neurotypical people. This research provides an empirical test of this hypothesis, by investigating how autistic and neurotypical people self-rate interactional rapport during three task-based interactions. Data reveal whether interactive rapport varies depending on the autism status of rater, or on the match /

mismatch in autism status of their social partner.

Methods

Autistic and neurotypical participants in three conditions (neurotypical pairs (n = 24), autistic pairs (n = 24), and autistic participants with neurotypical participants (n = 24)) completed three collaborative tasks each with the same partner. Participants rated interactive rapport after each interaction, by scoring ease, comfort, enjoyment,

success and awkwardness of each interaction on sliding scales out of 100. Scores were summed into a scale score for "rapport" (with awkwardness reverse-scored, and a Cronbach's alpha of 0.71).

Results

We analysed a total of 378 rapport ratings. Initial analyses indicate that autistic participants give high rapport ratings to interactions with other autistic participants. These are statistically similar to neurotypical participants' ratings of interactions with other neurotypical participants. Mixed pairs (i.e. autistic and neurotypical people interacting) had consistently significantly lower rapport scores, indicating that both groups of participants found these interactions less comfortable, successful, enjoyable and easy, and more awkward than the matched pairs.

Discussion

Autistic people experience high interactional rapport when interacting with other autistic people. Rather than autistic people experiencing low rapport in all contexts, their rapport ratings are influenced by a mismatch of diagnosis. Autistic and neurotypical people both experience lower rapport when interacting with someone of a different neurotype. These findings support the new and exciting possibility that autistic people possess a distinct mode of social interaction style, rather than demonstrating social skills deficits.

Keywords: Empowerment, General health, Quality of life

Who Cares About Autism? General Education Social Inclusion Programs

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Introduction

The increase in the prevalence of students with autism spectrum disorder (ASD) in Israel during the recent decade highlights two contradictory manifestations - a rapid growth in the amount of included students with ASD in general education (GE) settings, about 30 percent of the entire students with ASD population, along with a steady reduction in the percentage of included students with ASD during junior and high school years. This paradox can be partially attributed to the ignorance of GE teachers, teacher's assistants (TA) and typically developing (TD) students toward the unique characteristics of students with ASD and their lack of willingness to take responsibility over the social and academic wellbeing of included students with ASD.

Methods

These has brought the Israeli Society for Children and Adults with Autism to develop two programs - a training program for GE school teachers and TA, and a social inclusion program for GE junior and high school students. The programs are operated with the approval and cooperation of the ministry of education and several municipalities. The teachers and TA training program aim to equip its participants' with current theoretical and practical knowledge regarding the unique characteristics of students with ASD, to emphasize the importance of TD classmates and ASD peers to the inclusion process succession, to implement effective learning methods and to

establish effective communication channels with caregivers. The social inclusion program aim to signify human diversity, to create autism friendly climate, support students with ASD self presentation and to cultivate pro-inclusion social and academic networks in GE classrooms. To date, the programs were implemented in four general education settings in Israel - one junior high school teacher program, two junior high school students programs, and a kindergarten teacher assistants program.

Results

Feedback group sessions indicate a shift in the participants' perception and self-efficacy toward the inclusion of students with ASD in their classrooms. Accordingly, further applications to implement the programs in other GE settings were received.

Discussion

Our objectives are to increase the percentage of included students with ASD during junior and high school years by upscaling the training programs implementation in GE settings throughout Israel, and to encourage governmental and municipal stake holders to take responsibility over these programs.

Keywords: Education, Inclusion, Peer support

What does it take? Developing community mobility to support inclusion for young Australian adults on the autism spectrum

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Introduction

Community mobility is vital to support independent inclusion. Although successful community mobility enables social and economic participation, little is known about how community mobility skills develop for young adults on the autism spectrum, and the perspectives of their parents. In particular, geographically large countries like Australia offer added community mobility problems. The aim of the study was to explore the perspectives of parents of young adults on the autism spectrum in 1) the development of community mobility including pedestrian, cycling, public transport and driving skills across adolescence and young adulthood, and 2) explore relationships between community mobility, participation and inclusion in adolescence and young adulthood.

Methods

Individual interviews with 12 mothers of young adults aged 18-25 in rural, urban and urban fringe areas of Australia were conducted throughout 2018-19. Grounded theory was used to analyse interview data.

Results

Several themes were identified: mothers' perceptions of safety and vulnerability in community spaces, social communication skills, autism specific challenges when learning to drive and use public transport, finding communities to belong in, and challenges to

overcome for independence and inclusion for young adults on the autism spectrum.

Discussion

Transitioning to independently negotiating community environments as an adult requires early planning, support and encouragement. The activity and friendship patterns contributing to development of community mobility and participation may differ for young people on the spectrum, compared with their typically developing peers. Developing the skills for driving or using public transport may not translate to confidence to be in the community or increased community participation. Young adults still may need support to find welcoming spaces in which to belong, which support their special interests and offer post school friendships. Young people on the spectrum's disability is hidden, and authorities and community members may expect the behavior of a young adult. Mothers often perceived vulnerability in transport and community environments arising from nuanced difficulties with anxiety, social communication and behavior. Consideration of psycho-social support needs, beyond skill development for driving and public transport, is needed by researchers, services, transport authorities and policy makers to support young adults on the spectrum to achieve independence and inclusion.

Keywords: Community based, Inclusion, Transitions

Early diagnosis of autism: promises and challenges

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There is an increasing push to diagnose autism as early as possible. A still small, but growing body of evidence supports the value of early diagnosis and timely intervention which can significantly improve the quality of life of individuals with autism and their family members. However, making an early diagnosis of autism is easier said than done and the majority of children still receive a diagnosis

after the age of three. I will discuss some of the challenges clinicians are faced with when diagnosing infants and toddlers. They include overlap with other conditions, the phenomenon of early regression, the unsatisfactory psychometric properties of screening and diagnostic instruments as well as the use of these instruments with specific groups such as preterm born children

Autism, First-Episode Psychosis, and Social Anxiety Disorder: A transdiagnostic examination of executive function cognitive circuitry and contribution to disability.

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Introduction

Importance Transdiagnostic research is needed to identify cognitive-circuitry processes in young adults underpinning social impairment and evaluating their contribution to disability. Objective: To determine whether neurocognitive markers of executive function (EF) differentiate between disorders of social impairment (Autism Spectrum Disorder, First-Episode Psychosis and Social Anxiety Disorder) and ascertain contribution to disability.

Methods

Design A cross-sectional design compared three clinical groups with social impairment and a typically developing group. Participants: Participants met standardised diagnostic criteria for Autism Spectrum Disorder (N=60), First-Episode Psychosis (N=58) or Social Anxiety Disorder (N=76) and included if they had no intellectual disability (IQ>70), neurological condition or substance dependence. Control participants (N=59) were excluded if they reported mental health diagnoses (past or current) or significant current depression, anxiety or autism symptoms on screening instruments. Main outcomes and measures: The main outcome was overall disability with participants assessed on neuropsychological tests of EF and self-report ratings of EF, disability and mood severity.

Results

Results: A total of 253 young adults (58.1% Male, Mean Age = 23 years, 1 month) were included in the study. The ASD participants showed impaired performance on most subdomains of EF compared to controls (mental flexibility, sustained attention and fluency) while the FEP group showed impairment on sustained attention and shifting. SAD participants showed EF impairment on self-report ratings even though their objective performance was intact. Self-reports of EF explained a significant percentage (17%) of disability in addition to the variance explained by other predictors, and this was particularly important for ASD.

Discussion

Conclusions and Relevance: This is the first study to compare EF measures across clinical groups of social impairment to suggest unique cognitive neurocircuitry that underpins disability within groups. Impairments in EF were broad in ASD and predicted disability, FEP impairments were specific to attentional processes and SAD impairments likely due to biased self-monitoring. Self-report, as opposed to performance-based EF, provided best capacity to predict disability. Findings contribute to transdiagnostic circuitry models and intervention.

The use of eye-tracking technology in the detection of autism spectrum traits in a sample of babies at ages of 18 months and 24 months.

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Introduction

There is a growing consensus about the importance of early autism detection and the viability of conducting eye-tracking studies in babies to facilitate any red flag as quickly as possible (Klin et al., 2002). The evidence obtained focused on Anglo-Saxon contexts, and not many European population studies exist (Bölte et al., 2013).

Methods

Since 2017 the Hospital Universitario de Burgos and Autismo Burgos have developed a pilot research and treatment program "BB-MIRADAS" to foster awareness of the applicability and efficacy of eye-tracking, in combination with other screening techniques. In this preliminary study we examine the data obtained from a sample of 25 babies up to 24 months of age who were evaluated with five videos in which social interaction and the attention two characters shared with regards to an object or action were involved. They were also administered the M-CHAT revised screening tool, the ADOS-T, and an assessment of the social monitoring of the gaze through qualitative and quantitative criteria in order to determine if the babies follow-up the emotional reactions of the characters during the projection and if the chosen videos were significant in regard to the discrimination of this prosocial behavior during childhood.

Results

Individuals with major severity in ADOS (cut point ≥ 8 mild < 11 , ADOS and moderate or severe ≥ 11) and MCHAT (cut point > 3) spent significantly less time fixing their eyes in the social stimulus from two video recordings selected by researchers. Non parametric U Whitman test shows the existence of significant differences in the values of two social videos called AC8 and AC5, this second correlates to a lesser extent with respect to the ASD and non-ASD risk groups. The median, the inter-quartile range and the statistical significance indicates that for the groups defined by M-CHAT the variable AC8 presents significantly different values. On the other hand, for the groups defined by ADOS, in addition to AC8, the variable AC5 presents significantly different values. Homoscedasticity test (Levene's test) was conducted in order to apply the corresponding parametric tests.

Discussion

Preliminary tests confirm the existence of different patterns of fixation. Warn about the importance of analyzing the discriminant capacity of videos and their visual monitoring of them and continue to explore whether this discriminant capacity can be found as a complementary test to screening, or early warning of features of ASD before 24 months.

Keywords: Diagnostic, Infant, New Technologies

People with autism must be able to participate fully in society. Why most of them don't?

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The effective and full participation in the society is a matter of human rights. Governments must ensure that it is promoted, respected and protected. That means that all stakeholders should share common understanding about this principle/ right. Even if the CRPD articles: 3, 4 paragraphs 3, 29, 30 and 33 highlighted the processes, the frameworks and the fields of application in order to make it work, the gap is still existing. Autistic people undergo

multiple barriers including the denial of their right to freedom of choice and legal capacity and the weak support for the exercise of this right. Also, it's important to take into account that high vulnerability situations such as: epileptic seizures, communicational and sensory disorders could be a huge barrier to address in order to voice those who're struggling with several health and developmental issues.

Empowering the voice and self-determination of autistic adolescents and adults

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Introduction

The advent of the neurodiversity movement has promoted the self-advocacy of autistic adolescents and adults. However, some critics have suggested that the perspectives of autistic individuals with more significant communication needs are not being heard. Moreover, autistic individuals are expected to demonstrate higher levels of self-determination as they move from early childhood into adulthood, but are rarely provided with the opportunity and support to develop these skills. Research is needed to explore the ways in which autistic adolescents and adults with a variety of language abilities can be empowered to express their voice and exercise self-advocacy and self-determination.

Methods

Participatory action research was conducted to determine the opportunities that autistic adolescents and adults have to build self-determination skills and to self-advocate for the support they needed in school, postschool and university environments. Data was also collected on the barriers that prevented these individuals from developing these skills. Throughout the project, a community of practice of autistic adults, parents, and professionals provided advice and insights to guide the research process.

Results

Data collected in conjunction with the input of the community of practice resulted in the creation of a self-assessment that could be used by autistic individuals to identify current skills and needs related to self-determination. A website was created that included tools and resources to help teachers and other support workers to provide activities that would help autistic individuals with a variety of language skills to express their desires and goals and to develop and implement plans to solve problems and achieve these goals.

Discussion

Finding ways to support autistic individuals to develop self-determination and have a voice in their own futures is an important aspect often overlooked in current education and training programs. Often staff are focused on other priorities and lack knowledge and time to support autistic individuals to develop these skills. Once they are provided with resources and training, however, autistic individuals are able to work with professionals to assess their current skills and to develop the skills they need to be successful in different setting throughout their life.

Keywords: Communication, Self advocacy, Self determination

Malta's Autism Advisory Council - A Transdisciplinary Approach to Stakeholder Engagement

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Introduction

The different aspects of autism were, for a long time, treated as almost mutually exclusive issues in Malta, leading to the growth of a silo mentality, particularly in the key areas of health, education and social services. In order to properly map the domestic scenario, the need was felt to devise ways in which functionaries from different disciplines could sit around the same table, with common agreed terms of references, and a legal basis to enable joint discovery and joint action towards common holistic solutions.

Methods

Government initiated an exercise in 2015, whereby a framework law was drafted, setting out common terms of reference for a transdisciplinary Council responsible for overseeing the domestic autism sector as a whole, and not as its individual parts, or as the sum total of such parts. Relevant stakeholders were consulted. The Council consists of government functionaries and academics from the health, educational and social sectors, Malta's disability regulator, and civil society. Together and as one unit, the Council was tasked with drafting a National Autism Strategy, and then updating and overseeing it, together with the general operation of the sector, thereafter. Impact evaluation so far, in the Council's first 10 months of operation, has been derived from feedback received from stakeholders engaged on both a domestic and international level, as well as members of the general public.

Results

The Council was extremely well received by different stakeholders, more than initially expected, although resistance remains in certain areas. The most important feature of Council was its ability to act and operate with one voice and one aim, and receive feedback and complaints from stakeholders and the general public, while reaching out to same as part of a grassroots exercise - to map the real situation on the ground, in drafting a National Autism Strategy that reflects reality and real needs, and, to ensure real stakeholder engagement, first and foremost of autistic persons and their families, but also of all persons and entities engaged in the field, in all events and initiatives designed or worked on by Council.

Discussion

Unity is strength - the Council provided cohesion and hope to autistic persons and their families, that a common way forward could be charted to a common concern. The initiative and framework adopted by Malta could equally serve as a model for implementation in other countries, and as a possible model for driving forward a European Autism Strategy.

Expertise and strategies used by autistics to overcome barriers to participation

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Introduction

The project originated in awareness of the limited involvement of autistic people in affecting decision making and determining solutions, which consequently did not always best meet our needs. About 1% of the UK population is autistic. Life experiences of autistic people are poor, with e.g. only about 16% in full time paid

employment. Existing research is largely biomedical rather than focusing on improving autistics' experiences and life chances. The questions investigated by the project are¹. How do autistic people use strategies, including logic, reasoning and rules, to understand social situations and other people's reactions, and to empower themselves?². What are the barriers, including stereotypes,

misconceptions and systemic issues, to autistic people using their strengths and appropriate strategies to participate in decision making, the economy and the community?

Methods

The project is innovative in bringing together seven mainly autistic people from very varied backgrounds, academic and non-academic, supported by an all-autistic Advisory Committee to carry out research from an autistic perspective. It uses a mixed methods approach which draws on the diverse skills and different lived experiences of the seven researchers and highlights process as well as outcomes. The results presented here are based on a survey of autistic people. It covered experiences of, interaction with and strategies used in the areas of diagnosis, doctors and health care, job search and employment, benefits, technology to support interaction and communication, and general solutions and additional comments, as well as personal information for statistical purposes. After piloting the survey was made available online and electronic and hard copy versions distributed through lists, contacts and organisations.

Results

The presentation will cover a selection of the results related to the barriers experienced by autistic people to participation, with a particular focus on decision making, and the strategies they have used to overcome these barriers.

Discussion

The results differ from those of most other studies in being from an autistic perspective and focussing on the expertise and strategies used by autistic people rather than deficits. They show the extent of the barriers experienced and the great ingenuity of autistics in devising strategies to overcome them. The presentation will provide an overview of some of the strategies used, as well as recommendations for good practice.

Keywords: Adult, Empowerment, Participation

Mental health issues in autism: from prevalence to risk and protective factors

Authors:

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Mental health issues, such as depression and anxiety, are common in autistic people. Also, an increased risk for suicidal behaviours have been indicated in recent studies. This lecture will provide an overview of the topic: how common are mental health issues in

autistic children, adolescents and adults? What is known about risk factors for poor mental health and suicidal behaviours? Which factors may enhance well-being and reduce risk for negative mental health outcome?

What do autistic people who experience anxiety tell us about existing interventions and services for the treatment of anxiety?

Authors:

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Introduction

Anxiety is common amongst autistic people and can negatively affect many aspects of daily life. The development of effective treatments for anxiety is a key priority for autistic people. Clinical guidance and policy documents recommend that interventions should be adapted to meet the needs of the autistic person. This study aimed to learn about autistic adults' experiences of anxiety and any treatments received, and to explore perspectives about what types of adaptations to mental health interventions and services would meet their needs.

Methods

568 Autistic adults aged 18 and over were recruited via the Adult Autism Spectrum Cohort-UK (Newcastle University). The gender split of the sample was approximately equal. 1800 autistic adults have registered on the cohort, however only participants who had previously reported either a diagnosed (52%) or suspected (23%) anxiety disorder were contacted about the study. Participants completed a survey about their experiences of anxiety and treatments

they have accessed. Their mean score on the Social Responsiveness Scale 2 was 111.5, exceeding the suggested cut-off for autism. Analyses were principally descriptive and correlational.

Results

60.3% had received psychological therapy for anxiety. Therapeutic outcomes were poorer than observed in the general population, with treatment making no difference to 27% of respondents and making 12% feel worse. Autistic people rated adjustments to treatments and services as being very important but rarely available. For example, 98.3% of the sample 'working with a therapist who understands autism' as being either important or very important but 71.8.% reported that this was rarely or never available to them. Analyses demonstrated a negative correlation between the importance of a key adjustment and its availability ($r = -.25, p < .01$). Furthermore, greater availability of key adjustment was associated with more favourable therapeutic outcomes ($r = .33, p < .01$).

Discussion

This study demonstrates some of the shortcomings of therapeutic interventions for anxiety experienced by autistic people. Understanding the range and types of adjustments valued by autistic adults can inform hypothesis driven research and lead to more clinical and cost effective treatments for anxiety experienced by autistic people. Building on the findings of this survey, our research

team is currently undertaking a pilot feasibility trial for a personalised, modular psychological intervention for anxiety experienced by autistic people.

Keywords: Anxiety, Intervention, Services

Development and validation of a new suicidality assessment tool for autistic adults

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Jacqui Rodgers, Newcastle Upon Tyne, United Kingdom

Introduction

Autistic people report high levels of suicidality. Differences in communication style and interpretation of information can result in misunderstandings when autistic people are asked about suicidality by neurotypical people. This project therefore aimed to develop a new suicidality assessment tool appropriate for autistic adults, in partnership with this group.

Methods

Study one used a validated research tool (COSMIN) to identify a robust candidate tool to adapt for autistic adults. Study two explored the measurement properties of the candidate tool in autistic compared to general population adults, to inform potential adaptations. Study 3 explored the clarity and relevance of items in an adapted version of the SBQ-R. Study 4 will explore the measurement properties of the adapted tool in autistic compared to general population adults.

Results

Study one showed that despite a number of studies exploring suicidality in autistic adults, none had used a suicidality assessment

tool with evidence of validity in this group. The SBQ-R was selected as a promising candidate tool to adapt for autistic adults. Study two showed that the latent structure of the SBQ-R was significantly different in autistic compared to general population adults, and autistic people did not interpret the questions in the manner intended by the developers of the tool. Study three showed that an adapted version of the SBQ-R had acceptable content validity.

Discussion

Previously, no validated suicidality assessment tools existed for autistic adults, a high-risk group for suicidality. A suicidality assessment tool developed for the general population did not operate similarly in autistic adults, suggesting that tools need to be adapted to better capture suicidality in this group. In partnership with autistic adults, we have developed and validated a new suicidality assessment tool for this group.

Keywords: Adult, Assessment, Suicides

Development of an assessment tool of depressive disorder in children and adolescent with autism spectrum disorder

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Introduction

Since the first description of Autism Spectrum Disorder (ASD), Kanner described 'momentary fit of depression'. Nowadays prevalence rates of depression in autism varied from 0 to 83%, stressing difficulties to diagnose this comorbidity. Our aim is to create and validate a scale of spotting Major Depressive Disorder in children and adolescents with ASD.

Methods

A literature review was lead. Searches were restricted to English language. The literature search was constructed around search terms for ASD, depressive disorder and youth. Additional studies were searched through the reference lists of articles conserved for the literature review. A first selection was down, based on titles and summaries. Full texts of all potentially relevant articles were investigated, checking inclusion criteria. To complete those information, a survey of professionals was done. Nineteen professionals working with children and adolescents with ASD completed a questionnaire in which they listed emotional, behavioral and cognitive signs of depression in children and adolescents with ASD. Fifteen experts assessed utility and quality of each item. Then, a study of feasibility aimed at assessing participants (n=20) understanding of items and time needed to complete the scale. Finally, validity of the scale was assessed (n=147).

Results

Literature review and survey showed that MDD in children and adolescents with ASD is characterized by DSM-5 symptoms of MDD and specific symptoms (as autistic symptoms changes). Literature review and experts assessment stressed the need to assess environmental changes and pain to make a differential diagnose. Experts assessed that each item is useful and good quality. They considered that the scale assesses MDD in children and adolescents with ASD. Participants understood well items and it took in average 37 minutes to complete the scale. Internal consistency of the scale is excellent ($\alpha=0.93$). Depressive scores are positively and significantly linked to a psychiatrist assessment ($r=0.59$, $p=0.03$). An Exploratory Factorial Analysis revealed that the scale is composed of two factors. The first one is composed of all depressive symptoms and the second one is only composed of suicidal thoughts.

Discussion

The scale has very satisfactory psychometric qualities. This study needs to be replicated to make a Confirmatory Factor Analysis and assess reliability of the scale. This scale will improve care of children and adolescents with ASD.

Keywords: Assessment, Childhood, Mental health

Language variation in autism: where does it come from and what should we do about it?

Authors:

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Oral language skills enable us to express our thoughts, feelings, and experiences to others. Language skills are incredibly variable across the autism spectrum, while some individuals have complex language competencies, others have few, if any, words for communicative purposes. This variation is not necessarily related to social

or cognitive features of autism. In this session I will explore potential explanations for language variation within the autism spectrum, and consider how we can adapt intervention programmes to maximise language development

Communication development in children with ASD attending inclusive preschool classrooms: a 3 years follow up

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Introduction

Special units have been implemented in French preschools towards adjusting the special needs of children with ASD, providing them inclusive education in mainstream school and helping them to progressively join regular classes. This study focused on communication quality within the classroom. In previous studies, it has been shown to vary with the social partner (adult or child) and with the type of activity (structured or unstructured). However, few studies used fine-grained direct observation methods, in longitudinal designs. Therefore, we followed the development of functional quality of communication in preschoolers with ASD according to the activity (structured/free play) and to the interlocutor (peer/adult) so as to optimize the inclusive educative program.

Methods

Participants were 7 preschoolers with ASD of an inclusive class in the Parisian area. They were followed from entrance to end of school (3 to 6 years). Children were filmed every 6 months in the classroom during free play and work situations. Observations were submitted to systematic structured coding and analysis about quality of communication. Categories coded focuses on form (e.g. combination of communication means) and functional dimensions (e.g. instrumental or social sharing). Data presented here focus on comparison between first and last points of observation.

Results

During free play, children initiated more social interactions, mostly using single-mean of communication, while during work situations, they initiated less interactions but more often combined two means. Interactions were more frequent with adults than with peers and instrumental communicative purposes predominated, with few mean evolution over time. However, some of the ASD participants progressed from age 3 to 6 in social and mental states sharing. Finally, responses to social demands evolved towards greater cooperation or communicative ability to express opposition.

Discussion

As in previous studies, we found much more interaction of children with ASD with adults, suggesting a need to enhance support to classroom communication with peers. Initiatives, although slightly more frequent in free play, remain quite rare over years and should be given more opportunities to emerge in play or work activities. Ongoing research is conducted to extend the samples and to compare the data with communication development in ASD children attending preschool with few or different education support.

Keywords: Communication, Development, Inclusion

Language development from 4 to 11 years in children with and without autism spectrum disorder

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Introduction

Language difficulties are a common feature of autism spectrum disorder (ASD) and are associated with adverse outcomes such as literacy difficulties and challenging behaviour. We aimed to compare language at ages 4, 5, 7 and 11 in four groups: ASD with language disorder (ASD+LD, n=17), ASD without language disorder (ASD-LD, n=30), developmental language disorder (DLD, n=107) and typical language (TD, n=872).

Methods

Participants were selected from a large, prospective community-based cohort study of child language. A comprehensive, standardised language assessment (Clinical Evaluation of Language Fundamentals-Fourth Edition, CELF-4) was used to assess receptive and expressive language. Mean scores on the CELF-4 and slopes (rate of language growth) were estimated from 4 to 11 years using generalised estimating equations.

Results

There was individual variability in scores and rate of growth for children in all four groups. For expressive language, children in the ASD-LD group had estimated mean scores that were 1.09 units lower than the TD group indicating similar ability at 4 years. By contrast the ASD+LD and DLD groups had substantially lower estimated mean scores than the TD group (33.45 and 31.84 units lower, respectively). The estimated mean difference in slopes was

similar for the ASD-LD and TD groups ($p=0.905$) indicating comparable rate of growth in language from 4 to 11 years. There was, however, a significant difference between the DLD and ASD+LD groups compared to the TD group ($p=0.001$ and $p=0.003$, respectively) indicating mean standard scores increased more quickly for the DLD and ASD-LD groups relative to the TD group from 4 to 11 years. This increased rate of growth was particularly evident for the ASD+LD group. The findings for receptive language were comparable to those for expressive language although rate of growth for the ASD+LD group was slower.

Discussion

For language ability and rate of growth, children with ASD-LD had similar profiles to children with TD, and children with ASD+LD had similar profiles to those with DLD. While rate of growth followed a predictable pattern (based on norms) for the TD and ASD-LD groups, those with DLD and ASD+LD demonstrated some developmental 'catch up' between 4 and 11 years. These data can assist parents to better understand their child's language prognosis and inform intervention and service planning. The findings also contribute to our understanding of critical time periods for language development in children with ASD.

Keywords: Childhood, Development, Language

Structural language/nonverbal ability profiles in children with ASD

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Introduction

ASD diagnosis specifies co-occurrence with language and intellectual impairment (APA, 2013). Studies have reported that among verbal children with ASD a subgroup manifests structural language impairment (ASD-LI), similar to what is found in Developmental Language Disorder, while the rest display normal abilities (ASD-LN). Current large-scale studies of intellectual impairment in ASD show that about 1/3 of individuals are affected (CDC, 2018). However, few studies have explicitly explored the possible combinations of language (dis)ability and cognitive (dis)ability in ASD. Language has typically been assessed via vocabulary tasks, which probably overestimate verbal abilities in ASD (Walenski, 2006). Cognitive abilities have usually been reported as Full Scale IQ scores, although many studies show that such scores are unreliable given characteristic peaks and valleys of performance in individuals with ASD (Mayes & Calhoun, 2008). In this study, we explore the profiles obtained by crossing structural language and nonverbal abilities in children with ASD, using more controlled evaluation of these properties.

Methods

Fifty-one verbal children from across the full autism spectrum, both bilingual ($n=14$) and monolingual, ages 6-12 years ($M=8,11$, $SD=1,7$), were assessed on language (standardized tasks and two repetition tasks narrowly focused on morphosyntax and phonology) and nonverbal cognition (Raven's matrices, and

nonverbal (NV) subtests of WISC-IV/WPPSI-IV/EDEI). An unsupervised machine learning approach, cluster analysis, was used to identify profiles of structural language and NV abilities based on the two repetition tasks and three NV measures.

Results

Analysis of group performance on standardized tests of language and cognitive abilities showed no differences between the bilingual and the monolingual children, all children were thus grouped together. Cluster analyses revealed 5 profiles: 3 «homogenous» profiles, LN with high NVIQ, LN with average NVIQ, LI with low NVIQ, and 2 «heterogeneous» profiles, both LI with average NVIQ and LN with low NVIQ. Each of these profiles included both monolingual and bilingual children.

Discussion

Our study provides evidence for the existence of both homogenous and heterogeneous structural language/nonverbal ability profiles in children with ASD, in line with the new diagnostic subcategories of the ICD-11 (2018), and suggests that bilingualism does not impact on these.

Keywords: Communication, Intellectual disability, Language

Autistic people with severe intellectual disability: The challenges for research and practice

Authors:

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The vast majority of research in the field of autism explicitly excludes people with severe intellectual disability. This bias is reflected in almost every stage of research from funding calls to dissemination with implications for effective practice and policy. Study of the problems experienced by this group reveals a range of

challenges including the application of diagnostic criteria, atypical presentation of physical and mental health problems and significant unmet need. For the autism field to be truly inclusive these issues must be reflected in research and practice agendas and hence policy.

Exploring Pathological Demand Avoidance in an Irish Context

Authors:

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Introduction

Pathological Demand Avoidance (PDA) (Newson, 1990, 1996, 1999) is increasingly recognised as a distinct profile within the Autism Spectrum (Christie, Duncan, Fidler & Healy, 2011, Autism Education Trust, 2012). Individuals with a PDA profile exhibit extreme levels of anxiety in response to demands and expectations of everyday life, manifested in excessive levels of avoidance to maintain absolute control. High numbers of children and young people (CYP) with Autism are currently 'out of education', with health and education practitioners increasingly request guidance on managing challenging behaviour, and significant numbers of families are seeking assessment, diagnosis and intervention. This study captures the lived experience of individuals with PDA, and parents/carers / practitioners who support them, with the intent to: a) identify pathways to diagnosis in Ireland, b) examine educational and clinical intervention, c) catalogue impact and outcomes on family life and school attendance, and d) contribute to wider awareness and understanding.

Methods

This mixed method study was conducted in Ireland between November 2018 and March 2019 using a purposive sample of n = 252 self-selecting participants. Quantitative data was extracted from an online survey capturing demographics, diagnostic pathways, PDA traits, school attendance, educational and clinical intervention, and family impacts. Qualitative data was extracted from individual inter-

views, focus groups, and open-ended responses from survey data, which were thematically coded and analysed.

Results

Findings from adults living with PDA (n = 4), parents of CYP (n = 205), education and health professionals (n = 43) indicate more than 50% of parents state difficulties with school attendance, challenging behaviour, social isolation, self-esteem and severe anxiety. Barriers to support include lack of understanding (82%), and suggestions of poor parenting (45%). Almost 20% of parents / carers report children out of education for between 6 months and 2 years (13% reporting school exclusion), and identify significant impacts on mental and physical health, relationships, family dynamics, and employment.

Discussion

Recommendations include targeted training for educators and clinical professionals, focused support for parents / carers, alternative education pathways, and for individuals with PDA, access to consistent mentoring and guidance. Further research should examine child experiences of educational settings.

Keywords: Complex Autism, Education, Inclusion

Decreasing complex behaviours of concern in Autism Spectrum Disorder through behavioural and relationship based training of disability support workers

Authors:

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Introduction

Autism Spectrum Disorder (ASD) is a complex condition that impacts individuals in a spectrum of ways. While some individuals are able to live fulfilling lives and overcome day to day challenges associated with their ASD, there are others that are impacted by a plethora of complex behaviours that significantly impact their quality of life. Individuals with complex behaviours of concern are at risk of isolation, harm or disengagement and require highly trained support staff that can implement interventions to guide behaviour changes and create meaningful connections. This paper explores the introduction of robust behavioural and relationship based training for disability support workers to improve the quality of life of individuals on the spectrum who present with complex behaviours of concern.

Methods

A group of support workers with industry standard qualifications were provided with intensive intervention training. The group was matched with a control group. In a pre-test/post-test design, the frequency of behaviours of concern (aggression, property damage, self-Injurious behaviour, disruptive behaviours and stereotypy) were tracked through behaviour escalation data charts. Quality of life and learning outcomes were assessed through questionnaires and surveys. A repeated-measures statistical analysis was imple-

mented to assess significant long-term changes in knowledge, attitude and quality of care.

Results

Results indicated that intensive disability support worker training plays a critical role in improving the quality of care provided to individuals with complex behaviours. Successful implementation of intervention strategies led to a significant decrease in behaviours of concerns, increased approximations of desired behaviours, increase in active support, improved interactions and decreased isolation/disengagement. This robust approach to support worker training was significantly correlated to increased quality of life and long-term improvements in support worker knowledge and confidence in guiding behaviour.

Discussion

Individuals with ASD that exhibit complex behaviours of concern require highly trained support workers that have the knowledge and ability to respond to complex behaviours. This study highlights the significant need for professionalisation of the disability sector and the critical need for specialised training of support workers.

Keywords: Challenging Behaviour, Quality of life, Training

Is it time for a rethink in the role of antipsychotics as we treat and support a person with Autism ? introducing the STOMP program

Authors:

Hazel Griffiths, United Kingdom

Hazel is a retired ED nurse, advisor to NHS England STOMP, independent MHA review. Co produces and co delivers autism training in a MH hospital. Carer for son who has autism and Catatonia. Hazel will discuss how her son was inappropriately prescribed antipsychotic medication and now medication free. How using Shah and Wing APT approach to manage catatonia shutdown and breakdown in autism helped eliminate catatonic symptoms.

The NHS England STOMP campaign stands for stopping the over-medication of people with autism and/or learning disability and was launched in response to concerns raised by a Public Health England report in 2015 that people with Autism are sometimes inappropriately/overprescribed psychotropic medicines. Discuss What has STOMP achieved so far and last years Public Health England sought to devise a method to report trends between 2010

and 2017 on the extent of prescribing psychotropic medicines. The study was commissioned by NHSE to inform their understanding of the impact of the STOMP campaign and whether the pattern of prescribing has changed and what are the next steps. The study Aim: to establish a method for monitoring trends and patterns in prescribing rates in people with learning disabilities, autism or both, before and after the launch of STOMP • Time period: 2010 to 2017 in quarterly intervals. Data source: The Health Improve-

ment Network (THIN) database • Expert Reference Group (ERG. Measures • prescribing rate • prescribing based on indications • patterns of prescribing □ within- group polypharmacy □ between- group polypharmacy □ antipsychotic drugs prescribed in excess of the BNF recommended maximum dosages □ inceptions and terminations of prescribing episodes • compared trends before and after the launch of STOMP for the above measures to see changes following the launch of STOMP.

Autism, sex, love and relationships: looking back and forward

Authors:

Jeroen Dewinter, Tilburg, Netherlands

Over the past four decades, scientific attention to sexuality development, relationship experiences, attraction and identity increased steadily. This presentation offers an overview of the available knowledge in this field and presents priorities for future research

based on group meetings with autistic adults, researchers and clinicians.

Success and self-efficacy on the autism spectrum: A comparison of the narratives of men and women

Authors:

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Introduction

The past decade has seen a marked interest in the perspectives and experiences of autistic adults. Although there has been a fairly dramatic rise in the amount of research on autistic adults, the majority of studies have emphasized the challenges and poor outcomes faced by this population. Despite this, some autistic adults have shared their stories of succeeding in spite of the difficulties they face. At the same time, awareness has grown regarding the ways in which the experiences of autistic men and women may differ. Two studies were conducted to explore the perspectives of autistic men and women who considered themselves successful to identify the factors that have enabled them to achieve success in their lives. The narratives of men and women were analyzed to determine how their experiences compared and whether differing factors enabled them to achieve success.

Methods

Ten autistic men and 10 autistic women who consider themselves successful were interviewed and asked to share their perspectives regarding the factors that had enabled them to experience success in different aspects of their lives. They were also asked to discuss challenges they had faced and the impact of these on their lives. In the initial analysis, an inductive process was used to identify key themes both in the men's and women's narratives before they

were compared across groups. In a second deductive analysis, self-efficacy theory was utilised to compare the experiences of the men and women.

Results

Narratives revealed that both men and women demonstrated fairly high degrees of self-efficacy, which was a key factor in their success. In particular, their ability to solve problems and deal with difficulties was linked to their feelings of achievement and accomplishment. Women and men did differ in the ways in which they dealt with challenges they encountered as well as in the aspects of their life they felt defined their success.

Discussion

These findings highlight that men and women respond to adversity in different ways and may require different strategies and support to solve problems and develop self-efficacy. Autistic women appear to benefit more from the supporting of key people in their lives, while autistic men seem to prefer to solve problems on their own using a combination of decoding and analytic thinking.

Keywords: Adult, Gender, Quality of life

Autism without verbal communication and sexuality

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Introduction

Adolescence is the transition from childhood to adulthood. There are physical, physiological, psychological and social changes. They have a significant impact on severe non-verbal autistic teenagers who develop new behaviors related to emotional, intimate and sexual life. We developed the project to address their needs and rights to sexual health. The observable and unobservable manifestations are:- Unability to understand the changes - Misunderstanding of collective rules of life (ie:masturbation in public)- Difficulty to have an adapted self-centered sexuality- Self-aggression, heteroagressivity, psychomotor agitations, impulsivity- Vulnerability linked to disability- Questioning of the entourage (family ...) with problematic behaviors.

Methods

Started four years ago, the action is carried by a psychologist and a nurse in pairs under the supervision of child psychiatrist and developed by a multidisciplinary team. It concerned 15 teens. The steps were : - Observe the new physical, biological, and social manifestations - Involve families in the project with respect of the legal and cultural framework and create a convention.- Psychological and educational evaluation and a sensory integration test- Develop appropriate individual tools (objects, photos, pictograms or videos).- Accompany teenagers over a long period of time in the

context of individual, group, and ecological specialist consultations to generalize learning.

Results

This approach is highly positive for adolescents, for teams and entourage. It introduces the dimension of emotional and intimate life through individualized projects. We observe : - Improved understanding of the changes related to adolescence- More adapted social behaviors, better understanding of the intimate rules of life.- Relief of sexual tensions, adapted masturbation and reduction or elimination of risky practices (ie :self-harm)- Significant decrease of problem behaviors- Reduction of vulnerability and assertiveness- Ease for professionals and the entourage with this topic. The process is established in parallel with the chronological evolution of the person and requires permanent readjustments.

Discussion

Regular and individualized information with families. An educational booklet for autistic teenagers. Standardization of the approach and formalization of the learning of the emotional and intimate life for adolescents with severe nonverbal autism.

Keywords: Adapting, Autonomy, Communication

Mental health beyond the gender binary: autistic and non-autistic men, women, and non-binary people's mental health outcomes

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Introduction

Recent research has found that autistic people are more likely to have both anxiety and depression than non-autistic counterparts. These findings, however, have mainly been with autistic men, due to a history of under-representation of autistic women in research. Non-autistic women are more likely to be both anxious and depressed than men, but we currently do not know if this is also the case in autism, and we know nothing about the mental health of

non-binary autistic people. This research, therefore, sought to examine whether there are gender differences in mental health amongst autistic people, and if these differences echo those in a non-autistic population.

Methods

940 people aged 18 – 81 completed an online study. This data forms part of that research, including demographic information,

mental health (anxiety, depression), and clinical measures (eating disorder symptoms). Participants were 322 autistic women, 76 autistic men, and 142 non-binary autistic people in the sample, and 328 non-autistic women, 56 non-autistic men, and 16 non-autistic non-binary people.

Results

To account for different group sizes, we used robust linear mixed effects modelling, controlling for age. We found autistic people are more anxious and depressed than their non-autistic counterparts, regardless of gender. Autistic people were also more likely to endorse disordered eating. However, we found that the differences between the genders are similar regardless of diagnostic status (i.e. autistic women are equally more anxious than autistic men as non-autistic women are more anxious than non-autistic men). One interesting and unexpected finding was that this pattern differed

somewhat for non-binary individuals, with autistic and non-autistic levels of anxiety being similar to each other, but higher than seen in male and female participants. The same patterns were observed for depression and disordered eating.

Discussion

This research shows that there are differences in mental health outcomes by gender in autistic people, just as there are in the non-autistic population. It is therefore imperative that gender is taken into consideration in providing support. The finding that non-binary people have a similar increased risk of mental health issues to autistic women suggests that this is a population who may need extra support, as they are managing high levels of mental health difficulty while also potentially struggling to access services due to falling outside the gender binary model.

**Autism in neurodevelopmental disorders:
interest of a developmental dimensional approach**

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Sleep problems in Adults with Autism Spectrum Disorder and intellectual disability

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Introduction

Sleep problems are recognized as a common comorbid condition in autism spectrum disorder (ASD) and can influence core autism symptoms and mental and physical health. Sleep problems can be life-long and it has been reported that adults on the autistic spectrum with and without intellectual disability (ID) present sleep problems (longer sleep latency, frequent night awakenings, and circadian rhythm sleep-wake disorders).

Methods

A prospective, objective sleep study was conducted in 41 adults with ASD (33 ± 6 years-old) and intellectual disability and 51 typically developing adults (33 ± 5 years-old) using ambulatory circadian monitoring (ACM) recording wrist temperature, motor activity, body position, sleep and light intensity.

Results

The findings indicated that individuals with ASD presented sleep difficulties including low sleep efficiency, prolonged sleep latency

and increased number and length of night awakenings, together with daily sedentary behavior and increased nocturnal activity. Furthermore, indications of an advanced sleep-wake phase disorder were found in these autistic adults.

Discussion

Examining sleep and markers of the circadian system showed significant differences between adults with ASD and ID and an age-matched, healthy adult population. The sleep disturbances described for this sample of adults with ASD and ID are similar to those already described for adults with ASD without ID, their relationship with intellectual ability should be further studied. Improving knowledge of sleep patterns in ASD adults with ID might help to designed targeted interventions to improve their functioning and reduce family stress.

Keywords: Adult, Comorbidities, Intellectual disability

Pediatric Prolonged-Release Melatonin for Sleep in Children with Autism Spectrum Disorder: Implications for Child Behavior and Caregiver's Quality of Life

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Introduction

Insomnia is frequent in children with Autism Spectrum Disorder (ASD). We recently reported on efficacy and safety of pediatric prolonged-release melatonin minitablets (PedPRM) treatment (13 weeks) vs placebo, for sleep in children with ASD and other Neurodevelopmental Disorders (NDD). Here we report on the impact of this treatment on child behavior and caregiver's quality of life.

Methods

125 Children (2-17.5 years, 96.8% ASD, 3.2% Smith-Magenis syndrome) were randomized (1:1 ratio), double-blind, to receive PedPRM (2/5mg) or placebo for 13 weeks. Child-related outcomes included the Strength and Difficulties Questionnaire (SDQ). Caregiver-related outcomes included quality of life (WHO-5), sleep (PSQI) and daytime sleepiness (ESS).

Results

Significant improvement in externalizing behavior was obser-

ved with PedPRM compared to placebo treatment ($p=0.021$), 53.7% of PedPRM-treated vs. 27.6% of placebo-treated subjects ($p=0.008$) had clinically-relevant improvements. In addition, there were trends showing a benefit in favor of PedPRM in total SDQ (externalizing and internalizing behaviors), impact (overall distress and impairment) and hyperactivity/inattention scores. Caregivers' WHO-5 scores also improved with PedPRM vs placebo ($p=0.010$) and correlated with the change in total SDQ ($p=0.0005$).

Discussion

PedPRM treatment of insomnia in children and adolescents with ASD alleviates insomnia-related exacerbation of externalizing behavior difficulties, in particular hyperactivity and inattention, and improved caregivers' quality of life.

Keywords: Challenging Behaviour, Quality of life, Sleep issues

Risks for co-occurring psychiatric, neurologic, birth defect, cardiometabolic, autoimmune, asthma and allergic conditions in autistic persons

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Introduction

To address knowledge gaps in risks for co-occurring conditions in autistic persons, we performed a systematic, total population cohort study of risk for psychiatric, neurologic, birth defect, cardiometabolic, autoimmune, asthma, and allergic conditions in autistic persons, overall, by sex and by co-occurrence of intellectual disability (ID).

Methods

Using population registers, all Danish live births, 1980–2012 of Danish-born parents ($n = 1,697,444$), were followed through April 10th 2017 for diagnosis of autism spectrum disorder ($n = 26,843$) and co-occurring psychiatric, neurologic, birth defect, cardiometabolic, autoimmune, asthma, or allergic conditions. Comparing autistic and non-autistic persons, risk for each co-occurring condition was estimated using Cox regression adjusting for sex, birth weight, gestational age, and parental age. Estimates were also calculated by sex and for autistic persons with or without ID.

Results

There was a significant elevated risk in autistic persons for co-occurrence of each psychiatric condition while significant elevated risks were observed for only select conditions in the other disorder categories, there were no elevated risks observed for asthma or

allergies. Across all conditions, elevated risks for co-occurrence in autistic males and females were generally similar, except for select psychiatric conditions (organic dementias, schizophrenia, juvenile-onset conditions) or cerebral palsy (higher female risk) or obesity (higher male risk). Male-female risk differences in co-occurring psychiatric conditions appeared largely accounted for by risks in autistic persons without ID, male-female risks were more similar in autistic persons with ID.

Discussion

Because of this study's systematic approach, striking patterns of disorder co-occurrence in ASD were revealed. There were significantly elevated risks in autistic persons for all psychiatric conditions, as well numerous neurologic, birth defect, cardiometabolic and autoimmune conditions. The risks in autistic persons for select co-occurring psychiatric conditions also varied strikingly by sex and whether the autistic person had ID. These population-based patterns can inform the development of guidelines for providers, autistic persons and their families for autism-specific health monitoring and preventive practices.

Keywords: Comorbidities, Gender, General health

Ensuring that research meets the priorities of all autistic people: searching for consensus and embracing dissensus

Authors:

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At Autistica we want to deliver research that enables all autistic people and their family members to live a long, healthy, happy life. But just like people who are not autistic, the needs and beliefs

of each person varies greatly. We will explore how research can serve the needs of such a heterogeneous group.

Ethics of early detection and intervention in Autism Spectrum Disorder: a parental perspective

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Introduction

Early detection and intervention regarding infants at increased susceptibility of developing autism spectrum disorder (ASD) is a hotly debated topic both in research circles as in autism communities. However, the goals, modalities and possible negative side-effects of such programmes raise ethical issues. In order to better understand these ethical issues, we explore experiences, expectations and opinions of parents of an infant 'at-risk' for ASD, regarding early detection, early intervention and the 'at-risk' status. This study is embedded within TIARA (Tracking Infants At-Risk for Autism), a Belgium-based, prospective early detection research protocol following infants with a sibling diagnosed with ASD, infants with medically insufficiently explained feeding difficulties and prematurely born infants.

Methods

We conducted in-depth interviews with 18 couples taking part in TIARA with their infant, and with 9 couples who declined participation although inclusion criteria were met. Parents belonging to each of the three 'at-risk' groups were interviewed. Infants were between 5 and 10 months of age at the time of the interview. Interviews were analysed relying on QUAGOL, a guide for qualitative research within the Grounded Theory approach.

Results

Preliminary results of interviews with parents participating in TIARA suggest overall positive attitudes towards early detection of ASD characteristics. Avoidance of pre-diagnostic intrafamilial difficulties, the explanation offered for behavioural atypicalities and the possibility to timely adapt the environment and parental attitudes to the infant's needs are most recurring benefits cited by participating parents. Unnecessary labelling, stigma and overtreatment as possible negative side-effects are brought up to a lesser extent.

Discussion

Whereas the scientific discourse on early detection focuses mainly on intervening during a sensitive timeframe of neuroplasticity, parents rather suggest explanatory and relational benefits. Alternative conceptual understandings of what ASD is about are discussed in attempt to explain these differences. Overall, this study highlights the value of taking into account stakeholders' views in order to develop programmes that serve the needs of those concerned. Further studies exploring the perspectives of autistic individuals and practitioners are necessary to complete this picture.

Keywords: Ethics, Infant, Intervention

Grounded or Isolated? The practice and experience of researchers, patients and carers in collaborative research

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Introduction

Priorities in autism research and interpretation of findings have not always represented the opinions of people with autism and their families/carers. There is a growing emphasis on the value of designing and conducting research using a collaborative partnership in which the expertise of lived experience can augment professional knowledge. This presentation will outline the Patient and Public Involvement (PPI) process in a 5-year NIHR-funded research programme, the Improving Autism Mental Health (IAMHealth) project, considering lessons learned and recommendations for best practice for PPI.

Methods

Questionnaires (with researchers and both the parents and autistic adults PPI groups) captured views regarding: what individuals considered PPI to have contributed, what they had learnt through the PPI process, and what could have been done to improve the process. Additionally, PPI group members completed measures capturing demographic and background factors (e.g., employment or education status, co-occurring intellectual disability, previous

experience of involvement). This permitted assessment of the diversity of the group. Review of project documents (e.g., minuted PPI meetings, annual project report, steering meeting annual committee and principal investigator meeting) allowed for the identification of PPI decision-making and implementation.

Results

Thematic analysis of the questionnaire responses and decision-making and implementation details will be presented.

Discussion

This presentation will highlight a 'best practice' example of how PPI can: (1) be embedded across the lifespan of a project, (2) foster inclusive environments, meeting the needs of diverse individuals, and (3) how to overcome barriers to participation for autistic individuals and researchers and how this (4) has a marked and meaningful impact in the evolution of a research project, beyond tokenism.

Keywords: Ethics, Participation, Policy

What can we learn by including autistic people in the scientific process?

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Introduction

Autistic people have long been excluded from research questions that directly concern them. Consequently, individual as well as community issues affecting autistic people have been poorly understood, and research has sometimes failed to address the priorities identified by this population. To fill this gap, the report "A future made together" (Pellicano et al., 2013) affirms the importance of involving autistic individuals at every step of the research process. One aim of our research group, which has a long tradition of including autistic people in research, is to rely on collaborative experiences in order to more effectively incorporate feedback from autistic people and address the priorities they set. Our most recent project demonstrates inclusion as a 3-level process.

Methods

At the 1st level, our team includes two diagnosed autistic individuals. At the 2nd level, we solicited informal feedback from autistic stakeholders very involved in the community prior to study launch. At the 3rd level, we invited all autistic study participants (n>200) to share their thoughts and questions on our research and to be part of the further discussion.

Results

The 1st and 2nd levels of inclusion facilitated three objectives (i) providing individual perspectives, which shaped research design,

(ii) fostering ties between research and the autism community, and (iii) questioning concepts and opening debate on what autism is. Specific issues emerged, as researchers became conscious of strong discord within the community, concerns on use of participant data, and the unexpected and potentially harmful effects of "invisible autism", an increasingly popular concept. Autistic participants included at the 3rd level shared other apprehensions and comments, which led to the modification of our research protocol.

Discussion

We will discuss the benefits of gathering input from autistic people for protocol design, methodologies that can help to do so efficiently, as well as ways to evaluate the effectiveness of this process. We will also point out challenges inherent to this approach, such as the difficulties of participatory research with large sample sizes, and dealing with opposing participant views. We will finally discuss the limits of participatory research, such as the limited inclusion of non-verbal participants, reducing generalizability across the autism community.

Keywords: Community based, Inclusion, Participation

ORAL COMMUNICATION

Scholars of Human Expression: The Experiences of Autistic Performing Arts Professionals and Attitudes of Performing Arts Employers

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Introduction

The performing arts has not traditionally been thought of as a preferred career path for autistic people. Yet our initial work in this area has revealed that there are autistic people working in this field and that they desire employment-based support. In this study we sought to understand better the challenges that autistic adults face in performing arts employment and the nature and extent of the support they require.

Methods

Semi-structured interviews were carried out with 18 autistic performing arts professionals (7 female, 9 male, 2 non-binary/other, M age = 33 years) and 19 performing arts employers (10 female, 9 male, M age = 44). Interviews with autistic professionals focused on their likes and dislikes concerning their workplaces and if they had ever needed or would like support for their work. Employers were asked about their current knowledge of autism, their experiences working with autistic people, and if they knew how to access support for either an autistic employee or themselves if needed.

Results

Autistic performing arts professionals described facing challenges in the workplace. These centred on anxiety caused by last-minute

changes to the schedule or struggling to understand instructions, colleagues' misconceptions about their needs and abilities, and feeling obliged to network despite finding high levels of socialisation stressful. Autistic professionals also spoke about how autistic traits benefitted their work: being able to focus on tasks for a long time, work in precise detail, and approaching their work from a unique perspective. Some autistic professionals had access to support, but most felt that there was not enough support available. Performing arts employers differed in their experiences of working with autistic people but they consistently identified the variability among autistic people and the individualised support they require. Many employers had limited knowledge about autism-specific support or relied on others to provide it. They indicated a willingness to learn more but were concerned that there was little time for training.

Discussion

The results paint a picture of meaningful contributions of autistic people within the performing arts yet a number of challenges with which to contend. Crucially, these findings identify the current unmet support needs of autistic performing arts professionals and allow us to make recommendations in this area. Future research should develop and evaluate personalised employment-based support for these professionals.

Enhancing Sense of Belonging for Students with Autism Spectrum Disorder during Higher Education and Transition to Employment

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Introduction

Sense of belonging refers to the extent to which an individual feels personally included, accepted, respected and supported. It is a basic human need and lack of it can cause serious ill effects, for example, depression. Individuals with Autism Spectrum Disorder (ASD) are entering higher education at an increasing and unprecedented rate. Students with ASD often have often difficulties in

feeling belongingness due to three areas in which they mainly differ from their peers without ASD: social skills/interactions, behavioral rigidity/interests, and language/communication. Creating inclusive environments in higher education settings in which these students can optimally feel a strong sense of belonging (which is related to higher academic achievement and improved employability, for instance) has proven to be challenging.

Methods

This qualitative study, which is part of the IMAGE (Improving Employability of Autistic Graduates in Europe) project, examines the sense of belonging for students with ASD during higher education and transition from higher education to employment. Students' experiences and reported challenges in experiencing belongingness will be studied. Data collection is currently taking place and will be completed by April 2019. The purposefully sampled data consists of interviews with higher education students or recent graduates with ASD (N = 25-40) from Finland, The United Kingdom, France, Germany and The Netherlands. Narrative methods of analysis will be utilized.

Results

The initial analysis of the interview data collected so far reveals

that higher education staff (e.g., career advisors) has limited skills and methods in supporting students with ASD to feel that they belong, which can prevent students from learning employability skills they need for successful transition to employment, for instance. Preliminary results will be discussed in detail during this presentation.

Discussion

The findings offer practical implications on how to enhance the students' sense of belonging in higher education, which can improve students' successful learning of employability skills, as well as increase the employment rate for individuals with ASD.

Keywords: Employment, Inclusion, Personalised Support

The development and first evaluation of WorkWeb-Autism: eHealth tool for career management and employment of persons with Autism Spectrum Disorder.

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Introduction

Although active labor market policies and programmes have been introduced, the employment rate of persons with ASD stays low: 25% to 50% of adults with ASD and IQ above 80 participate in paid employment. Those who are employed often are employed below their level of education, work fewer hours per week, get paid less and have difficulty maintaining the job. Individuals with ASD need personalized approaches to empower them in managing the process of choosing and fulfilling the best possible education and find and keep a satisfying paid job. There is preliminary evidence that online tools can help. We developed WorkWeb-Autism (WW-A) based on scientific- and practice-based knowledge on barriers and facilitators for work participation, shared decision making, supported employment and theory about employment readiness. WW-A consists of three components: 1) General knowledge and checklists, 2) Handbook 'Finding Work' and 3) Personal Profile. We will 'go live' in April 2019 and conduct an evaluation among users with two aims: 1) to evaluate if the tool is clear and useful and 2) if we expect it to have a positive effect on employment readiness and eventually on employment rates.

Methods

We follow the Intervention Mapping Protocol and use Participatory Action Research (PAR) which has two characteristics: 1) the participation of all relevant stakeholders as partners in the

research- and developmental process and 2) a commitment to action for social change. We apply a bottom-up approach, with a focus on priorities as defined by the target groups of WW-A: people with ASD, their parents/partners, professionals and employers. About 50 people are already involved of which 20 people with ASD. We use data from different sources: focus group discussions, the 'thinking out loud'-method, interviews and surveys.

Results

Until now the results show that this tool might be helpful in career management and in finding and keeping a job. We are anxious to know whether the tool works as expected when it comes free available online. First results of the evaluation of WW-A will be presented at the congress.

Discussion

We will discuss how an empowering e-health tool, based on scientific and practical knowledge, can help individuals with ASD in enhancing self-management in work-participation, supported by important stakeholders. We will highlight the influence of several known factors on enhancing career- and self-management. How does WW-A make the difference?

Keywords: Education, Employment, Empowerment

Neurodiversity in the workplace- Autism at Work at SAP

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Introduction

Diversity & Inclusion is an important strategy for SAP. Through this channel, we are driving various programs focused on inclusive culture and the diverse ecosystem. One such initiative, our groundbreaking Autism at Work program which was launched in May 2013, brings people with autism into our community and our workforce. People who are differently abled bring unique perspectives to SAP that encourage us to innovate and improve as we help our customers become intelligent enterprises. The Autism at Work program is one way we help the world run better and improve people's lives through hiring, supporting, and connecting people with autism. Through this presentation, we would like to share insights about our program, how we run and what is important from our experience as well as to encourage other companies and NGOs to join SAP in this journey and create better opportunities for people with autism in the European market.

Methods

When we leverage the unique strengths and abilities of all people, including people with autism, the result is greater engagement and creativity. We don't ask our employees with autism to change what makes them unique, we embrace it. We want our employees to

know they can be themselves at work and we value their unique, authentic identities. Our support circle process is designed in a way that builds upon individual strengths and needs to enable our workforce to compete at their best.

Results

When we first launched Autism at Work at SAP, we hired people with autism for roles that were targeted as being "a good fit" for people with autism. We've learned that employees with autism have skills and abilities that are as varied as their neurotypical colleagues. Over the years we've seen colleagues with autism in all business areas and in many different jobs.

Discussion

By sharing our Autism at Work story and what we have learned throughout this journey, we look to stimulate a best practices exchange and bring together a wide range of organizations who will collectively generate an inclusive environment and employment market for people with autism.

Keywords: Employment, Inclusion, Personalised Support

Employment status and work experiences in a Norwegian sample of adults with Asperger syndrome (AS)

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Introduction

Employment and work participation is considered to be important for an individual's mental health and quality of life. Although there has been an increased awareness on autism spectrum disorders, still little is known about employment issues in adults. The aim of this study was to investigate employment status and to explore work experiences in a sample of adults with Asperger syndrome.

Methods

An anonymous questionnaire survey with fixed and open-ended questions was performed among adults with AS. Eligible for the

study were adult members of the National Autism Society with a self-reported diagnosis of AS. Descriptive statistics were applied to investigate employment variables. A thematic analysis of open-ended questions about the way into employment and mastery of working tasks was applied to explore work experiences.

Results

The sample consisted of 98 adults with AS of whom 41.8% were females. Mean age of participants was 36.3±10.5 (20-67) years with no significant difference on gender. Overall, 55% had completed college/university. The current employment rate (ordinary or

supported, full time or part time) was 69%, with a majority having worked at the same place for two years or more. IT, logistics, art and culture as well as social work emerged as preferred working areas. Unemployment over a period of at least six months was reported by 76% of the sample. Those currently unemployed (31%) significantly more often considered AS to have much or very much impact on their work performances compared to those currently employed. A thematic analyses among those employed revealed that individual resources or interests and assistance or support from others (e.g. employment agencies) were decisive to get a job. The subject and organization of work, kindness and understanding from colleagues and individual resources emerged as important aspects to stay at work over time.

Discussion

In this study a majority of adults with AS reported current employment either full time or part time. More than 75% of the sample had experienced periods of unemployment. The impact of the dimensional aspects of autism spectrum disorders has to be investigated further. A wide range of work areas may be appropriate for adults with AS. The qualitative part of the study underlined the need for individualized assessment and support to strengthen employment and work participation in adults with AS.

Keywords: Adult, Employment, Servic

Autism at Work Employer Roundtable- Enabling other employers to be successful

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Introduction

The Autism @ Work Employer Roundtable is made up of over 12 multinational companies who have come together with a goal of assisting other employers start similar inclusive hiring program around autism. This Employer Roundtable also shares best practices and has created a job marketplace to help candidates find jobs. This coalition of employers is focused on the US market but has vision of expanding. Microsoft, SAP, EY, and JP Morgan Chase recently came together to publish an Autism @ Work Playbook to help other employers begin or expand their inclusive hiring efforts. This was done with the assistance of the University of Washington Information School. The Roundtable meets every month and hosts an annual Employer Summit with 300 people attending across academia, industry, employment service providers, and non-profits. This year's and last year's summit were hosted at Microsoft.

Methods

The cross-industry collaboration needed to produce the "Autism @ Work Playbook" across 4 Fortune 100 companies took approx. 6 months. With the help of the University of Washington we conducted over 20 hours of interviews across the participating companies as well as human resources departments of other companies to see what information they wanted to have as part of such a "getting started" Playbook.

Results

We found that there is tremendous interest and need. The Playbook received over 400 views within the first 2 weeks. The Roundtable has worked to help 6 additional companies start an Autism Hiring Program over the past 18 months and we anticipate the collaboration will help another 10 companies make progress over the next 12 months. The more companies start similar autism hiring programs, the better chance we can change the unemployment rate for individuals on the autism spectrum, which is our North Star.

Discussion

The Autism @ Work Employer Roundtable is an example of large companies coming together with a joint objective in mind. The area of inclusive hiring for individuals on the autism spectrum is a space where we do not compete. We are all better together sharing our learnings and in helping others start their inclusive hiring journey. The is real momentum and Microsoft and the Autism @ Work Employer Roundtable are at the center of it. We are looking to share our story and help others.

Keywords: Employment

The effect of early intervention for young children with autism spectrum disorder in a community setting: preliminary findings

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Introduction

We accumulate evidence on the effectiveness of early intervention programs for young children with ASD (Rogers et al., 2012, 2014, Green et al., 2015). These studies are mostly developed and tested by researchers, but much less is known about the effectiveness of ASD intervention in community settings (i.e., Stadnick et al., 2015), where the majority of children in most European countries receive them. During 2018 the Fundación Miradas and Autismo Burgos, two Families Associations, developed an intervention program to attend the children with ASD and their families detected through an early detection program of autism developed in Burgos (Spain). Here we present the preliminary results from 9 children who have already completed the intervention program

Methods

Detected children were assessed (pre-treatment measure) to confirm suspicions, measuring their developmental level (Bayley-III), adaptive functioning (VABS-II) and ASD symptoms (ADOS-T, severity scale). The mean age of the group when they were assessed was 22.39(SD=6.59, range: 12-31) months of age. We offered free intervention services to those with moderate or severe ASD preoccupation in ADOS-T (n=5) or with professionals' suspicion of ASD (n=2) or that have an older sibling with ASD (n=2). The intervention consisted in an adaptation of the content and methodology of the parent mediated intervention Parents-ESDM. We

organized 22 one hour sessions during 4 months. Six months after pre-assessment, all children received a post-assessment with the same battery, used as a follow up of the intervention effect and to diagnose the children, confirming the ASD diagnosis only for the 5 children with moderate or severe preoccupation in the ADOS-T.

Results

For the analysis we grouped non-ASD children. Non parametric analysis showed a significant increment in non-verbal DQ in ASD group (Pre-Mdn=75, Post-Mdn=85, T=1, p=.038, r=-.56), and a significant reduction in severity of social attention symptoms of ASD in the ASD group (Pre-Mdn=10, Post-Mdn=8, T=0, p=.021, r=-.64). The mean satisfaction from the families with the program was excellent (8.5/10), indicating that it modified significantly the way they related with their children (9/10) and their children behavior (8.1/10).

Discussion

The results highlights the positive effects of ASD intervention treatments for young children with ASD and for their families, but more research is needed to consolidate these findings in the Spanish socio-cultural context.

Keywords: Intervention, Toddlers, Treatment

Individual differences in developmental gains across one year of early intervention for pre-schoolers with autism

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Introduction

Many children with autism benefit from intensive early intervention. However, individual responses vary, and little is known about the profile of skills associated with more favorable outcomes.

Age at intake and amount of intervention received are commonly identified as contributing to positive outcomes, as are symptom severity and developmental level. However, these factors have rarely been examined together, and among child characteristics,

total scores are often used to measure skills, which may mask information about specific behavioral predictors. We aimed to identify specific behaviors associated with developmental gains across 1-year of intervention, and further examine the role of intervention dose and child age.

Methods

Participants were 110 children aged between 1 and 4.8 years at intake, who received approximately 1-year of Group-Early Start Denver Model (Vivanti et al., 2017). The Autism Diagnostic Observation Schedule (ADOS-2) was conducted at intake, and single items were examined as potential predictors (e.g., Pointing, Response to Joint Attention). The primary outcome of interest was change in Mullen Scales of Early Learning (MSEL) Verbal and Non-Verbal age equivalent (V/NVAE) scores.

Results

Large variability was evident in developmental gains. Controlling for T1 AE, correlations were evident between younger age at intake and higher T2 NVAE, and between higher intervention dose and T2 VAE. Hierarchical regressions examining the unique role

of potential predictors, controlling for T1 AE, revealed higher T2 NVAE was predicted by ADOS Pointing and intervention dose and (less) ADOS Overactivity, while ADOS Response to Joint Attention was associated with higher T2 VAE. Whilst correlated with outcomes, age at intake was not a significant unique predictor of T2 V/NVAE, nor were other ADOS social-communication skills (e.g., Play, Eye Contact and Language).

Discussion

Identifying specific behaviors associated with more favorable developmental outcomes may inform future individualized treatment decisions. Developmental age may play a greater role in predicting gains than do chronological age. Nevertheless, these data reinforce the importance of early intervention to ensure learning supports are in place to minimize the extent of the gap between chronological and developmental age over time. Replication of findings within a comparative study is required to disentangle genuine predictors of intervention outcome from broad indicators of good prognosis.

Keywords: Development, Intervention, Learning

How does the broader autism phenotype affect parent-mediated interventions for children with autism?

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Introduction

Broader autism phenotype (BAP) describes sub-diagnostic threshold traits of autism found in family members of autistic people. BAP includes difficulties in language, social skills and rigidity. Parent-mediated interventions can benefit autistic children but very little research has investigated how parent BAP may affect outcomes. One small pilot study (n=18, Parr et al., 2015) showed a significant negative correlation between BAP and mother-child interaction post-intervention. This study reports a larger sample with a control group to investigate how parent BAP affects outcomes of parent-mediated intervention.

Methods

Data were from PACT7-11, a follow up (FU, median 5.75 years

from PACT trial endpoint (mean age=10.5years, SD=0.8)) of a parent-mediated social communication intervention RCT with 2-4 year old autistic children. Family History Interview-Subject (FHI-S) measured parent BAP (assumed stable) and was applied retrospectively for analysis. Blinded endpoint and FU outcomes were treated as multivariate pairs: ADOS comparative severity scores (CSS), Dyadic Communication Measure for Autism (DCMA) proportion of parent acts synchronous with child attention (DCMA Parent Synchrony), and DCMA proportion of child initiations to the parent (DCMA Child Initiations). We used full information maximum likelihood structural equation modelling in STATA to adjust for baseline outcome value and treatment group, then examined the main effect and moderator of treatment effect of $\sqrt{\cdot}$ -transformed FHI-S on each outcome.

Results

121 (80%) of the 152 trial participants (PACT intervention=59/77 [77%], Control=62/75 [83%]) completed follow up. Of these, FHI-S scores were available for 102 participants (PACT intervention=49, Control=53). Strong group effects on all outcomes ($p < .001$) published previously were identified (Pickles et al., 2016). FHI-S score was not correlated with baseline ADOS CSS, DCMA Parental Synchrony, or DCMA Child Initiations. FHI-S had no effect on outcome ADOS CSS or DCMA Parent Synchrony but had a marginally significant main effect ($p = .079$) and moderation effect ($p = .097$) on DCMA Child Initiations.

Discussion

In this sample, BAP had a limited role in outcomes following parent-mediated intervention. The lack of finding may be specific to the behaviours targeted by the PACT therapy and the relatively low FHI-S scores of PACT parents. More information is needed to understand how to tailor interventions to parents, children and environments.

Keywords: Childhood, Family, Intervention

A Randomised Controlled Trial Evaluating the Effectiveness of a Mind-Body Group Skills Training Program Based on Yoga Techniques in Children on the Autism Spectrum

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Introduction

Mindful movement practices such as yoga engage attention to develop self-awareness, reduce sympathetic nervous system arousal, emphasise attendance to the present moment thus facilitating self-regulation skills. Compared with the number of studies evaluating the benefits of mind-body interventions in typically developing children, fewer studies examining the advantages of these interventions in children on the autism spectrum are reported. The present study proposes that a mind-body skills training program based on yoga techniques would improve self-control or achievement of better cognitive, emotional, and behavioural control and could be used as adjunctive therapy. Additionally, lowering of psychophysiological arousal could reduce sleep problems.

Methods

A weekly 6-session, yoga-based group skills training program for children (8-12 years) on the autism spectrum was developed and delivered by the lead author. Children were required to attend the session with one parent. Participants were encouraged to continue treatment-as-usual. Sixty-seven parent-child dyads were randomly assigned to the intervention group or the wait-list control group. Questionnaires for both groups were conducted concurrently at baseline, post-intervention, and 6-week follow up. In children, the outcome measures assessed changes in selective and sustained attention, self-reported anxiety and emotional awareness. The parents completed questionnaires on changes in their children's exe-

cutive function skills, anxiety, and sleep. Currently, fifty parent-child dyads have completed the assessments as the groups were rolled out in staggered stages.

Results

Preliminary analysis of the parent data was conducted using a Linear Mixed Model with time and group as fixed effects. Participant-specific variation was included as a random factor. A significant interaction was found for time and group on the global executive composite and the behavioural regulation index as rated by parents on the Behaviour Rating Inventory of Executive Functioning, Second Edition (BRIEF-2) indicating improvement in the intervention group. These improvements were maintained at follow-up. There was also a significant improvement in sleep anxiety on the Children's Sleep Habits Questionnaire (CSHQ) post-intervention but not maintained at follow-up.

Discussion

The preliminary analysis supports the application of yoga-based mindful to promote self-regulatory skills, decrease sleep anxiety and suggests it can be used together with other treatments.

Keywords: Childhood, Intervention, Sleep issues

Effects of Balovaptan on Health-Related Quality of Life of Adult Males With Autism Spectrum Disorder: Results From a Phase 2 Randomized Double-Blind Placebo-Controlled Study (VANILLA)

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Introduction

The phase 2 VANILLA study investigated the efficacy and safety of balovaptan, a selective V1a receptor antagonist, in adult men with ASD and IQ greater than or equal to 70 for the treatment of social and communication deficits. Evaluating effect of balovaptan on health-related quality of life (HRQoL) was an exploratory objective.

Methods

VANILLA (NCT01793441) was a 12-week, parallel-group, randomized, double-blind, placebo-controlled study evaluating daily balovaptan 1.5, 4, or 10 mg PO. HRQoL was assessed at baseline, week 6, and week 12 using the Pediatric Quality of Life Inventory (PedsQL)TM Generic Core Scales v4.0, which has age-appropriate versions. The scale assesses physical, emotional, social, and school/work functioning, from which Total, Physical Health Summary, and Psychosocial Health Summary scores are derived. The PedsQL Family Impact Module and Cognitive Functioning Scale were also used. Changes from baseline at week 12 were estimated using a mixed model repeated measurements analysis of covariance.

Results

The study enrolled 223 participants, with 56 included in the analysis of balovaptan 10 mg (n = 30) versus placebo (n = 26) at week 12. Clinically relevant differences were observed for 10 mg balovaptan versus placebo on the PedsQL total score (estimated

difference [ED], 7.15, 90% CI, 2.09–12.20, P = 0.021, effect size [ES], 0.63) and on the Psychosocial Health Summary score (ED, 8.53, 90% CI, 2.79–14.27, P = 0.016, ES, 0.67). No significant difference was observed on the Physical Health Summary score (ED, 4.14, 90% CI, -0.19–10.20, P = 0.257, ES, 0.31). Trends for improvement from baseline at week 12 were also observed in the balovaptan 10 mg group versus placebo on the PedsQL Cognitive Functioning Scale (ED, 9.15, 90% CI, 1.81–16.49, P = 0.042, ES, 0.56). No differences were observed between any dose of balovaptan and placebo at week 12 on the PedsQL Family Impact Module.

Discussion

The VANILLA trial showed positive trends of improvement in HRQoL with balovaptan 10 mg compared with placebo in adult men with ASD. To fully determine the effect of balovaptan on HRQoL, ongoing and future studies will be critical to replicate and extend these findings across the age/gender spectrum of individuals with ASD.

Keywords: Adult, Quality of life, Treatment.

Interrupted Time Experience in Adults with Autism Spectrum Disorder

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Introduction

The experience of time has been of central relevance for psychopathology. Phenomenological research has mainly focused on mental conditions such as depression and psychosis. However, qualitative approaches to study the inner experience of time have been largely neglected in autism research.

Methods

We present results from qualitative data acquired from 26 adults with high functioning autism spectrum disorder (ASD). Employing inductive content analysis we identified a distinct pattern of interrupted time experience in ASD.

Results

Individuals with ASD seemed to implement structured and routine

behavior by future planning to guarantee that the present passed uninterrupted. We reason that the success of corresponding compensatory mechanisms determines the development of distress and noticeable symptoms.

Discussion

We compare our findings to the preexisting theories on temporality and time experience in depression, schizophrenia and mentally healthy non-autistic populations. Considering recent theories on Bayesian perceptual inference we relate the syndrome of interrupted time experience to the putative neuronal mechanisms underlying time experience.

Keywords: Adult, Brain, Mental health

Examining how types of object distractors distinctly compete for facial attention in autism spectrum disorder using eye tracking

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Introduction

Autism spectrum disorder (ASD) is characterized by reduced attention to social stimuli (Guillon, Hadjikhani, Baduel, & Rogé, 2014). Less is known about mechanisms that contribute to diminished social attention. The social motivation theory posits that individuals with ASD find social stimuli less rewarding and thus attend less readily than typically developing (TD) children (Chevalier, Kohls, Troiani, Brodtkin, & Schultz, 2012). Others suggest that competition from circumscribed interests (CIs) may better account for diminished attention (Sasson, Turner, Brown, Holtzclaw, Lam, & Bodfish, 2008). The current study evaluated both theories using two paradigms to examine profiles of attention in children with ASD.

Methods

This study compared attention in children 6 to 17 years old diagnosed with ASD (n = 16) to a TD group (n = 20). Attentional allocation

was quantified using eye tracking during: the Passive Viewing ASD Quadrant Task (e.g., Harrison & Gibb, 2014) and the visual paired preference task (Sasson & Touchstone, 2014). The tasks were designed to measure how saliency of objects impacted the proportion of total looking time to faces.

Results

In the dyadic paired preference task, the diagnostic group x distractor type interaction was a nonsignificant trend, $F(2, 70) = 2.92$, $p = .06$. Post hoc analyses revealed that object distractor type significantly affected social attention only among the TD group, $F(1, 35) = 4.51$, $p = .04$. TD children attended to faces approximately half the time when the competing stimulus was a control object but only one-third of the time when presented next to either type of CI object. ASD participants attended to faces one-third of the time regardless of distractor. In the quadrant passive viewing task, there was a significant main effect of image type, $F(3, 102) = 21.13$, $p <$

.001, such that both groups looked significantly more at the familiar images than the non-familiar stimuli (FCI = FS > UFS = UFO).

Discussion

The group differences observed align with the social motivation theory more so than the CI distractor hypothesis because attention for faces among children with ASD was diminished regardless of what non-social stimuli was competing for attention. The finding

that both groups attended significantly more to the familiar images than the non-familiar control stimuli, demonstrates the importance of familiarity shown by past research (e.g., Cascio et al., 2014, Park, Shimojo, & Shimojo, 2010).

Keywords: Assessment, Biological mechanism, Brain development

Gaze perception, superior temporal sulcus and autism: an rTMS study

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Introduction

The superior temporal sulcus (STS) is known to be implicated in social perception mainly the process of eye gaze information. Brain imaging studies have suggested that abnormalities within the STS would be related to social impairments in autism. In a recent study with healthy volunteers, we have shown that it is possible to change gaze pattern by transitory inhibition of the neural activity of the STS using repetitive transcranial magnetic stimulation (rTMS). Indeed, selective inhibition of the right STS reduced fixations to the eyes of characters during visualization of social movies, measured with eye-tracking. In this study we aimed to investigate, using eye-tracking, changes in gaze perception induced by excitatory rTMS applied to the right STS in adults with autism spectrum disorders (ASD).

Methods

Seventeen adults with ASD (mean age = 22.4±2.3) participated in the study. Diagnosis was based on DSM IV-R and ADI-R criteria. All subjects underwent a structural MRI for a precise individual localization of the target. Subjects underwent sham stimulation and excitatory rTMS delivered over the right posterior STS as an intermittent theta-burst (iTBS) pattern (2sec trains every 10sec, total of 600 pulses), with an intensity of 90% of the active motor threshold. Gaze parameters were measured during passive visualization of social movies at baseline, at 3 time-points

(1min, 6min and 12min) after sham and after iTBS. Eye-tracking data was processed with Tobii-Studio. Individual analysis was performed to investigate individual patterns of response, with a threshold of 12% increase or decrease.

Results

At the group level, no significant results were found in gaze pattern to the eyes after stimulation of the STS. Data indicated strong heterogeneity in the response. Individual analysis allowed to identify three different groups: 3 subjects respond to the stimulation by increasing fixations to the eyes (>12%), 8 participants respond to the stimulation by reducing fixations to the eyes (<12%), 6 participants presented no changes in gaze pattern.

Discussion

This study shows the feasibility of an iTBS protocol in participants with ASD. Preliminary results show that, in line with the heterogeneity of autism itself, response to the TMS varies among individuals. Further studies may address this issue in the perspective to use TMS as new therapeutic strategy in autism.

Keywords: Brain, Intervention, Social

Atypical sound perception in ASD explained by inter-trial (in)consistency in EEG

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Introduction

A relative indifference to the human voice is a characteristic of Autism Spectrum Disorder (ASD). Yet, studies of voice perception in ASD provided contradictory results: one study described an absence of preferential response to voices in ASD while another reported a larger activation to vocal sounds than environmental sounds, as seen in typically developed (TD) adults. In children with ASD, an absence of preferential response to vocal sounds was attributed to an atypical response to environmental sounds.

Methods

To have a better understanding of these contradictions, we re-analyzed the data from sixteen children with ASD and sixteen age-matched TD children to evaluate both inter- and intra-subject variability. Intra-subject variability was estimated with a single-trial analysis of electroencephalographic data, through a measure of inter-trial consistency, which is the proportion of trials showing a positive activity in response to vocal and non-vocal sounds.

Results

Results demonstrate a larger inter-subject variability in response to non-vocal sounds, driven by a subset of children with ASD (7/16)

who do not show the expected negative Tb peak in response to non-vocal sounds around 200ms after the start of the stimulation. A logistic regression model with age and clinical parameters allowed demonstrating that not a single parameter discriminated the sub-groups of ASD participants. Yet, the electrophysiologically-based groups differed on the linear combination of parameters. Children with ASD showing a reduced inter-trial consistency were younger and characterized by lower verbal developmental quotient and less effort towards communication.

Discussion

This data suggests that a lack of specialization for processing social signal may stem from an atypical processing of environmental sounds, linked to the development of general communication abilities. Discrepancy reported in the literature may stem from that heterogeneity and it may be inadequate to divide children with ASD on the basis of only intellectual quotient or language abilities. This analysis could be a useful tool in providing a functional diagnostic of ASD and evaluating verbal communication impairment.

Keywords: Cognition, Development, Social

Study of autistic emotions

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Introduction

While numerous studies have explored the (dis)ability of autistic individuals to identify emotions expressed by others, little is known about the emotions they actually feel. On the one hand, practitioners describe episodes of emotional overwhelming (the «autistic crisis») and a phenomenon of impaired affective self-regulation (leading to the crisis), usually without detailing their content or significance.

On the other hand, autistic individuals themselves express complex emotional ranges, although many experience difficulties in naming their own feelings. General ignorance about this topic may be detrimental. It may for example lead professionals to overlook the importance of autistic children's motivation and well-being in educational programs. Moreover, poor understanding of their feelings puts them at risk for inconsiderate treatment and discrimination.

Methods

The EMOTON consortium reunites six research teams investigating emotions in persons with reduced autonomy. The consortium has organized an interdisciplinary colloquium on emotions assessment (Lyon, France, 08/12/2017). A session of this colloquium was dedicated to autism. As a follow-up, the consortium is working on identifying a series of methodological and conceptual obstacles that prevent study of autistic emotions.

Results

In order to facilitate future research, the group has focused its reflexions on technical solutions. For example, a common methodological issue consists in overlooking perceptual hypersensitivity and therefore mistakenly interpreting affective reactions of autistic individuals as disproportionate with regards to their causative events. But in order to assess whether someone's emotional expression is

accurate, one needs to gain information about their inner affective life. In the case of autism, however, interviews and scales used in psychology will not bring reliable information about what is being felt. Alternatively, usage of instruments measuring physiological markers of emotions, such as skin conductance sensors, cannot be used in autistic individuals who have strong sensory issues. In such cases, use of non-contact sensors to assess affective states must be preferred, such as the infrared camera developed by AP et al. in order to measure cardiac rhythms without touching the research participant.

Discussion

We also propose several ethical considerations that may help design accurate protocols involving hot cognition in autism.

Keywords: Education, Emotional Life, Ethics

Changes In Intrinsic Connectivity of the Brain's Reading Network Following Intervention in Children with Autism

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Introduction

This study features a randomized controlled, neuroscientific trial with a group of children with Autism Spectrum Disorders (ASD), a condition marked by profound impairments in language comprehension and communication abilities. Children with ASD typically have weaker connectivity in specific brain regions associated with comprehension. Reading comprehension problems in ASD children have been addressed in only a handful of studies. While these studies showed the possibility of improving reading comprehension in ASD, they were not based on a model that specifically addresses the primary cognitive issues associated with language comprehension.

Methods

We used functional MRI to investigate the connectivity of the brain's reading network and its changes as a result of imagery-based intervention for language comprehension and thinking in children with ASD. The imagery-based intervention is built on the Dual Coding Theory (DCT) of cognition, which emphasizes the need for both the mental representational and the verbal cortical areas to be stimulated for optimal language comprehension. Functional MRI data were collected during tasks of word similarities and verbal absurdities from 2 groups of 17 participants each at two time points: 1) an experimental group of ASD children who underwent scanning before and after intervention (ASD-EXP), and 2) a waitlist control group of ASD children who after the first scan waited out the intervention period before their

second scan (ASD-WLC). The intervention consisted of 4-hour sessions, 5 days a week for 10 weeks, adding up to a total of 200-hours of face-to-face instruction.

Results

We found significantly stronger functional connectivity in several nodes (left inferior frontal gyrus, LIFG, left superior temporal gyrus, LSTG, left angular gyrus, and Visual Word Form Area) of the reading network in ASD-EXP participants, relative to ASD-WLC participants, at post-intervention. In addition, these changes were accompanied by significant improvement in language comprehension (16.4% ASD-EXP group, 2.6% ASD-WLC group) as measured by a standardized test for reading comprehension. Improvements in reading comprehension were highly correlated with increases in brain connectivity.

Discussion

These novel findings provide valuable insight into the neuroplasticity of brain areas underlying reading and the impact of intensive imagery-based intervention using instructional procedures based on Dual Coding Theory to increase language comprehension in children with ASD.

Keywords: Brain, Intervention, Language.

A breath of fresh air: acceptability and feasibility of the WHO Caregiver Skills Training Programme in Italy

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Introduction

Training and implementation costs limit the provision of evidence-based early intervention for Autism Spectrum Disorder (ASD) in public health systems both in high- and low-income countries, including Europe (Salomone et al. 2016). The Caregiver Skills Training programme (CST), developed by the World Health Organization (WHO), is a group intervention for neurodevelopmental disorders which aims to meet affordability and feasibility criteria for low-resource settings. The study examined feasibility and acceptability of the WHO CST in public child neuropsychiatry services in Italy.

Methods

Caregivers of children (2-5 years) with a clinical diagnosis of ASD were randomized to either WHO CST (n=43) or treatment as usual (n=43). Facilitators' and caregivers' experiences of the programme were examined with focus groups and questionnaires. Focus group transcripts were analysed with the inductive thematic analysis method (Braun and Clarke 2006).

Results

Attendance and adherence to home practice rates were high: 80% of the target caregivers completed at least 75% of the program, 81% reported practicing regularly with the CST strategies at home in between sessions. Caregivers rated program materials as highly comprehensible, applicable and in line with family values,

CST strategies were rated as highly useful across sessions. The qualitative analysis identified themes and subthemes related to the programme's: a) acceptability, b) feasibility, c) perceived benefits, these were represented on a thematic map. Facilitators and caregivers identified, respectively, caregiver mental health needs and management of child challenging behaviour as key domains to further develop. Excessive duration of sessions and low acceptability of specific teaching techniques (role play) emerged as barriers for program uptake. The heterogeneity of clinical needs at caregiver and child level was highlighted as both a challenge and opportunity by facilitators and caregivers. Caregivers reported reduced feelings of stress, improved self-efficacy and improved behaviour regulation in their children.

Discussion

The WHO CST was overall considered feasible and acceptable, and caregivers reported perceived benefits from participation. However, specific implementation challenges were identified. Findings align with feasibility and acceptability data from CST implementation in Ethiopia (Tekola et al., submitted). Suggestions for optimizing the package to improve retention, acceptability and feasibility are discussed.

Keywords: Community based, Intervention, Services

The impact of an online teacher training on supporting the inclusion of children with ASD in ECEC in three EU countries

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Introduction

The role of high-quality ECEC (Early Childhood Education and Care) for a wide range of short- and long-term benefits for individuals and society has been extensively supported (see Council Conclusions, 2011/C 175/03). However, children with ASD (autism spectrum disorders) are still less represented in ECEC, due to the lack of adapted settings (EC, 2013). This study is embedded in the EU K2 project ETTECEC – The Early aTTention for the inclusion of children with ASD in ECEC systems. The aim of the study was to develop, implement and evaluate an online training for preschool teachers, which would enhance teacher's competencies to provide a more inclusive environment for all children, with a special focus on children with ASD.

Methods

The study took place in three EU countries and included 18 teachers from 5 preschools that have children with ASD enrolled. Full day observations of real-life situations and interviews with teachers, parents, and children with ASD were conducted. Based on the findings, needed competencies for teachers were identified and an online didactic training (e.g., videos, audios, and written materials) was developed. It consisted of three modules: (a) Module 1: Understanding ASD, (b) Module 2: What to observe (teacher as a detective), (c) Module 3: Strategies (Strategies to implement with children, Self-care strategies for teachers) and was implemented

as a self-study course with follow-up supervisions. To follow up the impact, the teachers completed the impact questionnaire before and after the implementation of the didactic training, regarding their competencies to work with ASD children and to create inclusive environments.

Results

First, preliminary findings show that it is possible to design a self-study online training for teachers that can improve teachers' competencies to work with ASD children and help them create inclusive environments. Based on the questionnaires it can be concluded which of the three modules in the training was the most useful and supported the development of teacher competencies and in what way. The results of the evaluation will be presented together with implications for practice and research.

Discussion

This training creates an easily accessible (online, free) tool that can be used by preschool teachers across Europe and possibly lead to improving ECEC systems. Suggestions for improving the training will be presented.

Keywords: Inclusion, Preschool, Training

Building Capacity to Support Children and Families with ASD in Peru Through mHealth Interventions

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Introduction

Based on the global prevalence of Autism Spectrum Disorder (ASD), there is a pressing need to develop cost-effective interventions for affected families with limited access to evidence-based supports. Digital Health Interventions (mHealth) can offer a valid alternative to service delivery in Low- and Middle-Income Countries (LMICs) by connecting experts in ASD with families in areas with limited resources. In our pilot study, we aimed to implement an mHealth, train-the-trainer model where United States clinicians first targeted national trainers' competency, who then delivered skills-based group training to caregivers of children with ASD in Lima, Peru.

Methods

Development and delivery of a Spanish training curriculum for 2 national trainers based on pivotal skills training: 12 modules delivered via mHealth, and addressing topics on parenting, evoking social behaviors, and increasing communication.

Measure competency for national trainers through pre-post module quizzes, written final exam, and video skills demonstration.

Weekly supervision of national trainers as they conducted 3 skills-based groups for 15 caregivers of children ages 3-8 with confirmed ASD diagnoses.

Pre-post treatment outcomes included caregiver impressions on the feasibility and acceptability of the intervention through validated tools (e.g., Family Quality of Life Survey).

Video recordings of child-parent play through sessions for selected families to measure caregiver demonstration of target skills. (70%-78% pre-post).

Results

Preliminary analyses indicate that national trainers' scores increased in pre-post module quizzes. They also met mastery in written (M = 98%) and observation measures (2 sessions to mastery). Data on family measures indicate growth around targeted skills (e.g., reinforcement, effective directives). The intervention was also positively received (95%) with slight increase at post-test (98%), and families reported increases in quality of life post-group

Discussion

Our study suggest that mHealth-supported interventions are effective dissemination of evidence-based strategies for local trainers and caregivers of children with ASD, particularly in an LMIC with limited access to interventions. Further, cost-effectiveness of this intervention and positive caregiver feedback suggests feasible scalability for this intervention model for other low-resourced areas.

Keywords: Culture, New Technologies, Training

A breath of fresh air: acceptability and feasibility of the WHO Caregiver Skills Training Programme in Italy

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Introduction

A large national autism charity is launching a new three year strategy in 2019. If the strategy is to achieve progress towards a society that works for autistic people, it is essential that it is informed by the views and life experiences of autistic people and their families. A large scale national consultation was conducted to ask which life challenges are most commonly faced by autistic people and their families and which have the greatest impact on their lives.

Methods

Fieldwork took place between September 2018 and January 2019. First, in-depth interviews (n=12) were conducted with autistic people and family members to establish a broad list of life challenges. Secondly, the survey was tested and then conducted online. Responses were n=6,047, of which around 2,000 were autistic people resident in the country, the largest such response to our knowledge. The survey was promoted through the charity's contacts database, social media, attendees at national conventions and the charity's website. Respondents were asked to identify all the life challenges they had faced, then to rank up to five life challenges which had had the greatest impact on their life, and to describe in their own words these impacts. Other questions asked about age, gender, support needs, financial circumstances, personal wellbeing, and the extent to which respondents felt society works for autistic people. An Easy Read version was produced, led by autistic and learning disabled people. Thirdly, focus groups were conducted in six locations to further understand the issues raised by the survey findings.

Results

Among autistic people, mental health was the most common and most impactful life challenge. Among family members, it was 'challenging behaviour' (the term used in the survey). Challenges common to both included sleep, going out and public spaces, and access to education. In regression analysis, sex and relationships as a life challenge, and financial difficulties (negatively) and positive experiences of public services and spaces, and self-efficacy (positively) were also associated with wellbeing. Themes identified in open ended responses included depression, social isolation, and suicidality.

Discussion

The results are informing the direction of the strategy, specific priorities, the future of existing campaigns and programmes, and plans for new activities. Limitations included survey respondent bias and the need to give attention to issues that deeply affect minority groups within the autistic population.

Longer term support for adults diagnosed with autism: an evaluation of multi-disciplinary teams in England

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Introduction

Long held concerns about the mental and physical health, social and economic outcomes of adults with autism have led to calls for improvements in services and support. The need for a coordinated, multi-disciplinary approach to meeting the needs of this group has been emphasised. However, the development of such services has had to take place in the absence of existing evidence relevant to the way these services are designed and delivered. Evaluations of exemplars of such provision are therefore very important. This paper will report findings from such a study.

Methods

Observational study of a cohort of over 250 adults using one of nine specialist multi-disciplinary autism teams which tracked health, social and quality of life outcomes (e.g. WHO-QoL BREF, GHQ-12, EQ-5D) from entry into the service through to 2 years follow-up.

The teams varied in terms of the way they organised and delivered support and interventions. Retention to the study was over 85%.

Results

Descriptive analyses are used to describe outcomes at 3, 6, 12, 18 and 24 months after entry into the service. Regression analyses are used to explore the impact of individual and service characteristics on outcomes.

Discussion

Findings can be used to inform the way longer-term support of adults diagnosed with autism, and provide evidence on individual characteristics which may predict the need, and intensity of, support.

Keywords: Adult, Care, Services

European Society for child and adolescent Psychiatry (ESCAP) Practice guidance for Autism spectrum disorders

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Introduction

On June 1st. 2018, the European Society for Child and Adolescent Psychiatry (ESCAP), appointed an expert group led by Dr. Joaquin Fuentes, to include Drs. Amaia Hervás and Patricia Howlin, that was coined as The ESCAP ASD Working Party. The assigned task was to produce the ESCAP Practice Guidance for ASD: A brief summary of evidence based recommendations for diagnosis and treatment, to be presented to the ESCAP Board for appropriate endorsement and ulterior dissemination. ESCAP incorporates in its membership the National Child and Adolescent Psychiatry Societies of 34 nations, and constitutes the main representative of Child and Adolescent Psychiatry in Europe.

Methods

The method followed was based on a review of available documents and reports, plus the addition of the clinical experience of the authors. The ultimate goal was not to replicate existing guide-

lines, but to offer practical guidance to clinicians supporting persons with autism and their families in such a diverse context as it is Europe today.

Results

The Practice Guidance for Autism will be presented in a plenary session at the International 2019 ESCAP Congress in Vienna (30 June - 2 July). It will be endorsed by the ESCAP Board, published, and made available to all the European society.

Discussion

The authors are persuaded that their work will contribute, in line with other efforts, such as those from Autism Europe, to the improvement of support for autism in our continent, and, in order to do so, the involved people and their families are essential for success. This oral presentation will foster dissemination and empowerment for all involved.

SantéBD, easy-to-understand information about health

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Introduction

Persons with autism face a range of barriers in accessing health care services. Among all concerns, access to information is crucial to receive and understand relevant health information and to communicate with healthcare professionals. SantéBD project brings an answer to the lack of accessible information about health. Using easy-to-read language, pictures and communication symbols, SantéBD is a collection of digital tools, free of charge, which explain how consultations, treatments or prevention measures are carried out, and how to remain healthy. It helps people with autism to better understand health, be less afraid before and during medical appointments, and be more involved in the communication with healthcare professionals.

Methods

In France, the 2013 Ministerial Report on accessibility to healthcare revealed the lack of easy-to-understand tools for disabled people and the lack of training about disability for healthcare professionals. SantéBD was created in 2014 by CoActis Santé Association in collaboration with many major organizations involved with health and all types of disabilities (autism, intellectual disability, aphasia, motor disability...). Together, they designed tools to ensure accessible use to all. The objectives of these tools are : make people find all the information they need before a medical appointment, and create a direct relationship between patients and healthcare pro-

fessionals. In 2017, a social impact survey led by KIMSO agency was conducted to evaluate the impact of SantéBD on improving the health for people with intellectual disability and autism.

Results

Survey's results confirmed that the use of SantéBD improved the health conditions of these people. With SantéBD, they better understand medical appointments (100%), they can express better their fears or their consent (83%), and they have a better communication with healthcare professionals (78%).

Discussion

SantéBD's innovation lies on a specific methodology addressing the needs of all types of disability. The result is a collection of information and education tools accessible to all : booklets, a mobile application, a bank of more than 10 000 images to download, videos. These help people to better understand health, and doctors and hospitals to make their documents more accessible. CoActis Santé Association, who is acting for a universal access to healthcare, welcomes the idea of partnerships with foreign organisations if they would like to adapt SantéBD in their countries.

Keywords: Alternative Communications, General health, New Technologies

Whose agenda? Who knows best? Whose voice?: Co-creating a technology research roadmap with autism stakeholders

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Introduction

The field of research and practice in autism and technology has developed rapidly over the past 30 years but has mostly been conceptualised according to a medical model of disability. Participatory research approaches demonstrate the need to critically reflect on the current status of the field with autism stakeholders in order to identify how the field can develop more inclusively.

Methods

In this stakeholder review of research, we analysed the comments of 240 participants from a two-year seminar series focusing on autism and technology in order to co-construct an understanding of the main challenges and possibilities. Participants included autistic adults, parents, families, practitioners, professionals and researchers. We used a socio-cultural framework to analyse the data in order to provide a wider, more nuanced, understanding of the dri-

vers, activities, and motivations in the field than typically reported elsewhere in the literature.

Results

Our findings show that stakeholders are very positive about the roles that technologies can play in many areas of life, but also recognise that technologies need to be developed and evaluated according to the needs and preferences of autistic people and their families. Participants indicated that the processes and experiences of engagement and participation were valued as much as (if not more than) any possible, more formalised, indications of 'outcomes'. Participatory design as a core focus for action was taken as a given i.e. that autistic people should be more involved in decision-making and design of technology in the autism and technology field. However, stakeholders were also clear that challenges

remain in how representative such involvement can or should be and, therefore, who should be involved in such decision-making and development. Responsible innovation was highlighted both in terms of which technology tools should be the focus of research and how the places and participants of research are involved and respected.

Discussion

We propose an inclusive common social framework for research based on the core themes of social inclusion, perspectives, and participation and agency. Such a framework requires the field to recognise that some current practices are exclusionary and that a commitment to action is needed in order to make positive changes.

Keywords: Inclusion, New Technologies, Participation

Evidence-based practice for technology-based interventions

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Introduction

There has been an exponential increase in the availability of digital technologies to support the autistic community. However, there is no mechanism for users and their caregivers to easily access evidence demonstrating that such technologies are beneficial. According to recent scholarly reviews, digital technologies for autism with an evidence base are not commercially available, and commercially available technologies often lack a solid evidence base. Evidence-based practice (EBP) is central to medical disciplines and is increasingly being extended to psycho-behavioral interventions for autism. EBP has been instrumental in promoting and standardizing evaluation methods such as Randomized Control Trial methodologies. In the current project, we seek to co-develop with the autistic community a framework for assessing evidence supporting technology-based interventions.

Methods

Our methodology is twofold: (1) We developed a scale, called User-Centered Design for Intervention (UCDI), to assess the extent to which a digital technology is informed by empirical data, autism domain expertise and the scientific literature. We evaluated our scale against an EBP scale specifically designed for autism interventions in a randomized sample of 216 relevant published reports. (2) We conducted a Delphi study to elicit recommendations from a panel of experts (researchers, developers, autism community) on digital technology interventions for autism.

Results

Inter-Rater Reliability for the two tested scales was good to excellent and the UCDI classification of weak and strong studies had high correspondence with an independent human expert. The majority of reviewed articles received a "weak" EBP rating and a medium to low score on the UCDI scale. The Delphi study yielded recommendations for improving the following three aspects of technology for intervention: reliability, engagement, and efficiency.

Discussion

The framework and scales we developed, and the resulting recommendations we received, can help members of the autism community determine the evidence base before adopting technology-based interventions. Our methods and measures can also be used to evaluate the extent to which digital intervention technologies enable efficacious outcomes.

Keywords: Community based, New Technologies, Treatment

A digital platform for parent-mediated Naturalistic Developmental Behavioral Interventions (NDBI)

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Introduction

The average age of autism spectrum disorder (ASD) diagnosis is after 4 years despite the fact that children with ASD can be diagnosed as early as 2 years old. Barriers to timely diagnosis include the large time burden and cost of comprehensive assessments, shortage of providers, and lack of resources in primary care settings. Delayed diagnosis results in delayed entry into early intervention programs and in many parts of the EU, parents wait over 1 year for services. Moreover, in many parts of the world, there may be no diagnostic assessment and no intervention services available at all. To address the problem of delayed access to intervention services, we developed a digital health platform that supports the delivery of parent-mediated Naturalistic Developmental Behavioral Interventions (NDBI). This scalable tool is intended to help parents and caregivers learn how to implement evidence-based interventions with their children while they are on lengthy wait lists for services. The tool supports training and practice, coaching, and measurement of fidelity as well as target goal identification and tracking. Training content comprises critical skills and strategies that are considered universal to all NDBI's. This technology presentation aims to 1. Report on a Quality Improvement project that utilizes this system, and 2. To demonstrate this technology to audience members at the Autism Europe Conference. Specifically,

audience members will interact with a chatbot that will teach them critical skills required to implement NDBI's.

Methods

We initiated a quality improvement project in an autism provider network in a European country to assess 1. The ease of technical and clinical workflow integration, 2. Acceptability and feasibility among clinicians who served as coaches for the families. As part of the QI project, we determined completion rates of users and collected feedback from clinicians who served as coaches.

Results

Integration of the system into the provider network's workflow was uneventful and successful. Provider network clinicians trained in the system rated it as acceptable, feasible, and described high user satisfaction.

Discussion

Scalable digital health tools hold promise to deliver evidence-based training for parent mediated interventions for autism spectrum disorder. This approach of large-scale dissemination of evidence-based practice may allow parents to develop the capacity to start using basic interventions while they wait for clinic-based services.

Comparing Autistic Children's Social Communication Behaviours in a Robot-Assisted Versus Adult-Led Activity

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Introduction

Autistic children experience difficulties with social communication behaviours (SCB). Robots have been proposed as potentially useful tools to support autistic children's SCB, based on claims that their predictable behaviour and simplified characteristics might be less socially demanding for autistic children than human interactions. Yet, very few studies have directly compared autistic children's SCB when interacting with robots versus humans.

Methods

A school-based feasibility study recorded 128 5- to 12-year-old autistic children in the context of an emotion-recognition teaching programme (based on Howlin et al., 1999). Children were randomly assigned to robot-assisted or adult-led teaching conditions. To directly compare the use of SCBs in child-robot versus child-adult interactions, we selected a subset of 5- to 8-year-old participants with at least 15 minutes of recording each (n=12, 2 fe-

males, 6 children from each condition). Groups were well-matched for age ($p=.699$) and autism severity symptoms on the CARS2-ST ($p=.485$). We designed a coding scheme based on the SCERTS model to identify a range of SCB, including commenting, pointing, imitation, requesting, responding, shared affect, etc.

Results

There were 926 instances of SCBs in the 180-minute sample (15 minutes/child). The median number of SCBs in the robot-assisted condition was 59.50 (range = 17 – 87), while in the adult-led condition was 84.50 (range= 35 – 198), although there was no significant difference between teaching conditions (Mann-Whitney $U=24.00$, $p=.394$, $r=.28$). When comparing the medians of each type of SCB, we found a significant difference for imitative behaviours between the adult-led condition (Mdn=1) and the robot-assisted condition

(Mdn=14.50), $U=33.50$, $p=.012$, $r=.72$. We found a significant difference for sharing positive affect between the robot-assisted condition (Mdn = 10.5) and the adult-led condition (Mdn = 3), $U=5.50$, $p=.045$, $r=-.58$. There were no other significant between-group differences.

Discussion

Results indicate that children's SCBs were similar in the robot-assisted and adult-led teaching conditions for total number of SCBs observed, and for most individual SCB types. It is encouraging that children shared more positive affect in the robot-assisted condition, indicating that a humanoid robot can be part of enjoyable, social interactions. Variance in children's SCBs within each group highlights the importance of considering individual differences when studying autistic social communication.

Does including a robot in Pivotal Response Treatment contribute to higher gains in self-initiations in children with autism spectrum disorder?

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Introduction

Diminished self-initiations are a core deficit in children with autism spectrum disorder (ASD). Pivotal Response Treatment (PRT, Koegel & Koegel, 2006) targets self-initiations for further social-communicative development. Since robotics may enhance motivation for communication in children with ASD (Diehl et al., 2012), using a robot within PRT may contribute to enhance self-initiations. The objectives of this study were 1) to examine robot-assisted PRT and PRT in increasing self-initiations during treatment and 2) whether an increase in self-initiations relates to gains in generalized social-communicative skills.

Methods

Forty-five children with ASD (3-8 years) were recruited as part of a larger RCT. Two groups were compared in this study: robot-assisted PRT ($n = 24$) and PRT alone ($n = 21$). Both groups consisted of 20 sessions, including 14 parent-child sessions and 6 parent sessions, to train parents in PRT techniques. In the robot-assisted PRT group, a robot was added in all parent-child sessions with programmed scenarios. All parent-child sessions of both groups were videotaped and child's verbal self-initiations were rated during one 6-minute probe in each session. Appropriate verbal self-initiations for each session were compared over time between the groups. Self-initiations change scores were computed for each child and

related to both endpoint (week 20) – baseline (week 1) and follow-up (week 32) – baseline (week 1) change scores of subscales of the Social Responsiveness Scale (SRS, Roeyers et al., 2011), completed by parents and teachers.

Results

Mixed-model analysis in R demonstrated a better fit of the model with both fixed and random effects of time that included a group x time interaction effect compared with the model that only included main effects for group and time, indicating a steeper increase in self-initiations in the robot-assisted PRT group. Furthermore, correlation analysis indicated a significant relationship between self-initiations change score and the Social Awareness subscale of the parent-rated SRS, but no significant relationship with the other parent-rated SRS subscales or any teacher-rated SRS subscales.

Discussion

Results of this study provide a first indication that the use of robotics in PRT may contribute to higher gains in self-initiations during treatment. Gains of self-initiations were only found for social awareness. Implications for clinical use of robotics in PRT and future research will be discussed.

Keywords: Communication, Robot, Treatment.

The Birthday Party: a training film for front-line professionals and families to raise awareness about the SIGNS of autism

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Introduction

Governments, charities and researchers systematically highlight the problems of delayed diagnosis, lack of educational support, and stigmatisation of children linked to a poor understanding of autistic signs. By developing a novel training film in a unique collaboration, we aimed to improve comprehension of the varied presentations of autism in order to increase recognition and support for those who have a subtler presentation or 'mask' their differences.

Methods

In 2017-2018, collaborators from universities, government agencies and charities in five different countries created a training film, based on research evidence, to help professionals to identify the SIGNS of autism (Social interaction, Imagination, Gestures, Narrow interests, Sensory responses). The film was developed and translated into six languages, with help from members of the autism community in each country, then widely distributed and evaluated. Impact was assessed through brief questions asked before and after viewing the film.

Results

Responses to evaluation questionnaires from 850 professionals and parents identified improvements in understanding the signs of autism and highlighted the usefulness of the film for reducing stig-

ma. Clarity and focus on individual/gender differences were very appreciated. The overall positive feedback led to the distribution of the film to parents, professionals and students. The film, now viewed by 27,000 people, has been adopted for national practitioners training courses in special education, and speech/language therapy in two countries. It is used to train teachers, professionals and medicine/psychology students in two other countries. It is part of clinical toolkits and national training resources in schools in the final country.

Discussion

Responses obtained through questionnaires confirmed the usefulness of the film for flagging up signs of concern that may be relevant for future referral. Notably, the video format was especially effective in improving understanding of autism signs, even in skilled professionals. Therefore, the next steps will be 1) developing training packages to be used with the film, 2) working with policy developers of different countries to make sure that the film is part of the training of education/medicine/psychology students, 3) ensuring the partnership of new countries in order to translate the film in other languages.

Keywords: Culture, New Technologies, Training

How is Autism framed in Newspaper Media? An Example from Finland

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Introduction

There is a steady increase in news coverage of Autism Spectrum Disorder (ASD, _____ 2013). Media coverage increase awareness but few have studies how ASD-related stories are told. The aim of this study is to unpack ASD-stories in the Finnish print media by examining: 1) To what extent do media stories extend medical and societal narration of ASD to other issue domains, and 2) To what extent do news stories utilize a positive, negative, or neutral narrative?

Methods

We analyzed the largest newspaper in Finland from 1990-2016. The sample consisted of 168 newspaper articles. A total of n=123 media stories were medical and n=45 had societal content. Two authors independently analyzed the data using qualitative frame alignment before utilizing a critical content analysis technique of merged themes. Then, each article was analyzed as giving a positive, neutral or negative portrayal of ASD.

Results

Our analysis revealed four additional themes of detailed ASD reporting in, 1) MMR Controversy, 2) Employment obstacles, 3) ASD as culture, and 4) deviant behavior. Two thirds of the articles (n=110) consisted of an informational or clinical lens using a neutral storyline. Employment stories utilized a positive narrative, the Finnish stories

about employment had an extension to social skills narrated with a negative tone. Some stories about criminal behavior stigmatized persons with autism. Findings also reveal that some uniquely Finnish cultural norms and thus amplifying cultural values and norms and extending "autism" and its conventional frames to cultural identity and trust in Finnish culture.

Discussion

It appeared that ASD news are reported in a variety of ways and extended to a range of other frames. Our results suggest frame extensions to topics like employment, culture, and deviant behavior. Stories used a positive or negative narration to promote an issue position, and not following the international stories about MMR-ASD link, but taking advocacy positions drawing on international experience of what works in topics like employment. Our findings reveal that some uniquely Finnish cultural norms may play a role in how newspapers approach ASD (_____, 2015, Sahlberg, 2010). Some of the stories in our study appeared strategically, perhaps rather cleverly, to utilize "Finnishness" to report on autism amplifying cultural values and norms and extending "autism" and its conventional frames to cultural identity and trust in Finnish culture.

Keywords: Community based, Empowerment

The Efficacy of Organised Physical Activity Participation on Behavioural and Emotional Problems in Children with Autism Spectrum Disorder

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Introduction

Prevalence rates of behavioural and emotional problems in ASD populations are high. While there is evidence to suggest physical activity programs can benefit these areas for children with ASD, there is little research examining the impact of programs which are readily

accessible within a child's community setting. This study aimed to determine whether a community-based organised physical activity (OPA) program could improve behavioural and emotional problems in children with ASD. This study is part of the AllPlay program, a program designed to create new pathways for inclusion into the commu-

nity, for children of all abilities.

Methods

Sixty-one school aged children (aged 5-12 years) with a diagnosis of ASD were recruited from the community across Victoria, Australia over 2017 and 2018. To be accepted into the intervention group, children must have been enrolled in a community Australian Rules football program (NAB AFL Auskick). Recruited control participants must not have been enrolled to participate in physical activity throughout the duration of the study (for more than 30 minutes per week). Only a subset of the sample was able to complete the Child Behaviour Checklist (Parent Report), the measure used for this study, at two different time-points.

Results

Preliminary data were analysed using repeated-measures ANOVAs. Results indicate trends towards significance for the interaction between internalising related scores and group across time. More

specifically, internalising scores (e.g., anxiety) improved across the two time-points for children in the NAB AFL Auskick group in comparison to the control group. No significant differences or trends were noted for externalising behaviours.

Discussion

Previous research has identified the benefits of general physical activity on behavioural emotional outcomes in children with ASD; however, this is the first study to compare pre-and-post differences after playing a community-based sporting program. Preliminary results found no effects for behavioural/ externalising problems, however do suggest participation in this type of program has the potential to benefit on children's emotional well-being (e.g., reduce anxiety). This could be an important finding given the high rates of internalising disorders in this population. Moreover, participation in programs which move away from the clinic and into natural settings may benefit not only children, but their families and the wider community.

Attitudes towards children with ASD: the need for implicit measures

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Introduction

Autism Spectrum Disorders (ASD) affects a growing number of children that fortunately have more and more access to mainstream schooling. Nevertheless, the challenge of inclusive school is still far from being a total success regarding the negative attitudes of students towards their peers with ASD. Aiming to improve these negative attitudes, several ASD anti-stigma interventions have been developed. However, previous studies have several limitations. First, few of them measured interventions effectiveness. Also, attitudes have generally been measured with self-reported questionnaires. We argue that research on ASD anti-stigma interventions would benefit from additionally measuring implicit attitudes, not only to bypass desirability bias but also to be able to predict subtle forms of discrimination. The aim of our study is to measure implicit and explicit attitudes of Typically Developing (TD) children toward children with ASD.

Methods

Participants were 137 TD children in 1st-5th grade (Mage = 9.28 years, SD = 1.17, 51% of girls). Participants completed explicit and implicit measures of attitudes after having watched a short video of children with ASD and TD children. A self-reported questionnaire was specifically developed for this study to assess explicit attitudes. For implicit attitudes, we used an adapted version of an innovative

task (VAAST, Rougier et al., 2018) that measures spontaneous approach and avoidance tendencies towards social groups.

Results

Participants first reported more negative explicit attitudes towards children with ASD than towards TD children, $t(129) > 3.76$, $p < 0.001$. Second, the VAAST results revealed that participants were faster to spontaneously approach TD children (positive attitude) and avoid children with ASD (negative attitudes) rather than the reverse. Interestingly, while implicit attitudes towards children with ASD did not change, as participants grow older, explicit attitudes showed a positive trend.

Discussion

The findings showed that TD children have negative implicit attitudes towards children with ASD. Importantly, the positive trend of explicit attitudes suggests that participants responded according to the social norm rather than to their real opinion. That was not the case for implicit attitudes. Consequently, the evaluation of anti-stigma intervention should not be limited to explicit attitudes especially for older children for whom such measure is biased toward social desirability. Authors have no conflict of interest to declare.

Keywords: Childhood, Education, Inclusion

The misnomer of 'high functioning autism': IQ is an imprecise predictor of functional abilities at diagnosis

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Introduction

'High functioning autism' is a term often used interchangeably for individuals with autism spectrum disorder (ASD) without an intellectual impairment (or Intellectual Disability, ID). Over time, this term has become synonymous with expectations of greater functional skills and positive outcomes, despite contradictory clinical observations. Whilst there has been research investigating the relationship between IQ and adaptive functioning in ASD, very little has focused on individuals at the time of diagnosis. Understanding whether IQ is an appropriate proxy for adaptive functioning has important clinical implications for service provision and funding allocated for supports. This objective of this study was to investigate the relationship between adaptive behavior, IQ and age at diagnosis in ASD.

Methods

Individuals were part of an ongoing prospective register in Australia, notified by their clinician(s) at the time of diagnosis. Cases were selected if they were less than 18 years at diagnosis, had a cognitive estimate and adaptive functioning scores recorded. This left a sample of n=2222, which were then grouped by presence (n=1039) or absence (n=1183) of ID. Adaptive functioning was reported using the Vineland Adaptive Behavior Scales (VABS).

Results

VABS scores were significantly lower in the ID group, and IQ estimates significantly correlated with adaptive functioning scores across the whole sample. However, weaker sized correlation coefficients were observed between IQ and VABS in the group without ID, particularly for the Socialization subscale. Regression models suggested that IQ was a weak predictor of VABS composite and subscale scores after controlling for sex for children without ID. When comparing difference scores between IQ and VABS scores, the ID group's adaptive behavior estimates were close to reported IQs, while VABS scores fell significantly below IQs for children without ID. The gap between IQ and VABS scores increased with increasing age at diagnosis for all children.

Discussion

These data indicate that estimates from IQ alone are an imprecise proxy for functional abilities when diagnosing ASD, particularly for those without ID. We argue that 'high functioning autism' is an inaccurate clinical descriptor when based solely on IQ and this term should be abandoned in research and clinical practice. We also recommend functional adaptive assessments be considered a key component of a comprehensive diagnostic evaluation.

Keywords: Adapting, Assessment, Diagnostic

Overlap of strengths and restricted interests in ASC girls: ¿A game changer for all?

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Introduction

Core deficit areas has been studied in ASC deeply. Highly restricted and fixated interests (RI) are part of diagnostic criteria as RRBS. Special interests has been encouraged but not deeply researched. There is more understanding of the shortfalls of ASC than on. The aim of this study is to trigger the subject through some preliminary research findings in a larger pilot study that address professional

reports of ASC girls on RI and strengths and their impact for all individuals in the spectrum.

Methods

An open answer survey in paper was completed by 120 professionals that treated 850 girls that were part of a larger research study. They were asked to write what RI and strengths they had observed

in ASC girls. Semantic categories and clusters were made. Statistical data was analyzed.

Results

Most of the sample (84%) was able to identify strengths in 20 different clusters and we regrouped them in 3 different categories: cognitive style (focus to detail, memory, visual processing, hyperfocus, systematization among others), interpersonal (interaction, imitation, affectivity, tolerance, empathy) and action related, such as arts and music. Interaction was the one more salient for a subgroup (25%). In RI 15 very varied clusters were identified, similar to their peers (dolls, tv shows, animals, music, nature, arts. Interaction was significant for another subgroup (9%) Three clusters of both variables were overlapped and also the most reported. In RI music (14,2%) art (15,1%) and interaction (12%) and strengths (music 10%) art (10%) interaction (23%).

Discussion

Though data is still preliminary and in process, girls seem to have varied interests and similar to their typical peers as reported in previously. Some strengths and RI in interaction suggest the profile for some subgroup of girls could challenge the expected presentation. Strengths related to cognitive style are apparent for most of professionals, and maybe not related with sex or gender differences. Art and music as strengths and RI overlapping could suggest that there could be a link in strengths and RI, that we fully do not understand yet. More effort need to be made to understand how to detect measure and promote strengths from an early age in any gender ASC even when they overlap with RI. Maybe the game changer could be to question the way we understand RI and strengths and develop more research, instruments and intervention and address their potential role in prognosis.

Cross-Cultural Content Validity of the Autism Program Environment Rating Scale in Sweden

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Introduction

Increased diagnoses rates of autism and earlier identification pose new challenges to preschools and services delivering early intervention to children on the spectrum. A prerequisite for successful implementation of support is a high quality preschool learning environment. Here, we briefly describe the process of translating, culturally adapting and validating the contents of the Autism Program Environment Rating scale (APERS), originally designed for assessing the quality of the learning environment for children and adolescents with autism in the USA, to a European language and educational context.

Methods

In an authorized step-wise procedure, the 59 item scale was translated by a PhD level clinician fluent in English with expertise in autism and psychometrics. Subsequently, following internal feedback from the research team, adaptations addressing translation and cultural adaption of the scale were made. Then, five Swedish external preschool and early intervention experts were invited to provide feedback on the cultural appropriateness of the adapted scale. Lastly, nine additional independent external experts within the field of autism, preschool and early intervention were invited to rate the content

validity of the adapted scale. Relevance of subdomains and domains was assessed as well as clarity and comprehensiveness for all of the scale's items. Experts also rated the practical relevance, need, usefulness, and feasibility of the scale as a whole, and provided anecdotal formative feedback.

Results

All items, subdomains, and domains of the scale were estimated by the raters as showing sufficient content validity (Content validity index ≥.79). Several Swedish experts highlighted the need for such a scale, and the usefulness of the scale as a means to assess and then support preschool staff to improve learning environment for children with autism. However, some concerns were raised about the comprehensiveness of the scale and the challenges preschools will meet in improving their learning environment.

Discussion

There seems to be a need for a rating scale to assess and improve the learning environment for children with autism in preschool settings. Although the usefulness and content validity of the translated and adapted scale was established, little is still known about other

psychometric properties of the scale, and more work needs to be done to assess its usefulness as a tool for systematic improvement of preschool program quality.

Keywords: Assessment, Preschool, Program

Looking back at the diagnostic process after 20 years: two case studies of adult female patients with past and present first hand diagnostic recordings

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Introduction

30 years ago when our outpatient clinic examined its first patients the diagnostic process was considerably different. In the past 10 years there has been a growing number of patients applying for an examination of autism in adulthood. Some of them had recordings of a diagnostic examination from their childhood at our outpatient clinic which they didn't necessarily know of. Nonetheless earlier recordings of the diagnostic process provide with valuable longitudinal information about the patients' behavior. We aim to present two cases, females in their 30s with Asperger's syndrome, who received their diagnosis in adulthood. We try to present how earlier recordings of the diagnostic process (such as video tapes or a detailed diagnostic questionnaire) aided diagnosis making 20 years later. Additionally we provide with some insight into the course of their life, showing the obstacles they faced- such as vulnerability to other psychiatric conditions, social influence or the progression of some of the challenging behaviors- without an accurate diagnosis.

Methods

In the outpatient clinic, specialized in diagnosing autism we chose two similar cases (females in their 30s), where we had video recordings and detailed information of the diagnostic process from 20 years ago, to evaluate their profiles longitudinally and see if it fits into the criteria of ICD-10 and DSM-5. We also used cross-sectional

observation using a standardized tool, such as the ADOS.

Results

In the scope of 20 years we noticed a considerable change in the following aspects: symptom severity were more prominent in adulthood, diagnosis of ASD in childhood was missed because the family did not attend follow up examination, or the profile of the patient could be better explained with another diagnosis (selective mutism), present day evaluation of females' profiles of autism is considerably different to what it used to be 20 years ago.

Discussion

When examining adults, it is often hard to gather data from childhood. In these two case studies first hand diagnostic documentation from the patients' childhood made the diagnostic process in adulthood considerably easier. In line with the literature: we noticed a growth in the number of female adult patients applying for an examination of ASD, males and females have differing profiles in the spectrum, we evaluate females' symptoms differently to 20 years ago. Behavior may deteriorate without the appropriate intervention. Autism diagnosis in adulthood can still prove to be preventive.

Keywords: Adult, Diagnostic, Gender

The effect of a Multi-Sensory Environment on the behaviour, mood and arousal of autistic children: Exploring the impact of sensory control

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Introduction

Multi-Sensory Environments (MSEs, also called sensory or Snoezelen rooms) are common in special needs schools and contain equipment that change the sensory environment for educational or therapeutic benefit. They are widely used with autistic children, yet the existing evidence base is inadequate and there are no best practice guidelines to support practitioners. Using thematic analysis, we found that practitioners who use MSEs with autistic children believed them to be beneficial for improving a range of behaviours, and that the child being in control was necessary for maximum benefit. We empirically tested this hypothesis by investigating the effect of being in control of sensory changes in the MSE on autistic children's behaviours, mood and physiological arousal.

Methods

Forty-one autistic children (8 female) aged 4-12 years (M=8 years, SD=2.05 years), used the MSE twice. In the 'sensory control' condition they changed equipment themselves using an iPad. In the 'no sensory control' condition, the equipment changed without their input. The order of conditions was counterbalanced. During each condition the child sequentially engaged with five pieces of equipment, each for three minutes in a randomised order. The sessions were videoed and behaviours later coded. The outcome measures were selected based on our previous work and included:

social communication, repetitive motor behaviours (RMBs), sensory behaviours, mood, attention, and rapport. Physiological arousal was measured using heart rate variability.

Results

Behavioural coding achieved good to excellent inter-rater reliability. Findings showed that when the child had control over their sensory environment, they produced fewer RMBs and sensory behaviours, less stereotyped speech, and paid more attention. However, there was no difference in social communication, rapport, mood or physiological arousal between conditions.

Discussion

This study is the first to establish that having control of an MSE can have a beneficial effect on the behaviour of autistic children. These findings highlight the importance of considering how MSEs are used with autistic children and can inform practitioners on how best to work with autistic children in MSEs. Future work should investigate the impact of other common educational practices (e.g. the amount of interaction with the child, the amount of sensory input) as well as gain further insight into MSE use by speaking to autistic individuals directly about their experiences.

Keywords: Behaviour, Education, Environment

Better Lights, Brighter Future: an autism friendly lighting project

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Introduction

As we become more knowledgeable about sensory issues for autistic people – initiative tools and changes are occurring. Equal attention is not being given to autistic adults with complex needs. The project was propelled by the needs of an employee at our Autism Centre. She was experiencing health and wellbeing issues from a hypersensitivity to the Centre's bright tube lighting. A cost-effective lighting system was implemented – a prototype for reasonable adjustments in the workplace. The Centre provides opportunities for

adults with complex needs, this was a chance to gain the service user's lighting preferences. Ultimately, the study aimed to provide transferable evidence for adaptations to a service user's home.

Methods

The employee visited an electrical wholesaler (Jan 2018). An interactive lighting display was used to determine the most comfortable lighting – down lighting. At the Centre, a secondary light circuit was added to each room enabling dual switching: one for

the tube and the other for down lighting. Using a Person Centred Approach, 3 staff and 11 service users were asked for their lighting preferences. Consistent data collection processes were used throughout the project. During the year, qualitative observations of participant behavioural and emotional changes were recorded. 4 service users were asked if they would like an integrated lighting system at home.

Results

The chosen light: LED cool white cluster in a down lighting fixture – noticeably less bright than the tube lighting. The employee's symptoms immediately improved after the new lighting was installed. The issues reappear when working in environments with only tube lighting. The adaptation was a success. The quantitative data for a service user's preference was dominated by down lighting, peaking at 90 percent for the third room. 71 percent of participants had the same preference for each room. The data is deemed reliable and significant. 5 participants with preference to down lighting, needed tube light for fine-detail activities. 3 service users expressed a desire for it in their own home and the data accepted by their care managers.

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Discussion

The success of the project allows us to present this as a feasible adaptation for employers. This may allow an extended study to record changes in sleep patterns. The ability of this project to gather meaningful data has the potential to invoke researchers to rethink how information can be collected from adults with complex needs.

Keywords: Adapting, Employment, Environment

THE CITY OF IMAGES: towards the definition of a set of spatial requirements for the design of autism friendly cities.

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Introduction

Current researches and applications aimed at exploring the role of spatial configuration as a means for improving the autonomy of people with ASD [Autism Spectrum Disorder], almost exclusively focus on the definition of criteria for the design of closed, separated, private spaces devoted only to people - mainly children - with autism. The growing incidence of autism and the need to guarantee and promote during adulthood the actual opportunity to exercise the level of autonomy achieved, emphasizes the necessity to 'broaden' the research perspective by investigating also the specific contribution of urban mobility policies and urban design projects to the enhancement of the quality of life of people with autism. Starting from these considerations, the paper described a two years ongoing research focused on the relation between the city and people with autism, with the specific aim of promoting their possibility of walking across the city at the neighborhood scale safely and autonomously.

Methods

First and foremost, it has been necessary to know and understand the disorder, focusing on all those daily needs and recurring behaviours that are or can be related to spatial questions. The following phase focused i) on the study and the examination of the literature review exploring the role of spatial configuration in the relation between people with autism and the environment and ii) on the several realized projects dedicated to people with autism and iii) in order to identify the recurrent spatial requirements adopted in

the design of dedicated spaces for people with autism. Beside this activity several meetings with different experts (association of the parents, special needs teachers, neuropsychiatrists) have been organized.

Results

The first outcomes led to identify the atypical urban functionings of people with autism and to "fine-tuning" the definition of two enabling urban requirements for meeting the spatial needs of people with autism at the urban scale: i) the reduction of sensory overload and ii) the use of visual supports and of an image instructions system to guide the carrying out of complex actions in urban space.

Discussion

The approach adopted in the research permits to consider people with autism spectrum disorder as well as to intercept many other vulnerable inhabitants with negated and unrecognized spatial needs and desires, such as elderly people, children, women and in general groups of people who function in an atypical way.

Keywords: Autonomy, Environment, Quality of I

Francophone Students with Autistic Spectrum Conditions: What do They Have to Say Regarding Their School Inclusion Experiences?

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Introduction

An increasing number of students with high functioning autistic spectrum conditions (HFASC) attends mainstream high schools in both France and Quebec. Despite international recommendations to them involve directly in research, their own perspective has rarely been considered in francophone research settings. Grounded in an ecological approach where participants are acknowledged as experts and co producers of knowledge, our work aims at understanding how they cope with mainstream education in secondary schools.

Methods

26 teenagers with HFASC (13-17) and their parents collaborated in the research, in France (n=17) and in Quebec (n=9). This study examines the main findings of thematic analysis from semi-structured interviews with the teenagers.

Results

Managing sensory overload (N=20), perceived immature behaviours and bullying from peers (N=19) and fatigue from important workload (N=15) are the main obstacles for their well-being in high schools. On the contrary, being included in an intensive or international academic program (N=7), being driven by a passion or a clear objective (N>15) and having a friend within the school (N=11) appear to be important enablers. In France, the benefits

vs limits of the teaching assistant's presence in class (around 17 hours per week) need to be examined more closely, from the perspective of specific challenges for self-esteem and autonomy. Although strongly dependent of peers' representations, the autistic identity is generally well lived, especially outside of school (N>18). Finally, differences between France and Quebec in health services and school systems appear to have little impact on adolescents' well-being but raise several questions regarding provision support access inequalities for certain families, considering the frequent use of private services in France.

Discussion

When France and Quebec just released their new national plans for autism, transition from adolescence to adult life will constitute one of the major challenges for youth with HFASC in the next few years and must be anticipated as soon as possible. This preparation would allow the teenagers to gain autonomy and practical skills to better understand and communicate their needs and strengths in a professional environment. Finally, our work highlights the importance for Francophone research and society to move from a deficit-led approach to a neurodiversity paradigm, promoting empowerment of individuals and considering ASC as a valuable contribution to human diversity.

Keywords: Education, Empowerment, Teenage

Cognitive and social development of ASD children attending new inclusive classrooms in French preschools : a 3 years follow-up

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Introduction

Inclusive schooling settings have been recently implemented in France towards allowing children with Autism Spectrum Disorder (ASD) as young as 3 to benefit from a pedagogy adapted to their special needs, while maintaining the experience of sharing the educative environment of their typical peers, which is recognized

as a key factor of their social and cognitive development. The objective of this study is to assess the developmental trajectories of 3 cohorts of ASD children benefiting from these new inclusive educational settings (in Ile-de-France and Bretagne, in a follow-up design conducted by two university departments involved in a collaborative research program. Children attending an innovative

special needs classroom that is located in a general school setting. Teacher collaborates with psychologist and educators to provide intensive educational intervention. Depending on their needs and individual characteristics, children can also be included in regular classes with their typical peers.

Methods

Outcome measures, repeated every 6-8 months, included standardized assessments of cognitive and social development, of clinical behavioral disorders and sensorial processing, as well as a series of complementary measures specific to each research site such as language, communication in the classroom, manual lateralization and fine motor skills. For example, outcome measures comprised three developmental assessment: the Psychoeducational Profile-Third Edition (PEP-3, Schopler & al., 2005), the Social Cognitive Evaluation Battery (SCEB, Adrien, 2007) and the french version of the Snijders-Oomen Nonverbal Intelligence Test – Revisited (SON-R 21/2 – 7, Tellegen, Laros & Kiat, 2009).

Results

First results showed that all children progressed in most of the functional domains explored, although baseline levels and developmental rhythms may differ from one child to another. Second, Behavioral problems significantly decreased as soon as the end of first school year.

Discussion

Over the 3 years, profiles of cognitive and social development strengthened both in levels achieved and in homogeneity across domains. The implications of these encouraging initial results and their limits are discussed, in the perspective of ensuring the best educational opportunities and well being of ASD children within early inclusive school settings. This research was supported by UNAPEI-ADAPEI56, Région BRETAGNE, IRESP/CNSA (Autisme session 2- N°2016-020)

Profiles of achievement and attention in children with Autism Spectrum Disorder

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Introduction

Academic outcome is generally poor for autistic individuals (Keen et al., 2016) although this is variable and different profiles of achievement exist across the spectrum. In addition, attention atypicalities in Autism Spectrum Disorders (ASD) have been well-documented (Ames and Fletcher-Watson, 2010). We know the ability to focus and sustain attention on a task is crucial for learning in typically developing (TD) children (e.g. Erickson et al., 2015), but this relationship in ASD has been overlooked. The purpose of this study was to (1) investigate the role of attention in maths and reading for children with and without ASD, and (2) characterise profiles of achievement in relation to attention in children with and without ASD.

Methods

Twenty-seven children with ASD aged 6 to 16 years ($M = 10.75$) and 61 TD children aged 6 to 11 years ($M = 8.94$) completed standardised assessments including the Wechsler Abbreviated Scale of Intelligence-II, the Test of Everyday Attention for Children, and the Wechsler Individual Attainment Test-II, providing measures of FSIQ, selective, sustained, and divided attention, and reading and maths achievement.

Results

For TD children sustained attention was related to reading, but for

children with ASD divided attention was related to both reading and maths. A hierarchical cluster analysis produced a three-cluster solution that grouped children according to ability: a group with good divided attention and good reading/maths, average divided attention and average reading/maths, and poor divided attention with correspondingly poor reading and maths. Seventy nine per cent of children in the poor achievement group were children with ASD. Inspection of the profile of this group indicated that although FSIQ and reading were in the average range, these children appeared to have a relative weakness with maths.

Discussion

Overall the results highlight that attention abilities are important for academic achievement. The findings suggest the ability to divide attention between two tasks may be more important than sustained or selective attention skills for academic achievement and that divided attention may be particularly important for children with ASD in relation to maths. Identifying attention skills important for achievement in different domains can help with future interventions. Further exploration is needed in a real world context to gain a deeper understanding of how attention abilities support or constrain learning.

Keywords: Cognition, Education

Educational inclusion of students with asd and intellectual disability. the change to the combined

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Introduction

Education of students with ASD and Intellectual Disability is based on segregated resources when they require intense support due to their typology, frequency or duration. We believe in inclusion even if the student requires this type of support. This means a gain of entry for our students, since the opportunities to establish interactions with peers from the special education center are very reduced. It represents a double gain for the ordinary school students, the values taught by contact with people with disabilities and personal growth are long documented and they are instructed in tools and strategies that will serve them in the future if in his professional practice they meet people with ASD as doctors, lawyers, social workers...

Methods

We worked for three years with two schools to creating a stable and flexible inclusion network of students with ASD, Intellectual Disability and behavior challenges that would be students in specific segregated center, which would intensively reduce their opportunities for interaction with peers, for normalization of their learning and development objectives. There were sessions of sensitization of the students, formative sessions for families and professionals, while students with ASD attended activities of the ordinary center on a regular way with the support of professionals specifically instructed in techniques of modeling towards peers and of concrete

communication through diverse supports that should delegate in a natural way to peers as soon as these showed interest in the interaction. Collaboration was then established between centres through Combined Schooling, legally regulated

Results

To measure the success, indicators were established:- Student, teacher and family satisfaction (both our own and that of the ordinary school).- Percentage of time in inclusion.- Increase in spontaneous interactions of students with autism directed to non-disabled peers.- Evaluation of the competence of students without disabilities in interaction adjusted to the needs of students with autism.

Discussion

We have achieved a flexible educational resource, which adapts to the student body and allows for a quick educational response when conditions change. If the student needs support, we train his peers, if the student with autism needs it, it increases the time in inclusion. All of this without having to change schools or reference professionals, but respecting their own rhythm and sensitizing peers and professionals.

Keywords: Education, Inclusion

Understanding Parent Participation in the University Education of Students with Autism Spectrum Disorder

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Introduction

As a result of inclusion in general education classes, more students are matriculating to college or university, with 56% of US colleges and universities reporting enrollment of at least one student with Autism Spectrum Disorder (BLS, 2016). Accordingly, parents of youth with ASD may be aware that their child's postsecondary institution might not have the kind of individualized supports that their student needs. An understanding of how parents participate in their children's postsecondary education was the objective of this inquiry.

Methods

The instrument was designed using a mixed methods concurrent nested approach whereby data were collected contemporaneously with an open-ended question embedded in the query subsequent to a questionnaire (Creswell, 2007). Parents of postsecondary students in the US anonymously completed an online questionnaire of 28 questions that explored two domains, autonomy and social integration. It concluded with an open-ended question in order to capture other means of parental support not probed through the questionnaire. There was no comparison group and data were collected once from each parent.

Results

As a result of my experience as a parent of a postsecondary student with ASD, I framed my research through the social integration lens of Tinto (1975) and the self-determination lens of Wehmeyer (1999), specifically autonomy. Overall, parents more positively supported the fostering of autonomy compared with the fostering of social integration, consistent with my expectation. The open-ended question yielded stress relief as a theme. Providing external validity for examining these two variables, Elias and White (2017) studied the needs and challenges cited by parents and found these two domains were the dominant themes

Discussion

Parents of postsecondary students with ASD in this study were actively engaged, fostering skills associated with college success. Similar to Cai and Richdale's (2015) study in Australia, parents were playing an active role in order to close the gap between supports needed and supports provided by colleges and/or universities. Further research is needed, and I have already embarked upon a larger study with an expansion of parents and the domains of parent participation. I expect to have preliminary results by the summer of 2019.

Diagnostic and inclusion, tied ?

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Introduction

At 35, I've learned : without my diagnostic, my living in society today would not have been possible. Though inclusion is what led to it, what made it a strength. From experience: the psychological aspect of a diagnostic is «missed out». It should become a tool to improve one's life if potential or desire. The first step is to raise awareness , According to coworkers and friends, I am good at doing that.

Methods

The points made can be illustrated by my life: my childhood, stu-

dies and work abroad in different countries (2001-2008), then coming back home (2008-...). I was diagnosed unofficially in 2008, then officially in 2014 for high-functioning autism, with suspicion of ADHD and High Potential before or later on. This idea came from the impact of having a diagnostic and living inclusion in my life, how I've lived it all differently throughout the years and the consequences.

Results

Through many «seasons», I've seen that : knowing myself was vital to a future. The work I've done to open myself doors among

the neurotypicals has paid off and taught me a lot about difficulties high-functioning autistic people can encounter on a daily basis, still encountering them myself today. What I've had to learn by myself, maybe professionals could teach, a time-gain mostly perhaps? This could not have been done without my diagnostic and inclusion. I've been training professionals in autism through EDI Formation since Sept 2017, and my students are touched, inspired, encouraged by my story and what I teach. Speaking at this congress could impact people the same way. When I read the call to contribution, the title submitted is what came to mind, immediately.

Discussion

I have hope, by this, to get people to think about the chosen topics

in a different way, going further in both areas - through an insider's point of view. Maybe giving the diagnostic could be done differently, in a more thoughtful and productive way, and awareness on the importance of follow-up, both psychologically and pragmatically, could be better raised. My family and I suffered from this lack of awareness, what we've been through, are still going through today, I wouldn't wish it to my worst enemy. I'd like to give future generations a chance we didn't have: time-gain, Energy-gain and more optimism in spite of the struggle, the ongoing battle.

Keywords: Adult, Diagnostic, Inclusion

Opening the Parcel: My Aspergers and Creativity

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Introduction

The purpose of this presentation is to illustrate how personal creativity both affects and supports people who have Asperger's Syndrome (AS). The presentation will cover both my personal journey in learning that I have Asperger's Syndrome and how my experience of having AS influences my life and supports my passion for the arts and film making. My film making and acting have developed alongside my increased awareness of my AS, and views of the world around me to help make my life better and progress my passions.

Methods

My presentation will feature a PowerPoint illustrating aspects of my personal and education experiences before and after I found out about my diagnosis of AS. Included in the presentation will be excerpts from a short film which I have directed called The Parcel.

Results

Firstly, I will share aspects of my life before being diagnosed with AS, such as how it affected my early childhood experiences, fol-

lowed by more and more personal and educational difficulties as I learned about the world around me. Secondly, I will talk about my life after I found out about my AS, how my awareness helped me deal with life difficulties and how it helped my passion in film making. The second part of my presentation will focus on the 2016 short film The Parcel. The film follows a young recluse who gets a parcel mysteriously delivered to his front door, he realises that it was mis-delivered to his house and he must venture into the outside world so he can try and deliver it to its rightful owner.

Discussion

The film is semi-autobiographical, featuring many elements that are inspired by the events that have happened during my lifetime. After the viewing of the film, there will be a Q+A session where I answer questions about the film. My presentation will help create a general discussion about how creativity helps people with Asperger's Syndrome, how it can affect the arts and what can be done to help foster creativity for people with Asperger's Syndrome.

Keywords: Childhood, Communication, Culture

The voices and experiences of children with autism, and their families, in their transitions from nursery to primary school

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Introduction

Young autistic children are amongst the most scrutinised and assessed in their everyday lives, often leading to characterisations and descriptions that focus on their difficulties and challenges rather than on their abilities, strengths and positive experiences. Consequently, much discussion about autistic children tends to forget that they are children first. While research has considered the transitions of children with autism from primary to secondary school, and from secondary to post-compulsory contexts, there is almost no research focusing on transitions for young autistic children from nursery to primary schools. There is also very limited representation of their voices and experiences being explored, promoted, and valued directly as evidence in their own right.

Methods

We aimed to address this gap through a project co-produced with practitioners, families, and children. The project used digital storytelling as a method to capture the experiences and perspectives of five 4-year-old autistic children, and their families, as the children prepared to make the transition from nursery to primary school.

Results

We used wearable and video cameras to capture children's experiences, and these provided unique insights into children's world-views, including their use of self-talk during self-directed activities. We have developed 16 digital stories, each of which is 5-7 minutes long and illustrates particular aspects of transitional experiences. It was vital that the stories showed both the positive experiences and the challenges that children and their families face, as well as how some of these challenges can be effectively managed by inclusive school practices.

Discussion

The stories are novel and powerful for showing young children's voices and experiences. The stories are also a valuable resource for supporting practitioners to think reflectively about their own practices and differently about children's actions and experiences. The plan is for the stories to highlight a novel way in which practitioners and families can understand more about the preferences and interests of the child, as well as how preparation takes place for the vital transition from nursery to primary school.

Keywords: Childhood, Education, Inclusion

At the end of the day it's love: The lived experience of neurodiverse couples

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Introduction

Autism spectrum disorder (ASD) is a neurodevelopmental disorder affecting a significant number of the population, characterised by difficulties with social communication and social interactions. Romantic relationships are associated with numerous physical and mental health benefits. However, sustaining a long-term relationship can be challenging. Autistic individuals generally experience challenges in initiating and maintaining romantic relationships. While there is limited research on the romantic experiences of autistic individuals, there is a paucity of research exploring neurodiverse (ND) relationships. For the purpose of this study

an ND relationship involves one autistic partner and one partner without autism.

Methods

This study used a phenomenological approach to explore the lived experiences of couples in an ND relationship. Data was collected from 13 participants currently in an ND relationship using semi-structured interviews. Participants were interviewed individually to gain information about their relationship from their own perspective.

Results

The results provided insight into ND relationships from the perspective of both partners. Four main themes emerged: ND relationships follow the typical phases of a romantic relationship, the facilitators of an ND relationship, the challenges of an ND relationship, and health care professionals and support groups.

according to relationship development theories, there are unique differences especially those related to communication, and interpreting emotions. Participants reported that health professionals lack knowledge, training and experience working with ND couples.

Discussion

Findings suggest that while ND relationships develop similarly

Keywords: Communication, Development

Adults' experiences of the diagnostic assessment: what does it tell us about post-diagnostic support?

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Introduction

The diagnosis of autism in adulthood can present a number of challenges. It can raise issues of identity, and there is new knowledge to acquire about autism and applying that knowledge to their lives and living with autism. In many countries, access to diagnostic assessment for adults suspected as having autism is improving. However, such provision has been developed in the absence of an evidence base about how these services should be designed, particularly in terms of support immediately post-diagnosis. This paper reports findings from a study which compares the experiences of adults who received a diagnostic assessment with no/minimal psychoeducation post-diagnosis with those who received a comprehensive psychoeducation intervention post-diagnosis.

Methods

Qualitative interviews with 38 adults who underwent a diagnostic assessment for autism within the previous 12 months. Recruited from across 9 services. Fourteen had received no/minimal psychoeducation, and 24 comprehensive psychoeducation.

Results

Access to psychoeducation post-diagnosis affects short and longer-term adjustment to being diagnosed with autism. Furthermore, the experience of not being offered any support, or being unable to access such support, is an additional source of distress, experienced as rejection and reinforcing a sense of social isolation. Solely providing of written information provision was consistently regarded as inadequate.

Discussion

Findings have implications for the design and scope of diagnostic assessment services. They also point to the importance of providing post-diagnosis psychoeducation in more than one format or mode of delivery.

POSTER SESSION

Poster Number : FRI01-01

Open the doors

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Introduction

The key ideas that run through the project are inclusion, adaptability AND a cradle to grave concept- whereby AAA aims to provide a safety net of support throughout the various stages of an ASD person's life. AAA began as an experimental start up in 2015 and since January 2019 has received state recognition as what is known in France as a PCPE, Pole de Compétences et de Prestations Externalisées, which roughly translates as a hub of expertise and outsourced services.

Methods

Learning is person centred, it is multi-disciplinary and trans-disciplinary generalising skills, augmenting learning and inclusion opportunities. We use specialised autism learning methods and employ qualified staff across a range of disciplines. We want to make ordinary life possible for the person in our care - and as such inclusion is at the heart of the project. Each person has a tailor made project developed in collaboration with the family whereby we establish a key number of achievable objectives. We can then evaluate outcomes using a specially created and easy to use assessment grid shared with all our teachers and families. This not only allows us to measure progress, but also to rapidly readjust objectives when necessary. We are results driven. Each pupil is assigned a referent

tutor with whom h/she learns and who creates a constant and vital link of exchange with all the teachers and the family.

Results

Our work takes place predominantly in the home, outside (playgrounds, libraries, sports facilities, restaurants, shops etc) and in our school environment. As well learning, the work in the home also provides support and respite for parents and carers. Working in the home and with the family is at the core of the project allows us to naturally provide respite and support. We are results driven. We have noticed that the innovative and results driven nature of our project has drawn in qualified autism professionals either who have volunteered their expertise. It has also drawn interest for research.

Discussion

Our approach is open and collaborative and as such we have had fruitful exchange abroad most notably with groups such as Autism Speaks and the University of Houston in the US where we are exploring remote and early intervention possibilities. Give the nature of the project we inevitably raise autism awareness across all areas of life. So far we have not seen any start up autism schools like this in France, we are keen to replicated the project

Poster Number : FRI01-02

Autism Classrooms Interactions Prior to and Following Adult Participation in a Social Communication Professional Development Initiative(PDI).

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Introduction

The primary routes for addressing the challenges arising from a diagnosis of autism are interventions with the children's families and through education. The importance of having high quality teaching to ensure each pupil on the Autism Spectrum (AS) maximises their full potential is acknowledged in international reports and by able autistic adults. Pupils who have compromised communication abilities present teachers with serious challenges. Research identifies differences in the interaction styles of parents of children on the

AS compared to those of typically developing children. However, there is a dearth of research exploring the interactive style of adults in educational settings. This study explored interactions in autism specific classrooms prior to and following the classroom adults participation in a social communication PDI.

Methods

Using a multiple case study, data were collected from a teacher, SNA and a young infrequent communicator on the AS across five

cases. The data collection instruments included, pre and post semi-structured interviews, formal pupil assessment, and observations. Qualitative and quantitative analysis techniques were used to explore the data.

Results

Of the ten most frequently used adult communication strategies during the pre-PD interaction sessions, six were “directive” in nature with “verbal and nonverbal commands” being used most often. The facilitative strategy of “following the child’s lead”, identified as pivotal in the literature for supporting engagement, was 10th. All of the teachers and two of the SNAs spent less than half of their sessions in positive shared engagement with their pupil. Post PD only two of the ten most frequently used strategies across the set-

tings were “directive” in nature. On average 75% of adult-child interaction sessions were spent in positive shared engagement. Pupil verbal and nonverbal initiations more than doubled with their verbal initiations tripling. The outcomes were influenced by the context of the interactions and the pupils’ learning characteristics.

Discussion

This study indicates that autism specific-classroom adults like parents are drawn into a directive communication style which impacts negatively on pupils’ social communication suggesting that PD targeting social communication development is pivotal for school staff.

Keywords: Communication, Education, Intervention

Poster Number : FRI01-03

Teacher’s understanding and implementation of evidence-based practices with children with Autism in mainstream classrooms.

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Introduction

Teacher uptake and implementation of evidence-based practices (EBPs) with children with Autism has been demonstrated to be poor (Stahmer & Ingersoll, 2004) and training teachers in EBP’S has become a central issue in the field (Simpson, de Boer-Ott, & Smith-Myles, 2003). Recent European studies indicate that children with ASD are receiving interventions that are not evidence-based (Salomone et al., 2016), thus placing these children at risk of less favourable outcomes (Eldevik et al., 2009). Several factors may influence a teachers’ adoption of an EBP, including training, administrative support and school culture (Forman et al., 2009) but the process by which teachers choose and implement EBP’S is poorly delineated. The purpose of this study is to identify teachers’ perceptions of the term EBP and to gain insight into the barriers and facilitators of implementing EBP’S for Autistic students in the mainstream classroom.

Methods

Participants were 11 primary school teachers with experience teaching children with Autism (age range: 5-12). Semi-structured interviews were conducted, and answers were analysed using a Grounded Theory approach. Implementation science and a conceptual framework proposed by Domitrovich et al., (2008) were used to guide analysis.

Results

A primary finding of the research was that teachers perceived that they did not fully understand the meaning of the term “evidence-based practice” and lacked knowledge of the interventions which meet these standards. Most importantly teachers outlined a lack of capacity to identify EBP’S from the scientific literature, poor ability to translate the EBP to their practice and lack of feedback mechanisms to discuss the success or failure of their efforts. Teachers cited a supportive school culture as a facilitator of implementation and identified that greater support from expert professionals in the field of Autism could facilitate more successful implementation of EBP’S.

Discussion

This study highlights a pressing need to overcome the research-to-practice gap in Autism education to improve outcomes for students and their teachers. Future efforts should concentrate on developing interventions for teachers of children with Autism in translating and applying EBP’S to practice. Findings are discussed in relation to the implications for implementation science, and the Domitrovich et al. (2008) conceptual framework.

Keywords: Education, Inclusion, Intervention

Poster Number : FRI01-04

Methods of evaluating a post-diagnostic advice service for adults with autism

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Introduction

Significant numbers of adults with autism experience social and economic exclusion, struggling to access the support and services they need. In the United Kingdom, national health and social care guidelines for adults with autism (NICE CG142) recommend the provision of post-diagnostic support. However, research into service provision is scarce and uncertainties exist around relevant outcomes and best ways to measure them. The Bristol Adult Autism Service (BASS) is a regional NHS service commissioned to provide diagnostic assessments and follow-up support across four localities. The BASS Post-Diagnostic Advice Service (PDAS) comprises a heterogeneous range of interventions, including psychoeducational workshops, 1:1 appointments, closed groups, partnership working with and signposting to other agencies and support for partners and families.

Methods

This (poster) presentation reports on work-in-progress, describing the range of methods we currently employ to capture the multi-faceted aspects of the PDAS and to establish efficient data capture for routine clinical audit and future service planning.

Results

Activities piloted to evaluate the PDAS include:

Integration of the Personal Profile used in first appointments with the PDAS with a quantifiable assessment of met and unmet needs
Stakeholder consultation around relevance, choice and implementation of outcome measures to measure the impact of specific and global intervention aspects.

Choice of topic-specific questionnaires to evaluate individual workshops and the six week postdiagnostic support groups-
Qualitative interviews with service users about their experience of different elements of the PDAS

Discussion

We will discuss challenges and strategies for choosing and implementing outcome measures that can capture global and specific improvements in the lives of adults with autism in relation to their differential, intermittent needs-driven engagement with the PDAS
Furthermore, as many existing measures to assess aspects of mental well-being and quality of life have not been validated for use in adults with autism, we will report preliminary findings on their psychometric performance and their acceptability in this population.

Keywords: Adult, Personalised Support, Service

Poster Number : FRI01-05

Feasibility of a new early care pathway for families of young children with social and developmental concerns, referred to a tertiary hospital in Melbourne, Australia.

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Introduction

Service access issues for young children with developmental needs, including Autism Spectrum Disorder (ASD), continue to be highlighted by clinicians and researchers. Poor clarity exists around best processes and tools that direct children to needed services efficiently and effectively. Recent changes to policy and

funding models in Australia have placed an increased emphasis on diagnosis, prior to allocation of support provisions, yet ASD diagnoses remain challenging for some families to obtain, delaying their access to evidence-based interventions.

Methods

Primary carers of children below 7 years of age, referred to a tertiary hospital in Melbourne, Australia with social communication concerns, have been invited to participate in a feasibility study. The study aims to explore an alternative triage and care pathway, inclusive of family coaching and goal-setting, immediately following receipt of a child's referral. Families will be invited to complete pre and post intervention measures, and attend four coaching sessions with a clinically trained service coordinator to determine their goals and current needs for support in relation to service provision and diagnosis.

Results

Recruitment and retention rates will be presented, as well as baseline data indicating levels of parent stress, child and family

functioning and perceptions of processes of care in this sample. Feasibility methodology and its impact on study development and outcome measure selection will also be outlined.

Discussion

Given lengthy waits for diagnostic assessment in Australia and the increasing emphasis on access to early intervention, is it critical that young children with social communication and developmental concerns are supported immediately following symptom recognition. Parent coaching shows promise in supporting families prior to a diagnosis, as they attempt to identify and access needed services in a timely fashion.

Keywords: Assessment, Empowerment, Program

Poster Number : FRI01-07

Integrity and adaptation of an early intensive behavioral intervention program for children with autism spectrum disorders: practitioners' perceptions

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Introduction

Early Intensive Behavioral Intervention (EIBI) based on the principles of applied behavioral analysis (ABA) is considered as an evidence-based practice (EBP) as demonstrated in various systematic reviews and meta-analyses. This type of intervention helps to improve children's adaptive and cognitive functioning, while reducing the severity of their autism-related symptoms (Makrygianni, Gena, Katoudi & Galanis, 2018, National Autism Center, 2015, Reichow, Barton, Boyd & Hume, 2014). The implementation of EBP such as EIBI in mainstream education is considered challenging particularly in regard to integrity of implementation (Cook & Odom, 2013). Despite its importance, it is often difficult in clinical settings to guarantee it, and adaptations might be required to adjust practices to their specific contexts. Implementation sciences suggest that balancing between integrity and adaptations is made possible thanks to the identification and monitoring of core components of the program. In the EIBI field, some success factors are now identified but core components of intervention are not sufficiently described for integrity assessment. In Quebec (Canada), EIBI is implemented in 2003 in public services but its implementation is carried out with great variability in practices. This project documents clinicians' perceptions of the core components of EIBI program implemented in a context of public services in Quebec (Canada).

Methods

Qualitative data were collected thanks to interviews with ten implementers of EIBI program. The verbatim has been analysed based

on Dane and Schneider's (1998) integrity of implementation model, which is composed of five dimensions: adherence, dosage, quality, participation and differentiation.

Results

The practitioners highlighted several indicators of EIBI integrity for which no adjustments should be made, for instance, dosage of intervention, pairing with the child, functional assessment, naturalistic intervention, reinforcement, data collection, parents participation, multidisciplinary team and supervision. They also talked about adaptations done in the context of their practice.

Discussion

Discussion will focus on the challenges surrounding the perceived challenge of integrity of the implementation of EIBI and adaptations made in a context of a real service. The indicators of intervention integrity collected throughout the interviews with practitioners could guide the practice of clinical supervisors in EIBI program.

Keywords: Community based, Intervention, Preschool

Poster Number : FRI01-08

Early intervention in nursery school and kindergarten: school teachers as mediators of ESDM based intervention

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Introduction

This project aims to increase the skills of nursery school and kindergarten teachers through specific training on how to use the ESDM in the school environment in order to increase the intensity and effectiveness of early intervention in children with ASD.

Methods

The project includes: 1) Identification of 12 teachers who have at least one child with ASD in their class. 2) Theoretical training (24 hours in 3 days) for the teachers, held by an ESDM certified therapist, which takes place before the start of the school year, the contents of the training include: description of ASD and core symptoms, presentation of the theoretical bases of the ESDM, practical application of the model in the nursery and kindergarten context, use of the ESDM Checklist to identify the objectives, structuring the environment, structuring the activities. 3) 6 supervision meetings (one per month for a total of 18 hours) to the group of teachers through the shared vision of videos of the activities carried out at school. 4) the coaching of an ESDM therapist for each teacher (2-4 hours per week during the whole school year), with the aim of supporting in practice the skills acquired by teachers during theo-

retical training. Progress is evaluated through two tools: 1) ESDM Checklist for the assessment of skills acquired by children: it is administered by the therapist (and shared with teachers) at the beginning of the school year to identify the baseline and, subsequently, at the end of the school year to verify the evolution of the child's development. 2) ESDM Teaching Fidelity Rating System for the evaluation of teachers' skills: it is compiled by the therapist at the beginning of the school year and subsequently at the end to check for any variations.

Results

The results that emerged during the first 2 years of the project show a clear correspondence between the increase in the acquisition of new skills of children and the increase in teachers' teaching skills.

Discussion

The positive results suggest to give continuity to this experience by arriving at a shared training and supervision protocol that can be used by every teacher and school complex.

Keywords: Education, Intervention, Preschool

Poster Number : FRI01-09

Four years on: From online awareness to university education for professionals working with girls and women on the autism spectrum.

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Introduction

The ratio for male/female in ASC is today 3/1, underdiagnosis and lack of specialized support is still frequent. The improvement in diagnosis and appropriate support relies on the education of professionals of the multiple presentations of ASC females across the life span, an unmet need for many non english speaking countries.

Methods

The project started in 2014 with an online community with professionals and ASC women from different countries working together. The first objective was to address the under-diagnose, under-representation in research, practice and advocate and make online support networks. The second objective was to provide brief trainings with specialist from other countries and ASC women confe-

rences to involve the academic community in research update and personal perspectives. The third and ongoing objective is to provide an in depth university course (80hs) with a focus in research, clinical, families and women experiences that could bring a new group of specialized professionals whom can also replicate, create and generate new services and questions since a short training seems to be not enough to address so many issues in different profiles and across the life span.

Results

During 4 years almost 400 professionals attended to 1/2 day training courses, 1000 professionals attended to short conferences, 100 attended to short trainings (2-4hs) in 4 different countries, attendants include 7 countries and 20 cities within our country. We also participated in most postgraduate courses in ASC in our country. 15 woman from 5 countries participated in 2 women conferences. New independent projects and services emerged in different countries and cities in our country. A private university accepted and encour-

aged a proposal of a postgraduate education that is begins in may 2019, with professionals and women as speakers from different countries with an in depth programme for girls and women across the life span.

Discussion

Although our knowledge of autism in females is just beginning and being co-constructed simultaneously around the world, more efforts should be done to educate and train professionals to be able to diagnose, treat, and design services and projects for females with ASC and also to generate new research questions. The involvement of women with ASC in this project and this process is critical. Replication in other countries might be desirable and understand the needs and support of women and girls the future direction towards equity in ASC training and education

Keywords: Gender, Life-long, Training

Poster Number : FRI01-11

Enhancing early identification and coordination of consultations for young children with autism spectrum disorders: reports from a support team on the French Autism Plan.

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Introduction

Increasing prevalence of autism spectrum disorders (ASD) and the merits of early intervention support the importance of early identification and detection. The French national "Autism Plan" permitted the creation of the support team in 2010 attempts to address the capacity to support this process of early identification and early intervention. The study described the support team and its strategies for responding to increasing demands for earlier identification, earlier diagnoses, and coordination of consultations for children with ASD and other neurodevelopmental disorders (NDD).

Methods

We analysed monitoring indicators regarding socio-demographic, clinical, and organizational data for children referred to the support team between 2010 and 2018.

Results

Data analysis revealed both opportunities and challenges in early identification of children with developmental delay. One of the particular challenges identified was in relation to low income, rural, and

non-French-speaking populations, who encounter more difficulties than others in accessing diagnosis and consultations.

Discussion

For this vulnerable population the strategies including scolarisation and access to the social services are necessary to children with ASD in addition to intervention. The constant collaboration with early childhood professional permits to boost the orientation towards the support team. All the results encourage the continuation of the support team to permit early identification and intervention.

Keywords: Childhood, Diagnostic, Intervention

Poster Number : FRI01-12

Educating autistic pupils in a more inclusive society, Is mainstream really the answer?

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Introduction

The debate over whether autistic pupils fare better in mainstream educational settings is one which has been ongoing for some time. Nationally, around 70% of autistic pupils are currently educated in mainstream schools. Due to more cuts to local authority funding, a rise in awareness and consequently higher autism diagnosis rates, this figure is likely to increase in the future. This does raise some important questions but arguably fits in with our mission at a national autism charity: to create a society which works for autistic people

Methods

In 2018 we conducted research to understand the key life challenges facing autistic people and their families. Stage 1: (Qualitative) 12 depth interviews among autistic people and parent/carers. Stage 2: (Quantitative): Our large annual survey completed by 6067 respondents, one of the largest ever surveys of its kind and broadly representative geographically. During our analysis we used a weighting process to rank the selected life challenges in order of their life impact and thematic analysis of open ended questions

Results

The qualitative findings revealed that a key life challenge facing

parents was 'getting special support in education for their children'. The results of our quantitative survey showed that this was the 2nd most selected life challenge (by 66% of parents). Almost 90% were female and over 70% aged 35-54. The majority (70%) were parents of male children. This equates to 2620 parent/carers and this is likely to be the tip of the iceberg as there are c.100000 school age autistic children in this country.

Discussion

We knew that getting special support in education is a significant challenge for parents but this research provided us with evidence of the scale of the problem. The current education system is failing many autistic pupils and their families. So if the number in mainstream settings is set to rise, how do we avoid overloading a system which is already not working. As a parent of a 12 year old autistic boy, I have first-hand experience of mainstream primary education and transition to secondary mainstream with a specialist unit. Funding cuts mean that in the future it is likely that more autistic pupils will be educated in mainstream schools while less will have a statutory EHCP plan. This is concerning because it is this document which provides the legal obligation for the local authority to provide the agreed support so without this how can we ensure the right support is in place?

Poster Number : FRI01-13

Toward consensus on core competencies in residency training programs to meet the health care needs for children with autism spectrum disorders

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Introduction

Objective : The objective is to explore and discuss core competencies expected from residency training programs in child psychiatry, child neurology, pediatrics and genetics in european countries to meet the health care needs for children with autism spectrum disorders (ASD).

Methods

Methods : We searched the literature and reviewed articles relating to specific modules on ASD within residency training program to examine these concerns.

Results

Results : Different examples of training programs and medical residency training curriculum related to ASD are described to illustrate the variability of the existing programs in European countries.

Establish consensus on the content and organization of training for residents to address the complex bio-psycho-social issues of children with ASD.

Discussion

Conclusions : There is an important potential to develop and es-

Keywords: Intervention, Policy, Training

Poster Number : FRI01-14

Professional Collaboration For Successful Transition Services

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Introduction

Life course outcomes for individuals with significant, high need disabilities, such as autism are far less favorable than the outcomes of people with other or no disabilities (Newman et al., 2011, Shattuck et al., 2012). Adolescent to adulthood transition services have the potential to increase positive outcomes for people with autism, thereby better ensuring that individuals live full, included adult lives. It is vital that speech-language pathologists, along with other school and community-based support professionals, act in concert with family and youth to develop and implement successful transition services.

Methods

One hundred speech-language pathologists, occupational therapists, guidance counselors, and special educators participated in an online survey designed to determine best collaborative practices to facilitate successful transition services for individuals on the autism spectrum.

Results

Results from this transdisciplinary project considered from a communication lens the ways in which speech-language pathologists, occupational therapists, special educators, and public high school

guidance counselors support students with autism who are preparing to transition out of school. Unfortunately, the current reality for many high schoolers with autism is that they are approaching a stark end to many supports and services to which they and their families have become accustomed. Both quantitative and qualitative information from this mixed methods approach will be presented to address best practices for professions working in concert to prepare high school students for the changes transition brings and for providing families with resources about support options that extend beyond the public schooling years.

Discussion

Transition services have the potential to improve outcomes for students with significant disabilities as they move from public school to community-based settings (Carr, 2000). Successful transition requires a partnership among multiple key stakeholders. Results from this study outline ways professionals can work together to better address the multifaceted educational, vocational, psychosocial, and independent living needs of students with autism, therefore, helping them lead self-determined lives.

Keywords: Education, Empowerment, Transitions

Poster Number : FRI01-15

Social services referrals and child protection plans involving autistic children and children with intellectual disability in the United Kingdom

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Introduction

Both autism and intellectual disability (ID) increase the risk of victimisation by peers. There is some evidence that ID increases the risk of maltreatment by caregivers, but it is less clear whether autism also independently increases this risk. The current study aims to determine whether autism diagnosis and/or ID increase children's risk of being referred to social services and/or becoming the subject of a child protection plan (which are put in place if there is evidence of maltreatment) in the UK, using population data.

Methods

Data from the National Pupil Database (NPD), which includes information about all children in the state funded school system in the UK, was obtained from the Department of Education for the 2015-16 school year (N= 7,973,400). Unique Pupil Identification numbers were used to link school records and social service records that contain information on whether a child has been referred to social services, and whether they have received a child protection plan. Information on demographic factors (age, gender, ethnicity, home language and socioeconomic status) were also extracted from the NPD. Special educational needs diagnosis information was used to identify whether or not each child had autism and/or ID. Logistic regression was used to determine the odds of being referred to social services and receiving a child protection plan depending on autism diagnosis and ID.

Results

After adjustment for demographic variables and ID, autism significantly increased the odds of being referred to social services (odds ratio =2.83, 95% CI 2.78-2.89), but did not increase the odds of receiving a child protection plan (odds ratio = .919, 95% CI .859-.983). Having ID independently increased the odds of being referred to social services (odds ratio =2.54, 95% CI 2.51-2.56) and of receiving a child protection plan (odds ratio = 1.75, 95% CI 1.71-1.80).

Discussion

After adjusting for the effect of ID, autism does not increase the risk of receiving a child protection plan in the UK, indicating autism alone does not increase the risk of maltreatment. However, children with ID, including a substantial proportion of autistic children, are at a significantly increased risk of maltreatment. This study only included cases of maltreatment that were identified by social services so may underestimate the risk. Further work is needed to understand how services can best support families with children with ID with and without autism to avoid maltreatment.

Keywords: Family, Intellectual disability, Services

Poster Number : FRI01-17

Finding suitable services

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Introduction

The needs of autistic individuals and what the professionals believe to be needed are not considered the same. Autistic individuals should always be heard in such issues. How wide are the differences between the thoughts of autistic individuals and the professionals on how much support is needed to receive suitable services.

Methods

A convenience sampling method was used. An online web survey and phone interview survey was conducted. The person could choose which method to use for answering. We contacted professionals who work with autism via listed organisation working with autistic individuals, for example, social and healthcare organisations, employment offices, youth services, universities and so

forth. Autistic individuals were sought through social media, NGOs and partner organisations. Individuals at the age 15 or above were targeted due to the national school curriculum after which services are provided by other organisations than schools.

Results

The survey was answered by 152 autistic individuals and 586 professionals from different parts of the country. It was found that 82 per cent of autistic individuals did not know what services they are entitled to and only 43 per cent of the professional knew what service should be provided. Every fifth autistics individual said that guidance to services were very poor, 50 per cent said it was poor or very poor, and 80 per cent said they would have needed more help. More than half said they had not used services for autistic individuals. From the professionals only 58 per cent said that autistic individuals do receive help with guidance to services. Most

notably, 77 per cent of the autistic individuals said that they would like receive services to be employed and only 8 per cent said they are using such service. 62 per cent would like to have services for studying and only 13 percent were using such services. The professionals thought the most important services were general coaching services and school and studying services. Only 8.9 per cent of professional respondents said employment services were the most important ones.

Discussion

It is evident that there are similarities but also wide differences on the needs of the autistic individuals between autistic individuals and professionals. Neither one thinks that the guidance to services or the knowledge what services are available is on a needed level. This data provides tangible evidence for the need of having more clear paths to services, and to services that are most in demand.

Poster Number : FRI01-18

In-service teachers' experience of using videos for collaborative inquiry to understand behaviors of ASD

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Introduction

In this presentation, I would like to explore using videos as a tool to foster collaborative inquiry (CI) towards understanding the behavior of the students with Autism Spectrum Disorder (ASD). One essential component to assist these EBD students is to equip teachers skills in developing expertise in behavioral, social and academic practices (Lane, Gresham, & O' Shaughnessy, 2002, Sawka, McCurdy, & Mannella, 2002). However, the ability to manage student behavior requires knowledge of conceptual models of behaviors as well as an understanding of how to use that conceptual knowledge to move problem behavior in a new direction. The difficulty has soared when teachers' primary focus was on the academic concern of the students rather than on behavioral management skills. The aim of this paper is to demonstrate videos as a tool to help in-service teachers collaboratively inquire topics around the behavioral management of ASD.

Methods

To examine the teachers' perceptions towards the use of videos as professional learning tool to understand students with ASD, we interviewed 15 teachers from Hong Kong primary and secondary schools. The interview lasted for 30 minutes. The data were transcribed and analyzed a□□□□□□□□□□Thematic anal

Results

Thematic analyses revealed both enabling factors and inhibiting factors of using videos in professional learning course to understand the behavior of students with ASD. Enabling factors include: (a) allow a common shared focus of the behaviors concerned, (b) create a platform for peer teachers or expert trainers to share knowledge towards managing the behavior, (c) improve the performance of students' behavior as a result of collaborative discussion and follow up management of the behavior. For inhibiting factors, they included (a) teachers' reluctance to try new approaches, (b) teachers' low self-efficacy in behavioral management, (c) teachers' different views on the behavioral management, (d) much instruction time to spend on both watching the videos and group discussions.

Discussion

Nevertheless, this study provided a new approach of using videos as a tool to help in-service teachers in understand the underlying behaviors of the students with ASD by working together with peer teachers. This help teachers to shift from the academic focus to major behavior concern of the students of ASD and foster their collaborative effort in behavioral management.

Keywords: Behaviour, Education, Empowerment

Poster Number : FRI01-19

ASD-EAST: Identifying training needs of specialized teachers

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Introduction

Due to the diverse nature of the autism spectrum, no single educational intervention is effective for all. Educators need a range of skills and knowledge to be able to respond to the variety of needs of pupils with ASD. However, providing such education is challenging across Europe, particularly within Central/Eastern Europe and the Balkans. Autism Spectrum Disorder – Empowering and Supporting Teachers (ASD-EAST) project was established to develop training to support effective teaching to ensure the educational inclusion of learners with autism. Funding was provided by the European Commission's Erasmus+ programme to establish a 2-year (from September 2018 to August 2020) strategic partnership of schools, academics, small enterprises and NGOs to develop, evaluate and share a locally appropriate model training programme for specialist educators in Croatia, the Former Yugoslav Republic of Macedonia and Poland.

Methods

Mapping activity consisting of a literature review, survey and focus groups was conducted to inform the development of the training. The focus of this paper are the preliminary findings of the quantitative part of the mapping activity. A questionnaire about teacher training in ASD was developed, translated, piloted and distributed to specialist teachers working with pupils with ASD in all three countries. The survey is still undergoing, with approximately 100

respondents expected from each country, to date, almost 180 responses have been received.

Results

Results regarding knowledge, attitudes, practices and training needs of specialist teachers working with children with autism in different settings are presented. Preliminary findings indicate a high need for training with similar topics identified in all countries. Differences in current training and practices are discussed, suggesting differing training needs across the countries.

Discussion

Implications for the development of the training for specialist teachers who work in mainstream and special schools in Poland, Macedonia and Croatia are outlined. The project's focus is on addressing the identified training needs by developing a common core curriculum and locally appropriate materials adapted for three diverse countries. Supporting educators in these countries to better understand autism and effective evidence-based approaches and strategies will benefit learners and teachers alike.

Keywords: Education, Inclusion, Training

Poster Number : FRI01-21

JuggleApp, a new tool for an adapted personalized education to each child

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Introduction

Elaborating and updating a personalized educative program for a child with neurodevelopmental disorders take up time and energy. Each professional is specialised in a developmental field and need a close collaboration with other professionals to improve the child's development.

Lack of time and adequate tools lead to difficulties regarding these elaboration and collaboration. In the same structure, professionals can find it hard to communicate and plan a global project for each child they follow. It's even more difficult when the child is taken care in different structures and with liberal professionals. Generalisation is also a key element and each acquisition should be worked on in all places, with different people. Communication and guidelines are essentials to make a coherent team, with professionals and parents.

Methods

We developed an application by and for field professionals, with a database corresponding to their needs. A referent registers a child and invites professionals and parents in the educational team, for each member, he defines their rights: creation and modification of an educational program, registration of data and/or observations of the child's progress. Based on scientific researches and studies about every support methods (scholar, extracurricular and specialized), we created a database organized by abilities, contain-

ing activities. These activities are hierarchized, according to the Brunet-Lézine scale of Psychomotor Development of Children. Confronting this scale with other works on normal development, such as De Broca's cognitive and Bollinger's sensorimotor development, links were made between all levels of competence and competences themselves. Therefore, we have been able to obtain a hierarchic modelling of children's normal development.

Results

With Artificial Intelligence and graph theory, we worked on a questionnaire relying on this new database. The referent chooses a specific objective and fills a relevant questionnaire about the child's actual capabilities. The AI places the child on the developmental scale and proposes a list of detailed and appropriate activities to work on with him.

Discussion

We are currently creating specific database for speech and occupational therapists, as well as specialized teachers, linked to the educative one. It will improve our knowledge about global normal development and specialized care of children. We will also measure the impact of JuggleApp on collaboration and improvement felt by professionals.

Keywords: Care, Development, Professional

Poster Number : FRI01-23

Building 'autism friendly' schools to facilitate inclusion, participation and engagement of students with autism.

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Introduction

In many countries it is recognised that inclusive education is the right of all children, including those with disability. As a result the number enrolled in mainstream schools has increased rapidly. This has created tensions and challenges as school staff struggle to meet the unique needs of these students and their families. Educational outcomes for autistic students remain poor. Research

has found that school staff often lack knowledge about the specific characteristics and needs of autistic students. A comprehensive approach is needed to build capacity of school leaders and staff to create autism-friendly cultures in schools, implement evidence-based strategies, and improve outcomes for autistic students. This paper describes projects in two countries designed to improve educational practice and staff competencies.

Methods

In country 1 a School-wide Autism Competency model was developed and implemented over 18 months using a multiple case study approach in three schools in one state. The model brings together research on effective leadership and evidence-based practices for autistic students and was trialled to determine its effectiveness in increasing the ability of staff to support autistic students and improve outcomes. In country 2, current educational practice for autistic children and youth was assessed (online survey, interviews) in four participating schools one Canton. Based on these results a specific, adapted curriculum for professional development consisting of training, coaching and counselling was developed and implemented in each school. To assess the impact on school development, qualitative focus interviews and online surveys were conducted.

Results

School staff in both countries reported significantly increased

awareness of the strengths and needs of autistic students and increased knowledge of appropriate evidence-based practice at an individual and institutional level. In addition to staff development, a variety of factors such as, leadership, autism teams in schools and whole-of-school participation were found to support the enhancement of staff competencies and school 'autism friendliness'.

Discussion

School staff showed significant improvement in autism competencies. In addition data collected at the end of the projects revealed the models have potential for creating supports and improved outcomes for autistic students. In addition whole school processes and systems, e.g. behaviour management practices, were established which benefited all students.

Keywords: Education, Inclusion

Poster Number : FRI01-24

Do Affective Teachers' Variables influence Group-based Early Start Denver Model implementation in inclusive classrooms with children with autism?

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Introduction

Training educators to provide evidence-based practices to children with autism has been a central topic in the field. However, only a few evidence-based-practices (EBPs) were designed for and tested in school settings. The Group-based Early Start Denver Model (G-ESDM) is an EBP, which uses principles and strategies of the Early Start Denver Model (ESDM) within group settings. In the first year of this pilot study lead teachers and instructional assistants have been trained on strategies to support children learning in inclusive setting through daily routines, group activities, and social interactions with peers. The aim is to explore if significant relationships exist between teachers' affective variables (self-efficacy, attitudes, concerns and practice) and teachers' implementation of the G-ESDM.

Methods

Participants were 14 classroom teachers, in their roles as lead teachers (TE=6) and instructional assistants (IA=8), in a private preschool in the Sacramento area, California. Three children with ASD were included in a classroom with 15 peers. Training included assistance with classroom setup, workshops, didactic sessions, teacher meetings, observation and coaching. Pre and post-training data was collected at the beginning and end of the school year.

Training outcomes on teachers were evaluated with ESDM and G-ESDM fidelity tools. Affective teachers variables were self-reported by teachers with a four-part questionnaire on self-efficacy, attitudes, concerns and practice employment to teach in inclusive classrooms.

Results

Overall, the results suggest that one-year training was successful for the implementation of the ESDM and G-ESDM, both at fidelity by the end of the year. Statistical analysis for significance is currently in process. Teachers' individual variables have been analyzed and are currently in process for statistical significance, in order to explore the influence of self-efficacy, attitudes, concerns and practice employment on commitment to G-ESDM training.

Discussion

Teachers training on G-ESDM appeared to be feasible. However, participants' retention within the pilot trial suggested the need to explore individual characteristics that affect teachers training success and predict teachers' commitment to the training

Keywords: Education, Inclusion, Training

Poster Number : FRI01-25

The diagnosis of autism in low-income contexts: the case of Latin America and the Caribbean

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Introduction

Most countries of Latin America and the Caribbean are considered middle- and low-income countries by the World Bank, with a few exceptions such as Panama, Puerto Rico or Uruguay. The lack of standardized diagnostic instruments, over-reliance on clinical observation combined with poor training, and a focus on cases of individuals with autism and intellectual disability and/or language impairment, are some of the potential threats to accurate and reliable screening and diagnosis in these contexts. The current review aims to identify 1) the methods and procedures most used in the region for the diagnosis and screening of autism as reflected in the literature, 2) the main obstacles to evidence-based testing, and 3) potential differences among countries.

Methods

A review of publications in Spanish and English PubMed and PsycInfo from the last 10 years was carried out. Search terms included diagnosis, screening, and protocols, co-morbidity, and prevalence, for diagnosis and screening, and parental and professional knowledge and attitudes, for potential training and culturally related

obstacles. Papers were screened initially on title and abstract, and then on full text.

Results

Brazil, Mexico, Chile, Argentina, Colombia, and Jamaica are the countries with the largest number of publications. They analyse the use of ADOS-2, ADIR, M-Chat and CARS. The studies also show a lack of specific data on prevalence or incidence studies in the region, and a lack of practitioner and parental awareness and knowledge of autism. Parental preoccupation centres on language delay in the first two years of life.

Discussion

The high costs of most diagnostic and screening tests, the lack of high-quality training for practitioners, the small number of studies carried out in the region, all constitute barriers to the use of evidence-based practices in autism diagnosis in this region.

Keywords: Culture, Diagnostic, Family

Poster Number : FRI01-26

Autistic adult diagnosis, co-occurring conditions and interventions: good practices, services gaps, areas for improvement

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Introduction

To address gaps in knowledge of autistic adult services, the Autism Spectrum Disorders in the European Union project implemented a survey on adult services availability and experiences, including autism diagnosis, interventions and co-occurring conditions, in 11 EU countries.

Methods

Survey questions were based on guidelines for autistic adult services and answer choices reflected how closely the respondents' services experience 'fit' the recommendations. Separate surveys (11 languages) were created and translated into 11 languages for autistic adults (n=667), carers of autistic adults (n=591) and professionals in adult services (n=751) and distributed electronically by autism organizations and in-country adult services facilities. Analyses focused on autism diagnostic practices, intervention practices, co-occurring conditions and health behavior.

Results

Eight of 11 recommended features of the autism diagnosis process for adults were experienced by at least half of respondents,

although very low proportions of respondents experienced recommended features for post-ASD diagnosis support. Most recommended items to consider when deciding on or implementing an intervention for autistic adults or their implementation, including interventions for challenging behavior, were experienced by more than 50% respondents, but only a minority reported that gender, other interventions in place, or the issue of consent were considered. Concordance was generally good between professionals' beliefs about the frequency of adverse health conditions or behaviors in autistic adults and actual reported frequencies of these conditions by autistic adults and carers, with the exception of the risk for suicide and autistic adults' ability to recognize and report health problems or pain. Although respondents' knowledge of good local services models for autistic adults was limited, autism diagnostic services had the highest proportions of positive responses while less than 20% of respondents knew of good local health care models.

Discussion

There are gaps in alignment between guidelines for diagnostic and intervention services and care for autistic adults and what is ac-

tually experienced by users and providers, between professional knowledge of specific health risks and actual risks in autistic adults, and in health care models that work well for autistic adults. The discrepancies and gaps serve as guides for future efforts in autistic adult services.

Keywords: Adult, Policy, Services

Poster Number : FRI01-27

Major life transitions for autistic adults: good practices, gaps in services, areas that need improvement

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Introduction

Major life transitions, e.g., change in caregiver, can be very challenging for autistic persons, and especially the transition from adolescence to adult services and health care. This study aimed at a better understanding of the available support for managing transitions for autistic persons in Europe.

Methods

In the Autism Spectrum Disorders in the European Union project, a survey was implemented addressing autistic adult services, including alignment of services with guidelines for major transition support. It was translated into 11 languages and distributed electronically by autism organizations and adult services facilities in 11

countries. Separate versions targeted autistic adults, caregivers of autistic adults and professionals in adult services.

Results

For 8 of 10 recommended practices for managing major transitions, there were marked differences in the experiences of adults (n=274) versus that of caregivers (n=205) or professionals (n=218). For example, 21-26% of adults versus 50-56% of carers and 67-68% of professionals reported that reasons for a change or what would happen in the transition were provided. Only 10% of adults versus 32% of carers or 50% of professionals believed that staff in the new situation had adequate ASD training. Only about 20% of adults versus 36% of carers or 44% of professionals reported any

follow-up regarding satisfaction with or how the transition went. For the adolescent to adult transition specifically, none of 28 recommendations were experienced by more than 40% of adults (n=22) or 30% of carers (n=128) and few were claimed to be standard practice by 50% or more of professionals (n=188). Although respondents' knowledge of good local services models for autistic adults was low, transition services had the lowest proportions of positive responses: <10% of adults (n=447-452 respondents) or carers (n=413-416 respondents), 14-26% of professionals (n=188-218 respondents).

Discussion

This study suggests large improvements are needed regarding practices to manage major life transitions for autistic adults, including the transition from adolescence to adulthood. Further, autistic adults experiences around transition support are different from carers or professionals, underscoring the importance of engaging all three groups in designing and implementing transition best practices.

Keywords: Services, Transitions

Poster Number : FRI01-29

Introduction of a System of Continuous Support in a Eastern Europe Country

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Introduction

Thirty years ago, a group of parents of children with autism spectrum disorder (ASD) became tired of waiting for a government support and started a peer-support group. Now, this group influences on national policy of support of people with autism.

Methods

The system of continuous support of people with autism is the key concept of this policy. This system was developed upon the experience of many years of people with autism and their parents in dealing with government and private organizations, current problems of people with ASD, and status of its solution. It was developed bearing in mind the existing problems determined by the historical background: negative attitude towards people with disability both in society and in the government, neglect of their problems, insufficient funding. Understanding of needs of people with ASD of all ages — from early childhood until the old age — is the base of the system.

Results

All of those people require appropriate multifaceted state and society support. The system is necessary to provide such support minimizing the problem of interdepartmental interaction, which is also

common for the Eastern Europe. As no institution of social, medical or educational support is able to replace a caring family, the system emphasizes the support of not only the persons with ASD, but their families as well. The system includes 19 components that embrace all the range of social activities of children with ASD, from the birth to the old age: the earliest possible diagnostics and family-oriented intervention, providing equal possibilities in such fields as access to education (including higher education), psychological, medical and specialized support, cultural and sport events, habilitation and employment. Support of parents of children with ASD and public awareness campaign, directed both towards narrow professional groups (such as medical staff, bank or museum personnel) and broad public, is the another crucial component of the system.

Discussion

In 2017, the system became a base for the Concept of Complex Support for People with ASD and Other Mental Disabilities in one of the regions. Recently, the national government has approved it. We believe, its introduction will improve the well-being of people with ASD, by solving the problems of underdiagnoses, social stigma, and de facto suppression of common civil rights.

Keywords: Policy, Quality of life, Right-based

Poster Number : FRI01-31

Experiences and perspectives of parents and pediatricians with healthcare provided for young children with autism spectrum disorder in the Netherlands

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Introduction

The importance of early detection of autism spectrum disorders (ASD) followed by early intervention is widely recognized. In the Netherlands, practical recommendations and strategies on how to improve early detection of ASD in young children are included in the national guideline for youth health care. However, signals from both the clinical and scientific field suggest the existence of barriers of implementation such as a lack of knowledge/attitude of care providers, parental reticence regarding referral to the specialized mental healthcare and a lack of mental healthcare services without waiting lists. In the current study, we will further explore these barriers through the eyes of both parents and pediatricians.

Methods

Part I, the 'parent part,' of the study engages a two-phased, mixed-method research design. It includes a national survey spread across different mental health institutions (anticipated $N \geq 100$) and

in-depth interviews ($N=24$). The second part, the 'pediatrician part,' uses a qualitative research design, including analyses of case reports (anticipated $N \geq 35$) and in-depth interviews ($N=12$).

Results

By this approach, we aim to gain more insight of parents and pediatricians' experiences and perspectives regarding healthcare (screening, referral for diagnostic assessment and/or early intervention programmes) provided for children with (or at high risk for) ASD in infancy and preschool years.

Discussion

Based on this insight, we expect to develop innovative strategies to optimize healthcare for the target group. Results will be presented and discussed.

Keywords: Diagnostic, Services

Poster Number : FRI01-32

Views of teachers on anxiety symptoms in students with Autism Spectrum Disorder

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Introduction

(i) to explore the perceptions of teachers on anxiety of their students with ASD.(ii) to estimate the extent of the problem of anxiety at school in students with ASD.(iii) to detect differences in the levels of anxiety between students with ASD and those with TD.(iv) based on the study findings, to make recommendations for the management in school of anxiety symptoms of children with ASD.

Methods

The study was conducted between September 2016 and May 2017 with special education teachers who were teaching children with ASD in schools and special education facilities throughout Greece and with a convenience sample of teachers of children of TD in all the different levels of the Greek school system. The approach

was by distribution, both in paper form and by mail, of the research questionnaires, consisting of the research instrument and questionnaire on demographic information and an accompanying letter. Participation of teachers in the study was voluntary and confidential. .

Results

The total mean score on the SAS-TR for the children with ASD (with a possible maximum of 48) was 20.4 ± 10.14 (range 0-45). The mean score on the social anxiety subscale (possible maximum 21) was 9.37 ± 5.37 (range 0-21) and the mean score on the generalised anxiety subscale (possible maximum 27) was 11.03 ± 5.64 (range 0-25). The distribution of the children with ASD into the categories of anxiety, according to the total scores on SAS-TR and its

subscales. As can be seen, according to the total score, 128 (44%) of the children with ASD were classified in the normal spectrum of anxiety, but almost half (49.8%) were classified in the clinical and extremely high disturbance levels of anxiety. A similar distribution was observed for the scores on the SAS-TR subscales for social and generalized anxiety. Comparison in the SAS-TR scores between the children with ASD and the children of TD showed strongly significant differences, with the children with ASD showing higher anxiety scores

Discussion

This study revealed differences in the levels of overall and of social and generalized anxiety in children with ASD and those of TD, underlining the necessity for their teachers, the other school staff and their parents to take flexible individualized measures in order to optimize the adaptation and inclusion in school and the social environment of children with ASD.

Poster Number : FRI01-33

A New Dynamic through Values Based Practice Development.

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Introduction

As an autism specific service provider we take a critical approach to medical models and their association with deficit led, negative narratives. We have developed a practice model that is values based, focuses on wellbeing and is underpinned by an ethical framework driven by our understanding of autism.

This presentation will show how a "ground up" approach to practice development based on Knowledge Management principles led to the establishment of this model which is based on practice imperatives rather than autistic deficits.

Methods

A Knowledge audit resulted in an organisational strategy to harness tacit practitioner knowledge. A Knowledge Management forum was established and led to the development of our ethical framework. A bespoke improvement framework that integrates the European Framework for Quality Management (EFQM) and related improvement methodology with practitioner knowledge was developed, piloted and is now embedded across the organisation. An on line learning academy has been developed that supports the practice model. An external evaluation of staff understanding of and engagement with the model is underway. A "challenge session" led by autistic people has contributed to the development of the practice model

Results

Practice is values based and not based on behavioural models. The development of organisational knowledge assets is practitioner led. The external evaluation and challenge session are in train. Outcomes will be shared as part of this presentation.

Discussion

A values based approach to practice enables a personalised approach that is rooted in a theoretical understanding of autism, however, and crucially, it is augmented by recognition and understanding of the practice dynamic and the role of values and ethics in the practice context. This approach also leads to consideration of the place and pragmatism of standardised "Interventions" in social care contexts where financial resources are limited.

Keywords: Ethics, Organisation, Services

Poster Number : FRI01-34

Trained teacher - Motivated teacher - a complex training program for mainstream and special school teachers

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Introduction

Significant problems related to limited educational support for children with special needs are being reported. Among the factors that hinders school inclusion, low quality of teaching processes and the low ability of school teachers to adapt teaching methods to the needs of vulnerable children remain significant. In November 2016, a study conducted on 147 teachers from 16 mainstream and special schools revealed that 34% of the respondents have not attended any educational program in the previous two years even if 97,95% had children with disability or special need in their classroom and were aware in a proportion of 77,55% that they did not had sufficient knowledge to work with children in need.

Methods

In order to respond to the teachers need of improved knowledge and abilities to work with vulnerable children (especially with children with autism), three NGOs have developed a complex training program (blended learning) including e-learning training, four modules of residential training and monitored practice targeting 506 teachers from mainstream and special schools in 3 regions including 6 counties more affected by school drop-outs. Over 100 training hours will be documented for each teacher and an evaluation report of the training program will be available at the end of the 30 months project.

Results

There have been several areas of training identified by the teachers: methods of teaching children with special needs and use of ICT in teaching, curriculum adaptation, management of crisis situation, stress management. An improvement in current practice of the teachers involved in the project and part of the training program is being documented and results will be available in early September 2019.

Discussion

Improved access to education for children with special needs as a result of better prepared teachers is being documented within the project. Also, 16 schools have improved policies for inclusion of vulnerable groups as a result of training programs address to school masters and as a result of a consultative and participative process conducted and county level in 6 counties. The complex training program including e-learning, residential courses and monitored practice needs to be extended and shared with other organisations or countries that face difficulties in providing quality educational services for children with autism.

Keywords: Education, Inclusion, New Technologies

Poster Number : FRI01-35

Strengthening the Capacity of Teachers to Work with Children and Young People with ASD

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Introduction

Teachers in public schools report receiving inadequate training and rate their personal efficacy in working with children and young people with autism spectrum disorder (ASD) as low. They express a strong need for specialized courses with highly structured content, aiming to improve the skills needed for working with students with ASD, easily accessible and preferably based on mobile technologies.

Methods

A European consortium of 3 universities with high curricula on e-learning and ASD-research and two NGOs providing services for ASD has developed a training program aiming to reach over 800 teachers from 4 countries. The program responds to a significant challenge: as the number of children with ASD enrolled in mainstream schools increases every year, so does the need for prepared teachers, equipped with relevant, updated knowledge and skills. The training addresses: autism in the classroom, use of ICT in teaching ASD children, curriculum adaptation, and transition from school to independent life. An exploratory study targeting teachers enrolled in the e-learning program - before entering the program and after training completion is under development.

Results

420 teachers have pre-registered to the training program before the training program started. It is expected that over 800 will attend at least one module. As the study is under development, the results related to knowledge about ASD, use of evidence-based educational strategies, and attitudes towards inclusive education of teachers teaching students with autism in the four European countries related to known predictors such as self-efficacy and burnout, and background variables, such as experience, educational system, etc. will be available in September.

Discussion

Enriched knowledge on ASD and enhanced teaching skills are expected to improve attitude towards inclusion and abilities to work with ASD students. The study employs an evidence-based approach and aims to reach a significant number of the 800 teachers enrolled in the program. The training program (four ICT based e-learning modules highly structured and also country adapted) is not only relevant for the partners involved in the program, but also transferable to any other countries facing lack of resources and training in school setting in relationship with students with ASD

Keywords: Education, New Technologies, Training

Poster Number : FRI01-36

Study on training an autistic adolescent: The Black Balloon

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Introduction

In our present study, we study the educational system of Greece on the occasion of the protagonist from the film «The Black Balloon» (Down, 2008). Based on the particular social constraints imposed by autism as a disability for students, their attendance in educational structures can be as follows: a) Highly functional autistic students (Asberger's syndrome) can attend the school classes of the General School supported by a teacher of the class, with the support of a special education teacher, who preferably has autism specialization. b) Autistic middle and low-function pupils can attend the General Schools Integration Departments and attend a common and specialized curriculum with support from a Special Education Teacher, while in the most serious cases they can attend Special Education Schools in the direction of autism.

Methods

In the methodology, we use the study of bibliographic texts and data from the movie "black balloon". Charlie is a seventeen-year-old teenager in the autism spectrum and is accompanied by severe mental retardation. We chose this film as a case study, wondering what school and family can do in Greece. Because, in Greece, the legislative framework on Special Education Needs and in particular Autism states that the State is committed to continuously enforcing and upgrading the compulsory nature of special education and training as an integral part of compulsory and free public education. It also pledges to ensure equal opportunities for full participation and contribution to society, independent living, economic self-sufficiency and autonomy, fully safeguarding their rights to education and social and professional integration.

Results

In our results, we have proved that In the case of autism accompanied by severe mental retardation, the special education in Greece of these pupils is provided: a) in self-contained special schools b) in schools or departments that function as either independent or as annexes of other schools in hospitals, rehabilitation centers, juvenile care institutions, chronically ill establishments, or Mental

Health Education and Rehabilitation Services, provided that they have school-age autism disabilities. These educational structures are considered as special schools under the Ministry of Education and Religious Affairs.

Keywords: Complex Autism, Education, Inclusion

Poster Number : FRI01-37

Closing Gaps in Autism: Implementation of the Latin American Autism Spectrum Network Caregiver needs Survey.

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Introduction

ASD knowledge, services and research infrastructure in Latin America are limited and unevenly distributed. In 2015, researchers from Latin America constituted the Latin American Autism Spectrum Network (REAL) in order to conduct international research collaborations related to ASD. The first project undertaken by REAL was the translation, adaptation and implementation of the AS Caregiver Needs Survey. Our central goal is to provide a comprehensive picture of the major needs and challenges faced by families affected by ASD in REAL countries with the purpose of successfully enhancing awareness, improving services, and developing long-term policy solutions related to ASD.

Methods

2817 caregivers from six Latin American countries completed an online survey with questions related to family demographics, affected individual characteristics, service encounters and parent/caregiver perceptions, including stigma. The Survey was broadly disseminated via social networks in REAL countries during a period of 6 months so that caregivers can complete it online.

Results

11.06 % reported having another member of the family with ASD. Age of the individuals with ASD showed a mean age of 9.06 years . Parents' reports of verbal abilities also showed a broad spectrum from 19.24% not talking, 17.68% sentences with more than 4 words to 36% using complex sentences. After calculating severity index for the whole sample, 21.93% obtained scores within the

low level, 42.88% in the medium level, and 35.17% While mean age of first concerns was 22.23 months (SD 18.94) mean age of diagnosis was 51.88 months (SD 48.22). There was an effect of country on both age of first concerns and age of diagnosis. Among the ones receiving treatment , the most common type was speech therapy (63.72%), followed by occupational therapy (44.69%), and Behavior Therapy/Behavior Modification (39.22%). 38.69% reported using medication.

Discussion

The assessment of needs and challenges faced by families affected by ASD in different Latin American countries is essential for the identification of knowledge gaps, service needs, and stigma. It is also important in the development of culturally relevant strategies for raising autism awareness, guiding the implementation of successful and improved ASD clinical and educational services at the national and regional levels and setting priorities for future national and regional research collaborative efforts.

Keywords: Culture, Family, Policy

Poster Number : FRI01-38

Experimental day center for child with autism on a psycho-educational basis

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Introduction

The project provides children with medium-severe autism an intensive treatment on a psycho-educational basis; this supports classic treatments in rehabilitation services, to early provide skills improving the quality of life for children and families. Keywords of the treatment are:

- "Intensive treatment": a significant space (four hours) in the day of children;
- "Continuity": repeated from three to five times a week;
- "Integration" different techniques and strategies from existing approaches and methodologies.

Methods

At the enrollment children joining our center were assessed for development and adaptation skills (PEP III) at T0, we tested it on an annual basis. We built individualized projects and educational programs translating them into daily activities in order to develop emerging skills. With «bridge projects» we tried everyday situations in their natural contexts: shopping, cooking, a snack, a swim or playing at the playground, we took care of execution, using visual supports and helping children understand what happened, operational chances, expectations. After simulation, we worked on hardest aspects even in this first phase. Then we went into natural contexts. We also run monthly interviews with every educational figure was involved: parents, educators, teachers, this enabled sharing views, languages and strategies. Environments were designed

to reduce sensory interference to a minimum in order to reach higher efficiency during the adaptation process. Our team was multidisciplinary in order to pursue synergies in refining observation and interpretation of children.

Results

Children had improvements in at least two areas of evaluation (communication, motor skills, maladaptive behaviours). Most children increased scores between T0 and second assessments, a year later, results was not dependent on previous treatment received while was dependent on age. The agenda over four hours per day allows the child to act in a highly structured and adapted context for a long time, thus enabling learning of skills and repeating trials.

Discussion

Results support the outcomes of other studies stating importance of early and intensive interventions. Improvements are observed when an integrated treatment is set up using a psycho-educational basis and taking care of life contexts. Developments of this approach should be run in an intensive way and for limited periods in a lifetime, this will provide learning and skills improvements to be exported in life contexts.

Keywords: Complex Autism, Personalised Support, Quality of life

Poster Number : FRI01-39

Lessons from job-shadowing in model organisations: building skills and boosting motivation of staff working with autistic adults

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Introduction

We would like to share the results of an international project aimed at building skills and boosting motivation of staff working with autistic adults in a day-care centre and a 24-hour facility, both run by

our organisation.

Methods

During several one-week-long job-shadowing placements between

September 2018 and June 2019, our staff followed their counterparts in various European autism organizations and centres, all of them benchmark models in many aspects of service quality. We looked at their working methods and organisational strategies against the background of support systems for persons with autism in particular countries of the EU. We carried out our observations with the view to implementing new, better solutions in our own organisation, and thus improving the quality of services provided to adults with autism.

Results

We shall present the most important lessons from these job-shadowing exercises: both from the perspective of our organisation, and from the universal, strategic perspective of inclusive, rights-

based support system for persons with autism, responding to a variety of needs and personal interests.

Discussion

We propose to show how we try to apply these lessons in our daily practice, in order to improve the quality of direct work with persons with autism (e.g. in terms of therapeutic and educational priorities, tools, activities during the day, etc.), and to get inspired in formulating strategies for the future. We believe that studying the best practice examples, which have been tested and recognized, is the sound evidence-based method to strengthen less experienced organisations.

Keywords: Adult, Organisation, Professional

Poster Number : FRI01-40

Teachers' perceptions of Restricted and Repetitive Behaviours (RRBs) in children with ASD

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Introduction

Restricted and Repetitive Behaviours (RRBs) are some of the most difficult behaviours to manage in children with Autism Spectrum Disorders (ASD). Although RRBs frequently occur in educational settings, we know little about the way in which teachers understand these behaviours. The following study aimed to explore the attributions, emotional response and feelings of confidence held by U.K. based teachers when faced with different types of RRBs.

Methods

A single group survey design using behavioural vignettes was adopted in order to elicit the beliefs of teachers working in different educational settings. Eight vignettes depicting four lower order RRBs (e.g. motor mannerisms, sensory seeking behaviours and repetitive use of objects) and four higher order RRBs (e.g. rituals, difficulties with changes in routine and circumscribed interests) were completed online by a self-selecting sample of teachers working with children with ASD.

Results

Data from eighty-three teachers was analysed. Mixed ANOVAs were used to assess for differences in attributions between educational settings (mainstream versus specialist, between-subjects) and RRBs (lower versus higher, within-subjects). Analysis indicated that teachers working in mainstream schools reported less

sympathy, greater frustration and reduced confidence in managing RRBs. Overall, lower order RRBs were perceived as being easier for children to control but less likely to occur over time. A two-step hierarchical regression found that emotional response and confidence scores were often predictive of one another alongside factors related to teaching experience (e.g. year's worked, educational setting and whether training had been received).

Discussion

The findings indicate that teachers working within U.K. mainstream schools, potentially hold less helpful beliefs in response to a range of RRBs. The observed differences in attributions and confidence ratings, which appear to vary depending upon the type of RRB demonstrated by a child, requires further investigation given the exploratory nature of this study. The findings have clinical implications, indicating that training and support should be offered to teachers, especially in mainstream settings, in order to help them understand and manage RRBs in the classroom. Further research could consider conducting a qualitative exploration of why teachers hold certain beliefs about RRBs and/or sampling those who are less experienced in working with children with ASD.

Keywords: Behaviour, Challenging Behaviour, Education

Poster Number : FRI01-41

What do the parents and professionals think about early intervention of children with ASD? - a Finnish data

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Introduction

This study is part of the project 'The Autism Spectrum Disorders in the European Union' (ASDEU). One of the aims of this project was to find out how early identification, diagnosis and intervention works in different EU countries. The present study concentrates on early intervention, and describes, how the situation is in the northern part of Finland, which might be the critical points, and what should be done to improve these actions.

Methods

The focus group discussion was held in November 13th 2015 according to the instructions of ASDEU in the University Hospital of Oulu, which is responsible of highly specialised medical services (university hospitals) in the Northern Ostrobothnia district. The participants were mother of a child with ASD, local leader of The Finnish Association for Autism and Asperger's Syndrome, special teacher in school, special teacher in early childhood education as well as rehabilitation instructor and two experts (pediatrician and speech and language therapist) in ASD from the University Hospital of Oulu. The discussion lasted approximately 1.5 hours and it was video-recorded and transcribed. Content analysis was performed and the essential themes based on discussion were highlighted.

Results

The parent and professionals underlined that a diagnosis of ASD does not guarantee services and support for children and families when compared of having diagnosis of ASD plus intellectual disability. In addition, lack of knowledge and too little resources in health care are risks for getting intervention early enough. Local services vary a lot, and in some places it is for example hard to get therapies for a child. Based on comments of professionals, there still exist certain challenges because of attitudes towards ASDs. As an improvement, a rehabilitation center for children with ASD and their families was one suggestion made by professionals.

Discussion

The focus group discussion revealed that early intervention of ASD children is still fragmentary in northern Finland, and more resources and information on ASD are needed to improve the services. Diagnosis of ASD without intellectual disability is complicated for the family because in that case the family does not get enough support and services for a child. A rehabilitation center for children with ASD and their families could be useful in the future.

Keywords: Family, Intervention, Professional

Poster Number : FRI01-42

Professional centre for autism Slovenia

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Introduction

According to data provided by Slovene Ministry of Education, Science and Sport the number of students with ASD is increasing

each year. Children and adolescents with ASD who attend mainstream kindergartens and schools and have a status of a special needs child also have additional professional support and certain

adaptations in the learning process. Still, these students are faced with numerous challenges while teachers and educators complain about the lack of necessary knowledge, skills and time as well as bad working conditions, which prevent successful inclusion of ASD children and adolescents. Since, in Slovenia, there is no organised professional support for inclusion of students with other types of special needs, the Ministry of Education, Science and Sport supported by European social fund has decided to carry out the project »A network of professional institutions supporting children with special needs and their families« with a pilot project Professional centre for autism as one of its parts.

Methods

The project's duration is between 1 April 2017 and 30 September 2020. It is carried out by different professionals in the field of autism who are employed at the Centre for hearing and speech Maribor, an establishment providing services for deaf and hard of hearing and people with speech, language and communication disorders. The main objective of the project is to support inclusion and its tasks are: raising awareness, education and training of mainstream education staff, parents and the general public, direct support of

children and adolescents with autism in mainstream educational institutions in the field of acquiring adaptation skills. In order to achieve these objectives, seven mainstream educational institutions execute a special programme of activities.

Results

Through interviews with education staff involved in the project, other professionals and parents, we have established that they have raised their understanding of students with ADS and have become familiar with effective methods and techniques, which encourage their learning and potentials. Based on observation notes on ADS students enrolled in the project we have also found out that they have improved their adaptation skills in different fields.

Discussion

A detailed analysis through questionnaires is planned in June 2019 and will be presented at the congress. It is expected that the support model designed through the project will be implemented into Slovene educational system.

Keywords: Education, Inclusion

Poster Number : FRI01-43

Systematic observation: Another way to evaluate specific programs for people with Autism Spectrum Disorder

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Introduction

Social interaction in people with Autism Spectrum Disorder has been a central area of research in this field for decades. Researchers have shown that they are often interested in the interactions between people with autism and society. However, most research examining the nature of these interactions has used correlational analyses based on frequencies, whereas parameters such as order and duration, are still under-researched. Sequential analysis provides greater detail on contingencies during interactions and the way that interactions play out over time.

Methods

The purpose of this project is to offer a proof of concept. We propose a methodological framework and illustrate the potential of sequential analyses for the design and assessment of intervention programs. Polar coordinates analysis, derivative of the basic method, have been introduced and distinguished from other forms of sequential analysis.. This methodology is applied to analyze: conversation turn-taking in adolescent group therapy, effectiveness of a Social Skills Training program, and, friend versus non friend interactions patterns in schools settings.

Results

Many of the participants did not make any type of contact and they

then gradually started improving their social interaction behaviors. By the end of the intervention, they tend to increase the complexity of their social interaction behaviors. Polar coordinates analysis show more activation relationships between high level behaviors such as eye contact, smiling and social communication. The results showed significant mutual activation relationships in terms of the social responses and initiations to non-reciprocal friendships and joint engagement while the responses to reciprocal friends did not show this effect.

Discussion

Lag sequential analysis and polar coordinates technique revealed the presence of clinically and statistically significant sequential associations during social interaction and thus, offer more specific interventions on the difficulties that are presented over time. Moreover, observational methods offer a rigorous framework enabling the replicability, validity and reliability of the results. Systematic observation might be useful offering information about changes and evolution that otherwise cannot be obtained with other traditional measures, such as questionnaires. Each little change might be relevant for a child's development.

Keywords: Childhood, Toddlers, Treatment

Poster Number : FRI01-44

A Comparative Study of Infants and Toddlers Treated with an Intensive Intervention for Autism Spectrum Disorder

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Introduction

Clinicians and researchers working with children diagnosed with Autism Spectrum Disorder (ASD) increasingly recognize that the earlier the diagnosis and intervention the more likely the possibility of producing a positive therapeutic outcome during infancy when the brain is still undergoing rapid change and development. However, there exist at present only a few published studies analyzing the evidence-based efficacy of early treatment interventions for infants with ASD. This study analyzes the effects of a single intensive treatment intervention modality developed specifically for infants and toddlers with autism. The therapeutic approach applying a specialized form of play therapy is based on attachment theory and family systems therapy.

Methods

This study analyzed two groups of infants and toddlers who received the particular treatment intervention for infants with autism and their whole families. The first group consisted of 39 toddlers aged 24-36 months. The second group consisted of 45 infants aged 12-24 months. Clinical variables analyzed were divided into four categories – Engagement, Communication, Play, and Functioning. Engagement components include: Eye contact, physical contact, obsessions, detachment. Communication Components include: pointing, vocals, speech, situation comprehension, hand

pulling and screaming. Play components include: curiosity, concentration, creativity and ritualistic behaviour. Functioning components include: fine motor co-ordination, gross motor co-ordination, eating manner, and eating amount.

Results

While both groups of infants and toddlers benefited from the therapeutic intervention, the infants demonstrated more statistically significant improvements across all measured variables in terms of the results of t-tests between the two groups. Note for example the t-test results between the group of infants and toddlers for the Engagement Component of Eye Contact: (Pre-treatment $t = 0.00$, $p < .000$, Post-treatment $t = 7.49$, $p < .000$, Difference between the two groups pre-and post-treatment $t = 5.63$, $p < .000$)

Discussion

These findings support the research trend emphasizing the importance of early diagnosis and treatment for infants with ASD. Based on this study the authors suggest that early detection of autism should optimally take place around the age of 12 months to be followed by very early intervention.

Keywords: Infant, Intervention, Toddlers

Poster Number : FRI01-45

Exploring variability and predictors of 12-month longitudinal Early Start Denver Model outcomes among children with ASD

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Introduction

The Early Start Denver Model (ESDM) is a manualized, evidence-based intervention model designed specifically for toddlers and preschoolers with Autism Spectrum Disorder (ASD). Its application has been evaluated in a variety of contexts ranging from intensive university clinic-based to community-based implementation. Studies usually report significant gains in cognitive, language and adaptive abilities in children receiving ESDM. However, much less is known about individuals' variation in outcomes and whether such variability could be explained by individual characteristics. The aim of this study is to characterize the developmental trajectories of children receiving ESDM and to identify individual characteristics that might predict inter-individual variability in the rate of change over time.

Methods

Twenty six children undergoing 20h per week of ESDM, and with an entry age ranging from 19 to 49 months, were followed over a 12-month period. Children were assessed quarterly with the Curriculum Checklist ESDM and at intake and every six months using the Mullen Scales of Early Learning. Growth curve analysis was used to model inter-individual variability in intra-individual patterns of change over time.

Results

Over the 12-month period, children showed improvements in their receptive and expressive language skills evidenced by significant gains in developmental quotients. Significant inter-individual variation in growth patterns was also evidenced in both domains. Moreover, higher receptive language skills at intake significantly

predicted faster growth in expressive language. Likewise, higher visual reception skills at intake predicted faster growth in self-care skills.

Discussion

The results of this ongoing study highlight the inter-individual variability in response to intervention among children receiving ESDM.

Investigating this variability will be a necessary step to expand our understanding of the effect of an intervention. This could help develop intervention plans that best meet the needs of children. Monitoring children over a longer period of time within a larger group is still necessary to allow non-linear change over time to be modeled.

Keywords: Communication, Intervention, Toddlers

Poster Number : FRI01-46

Behavioural skills training in peer mediated intervention for children with autism

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Introduction

Inclusion of children with autism (ASD) has become a recommended practice. However, even carefully adapted inclusion setting does not assure social interactions between children with ASD and their neurotypical (NT) peers. Research has shown that there is a lack of skills necessary for initiating and maintaining social interaction in both groups of children. There is a growing need to determine most effective and easy to implement strategy for promoting social interaction skills for all participants. Peer mediated intervention (PMI) has shown to be successful in improving social interaction skills. It can include different teaching methods. Behavioural skills training (BST) as intervention is selected for this study because it consists of package of methods which facilitate most efficient skill acquisition and learning. The aim of this study is to evaluate the effectiveness of behavioural skills training within PMI framework in increasing skills necessary for social interaction with children with ASD.

Methods

Intervention is implemented in 3 special preschool classrooms in reversed integration setting with 3 neurotypical children and 3 children with ASD during everyday structured play sessions. De-

played multiple baseline design across participants is used to demonstrate effects of BST on initiation and interactive play of NT peers.

Results

Intervention is still undergoing and preliminary results have shown improvements in peer's performance. Final results will also include the evaluation of skills maintenance and generalization.

Discussion

This study has shown that BST as peer mediated intervention can have a positive impact on promoting and teaching socially significant skills for interaction with children with ASD. It is easy to implement and use in inclusive preschool setting. Future research should consider investigating teaching pivotal social skills with BST in order to improve generalization and promote more natural interactions between children with ASD and NT peers. It should also include qualitative and not only quantitative measures.

Keywords: Inclusion, Peer support, Preschool

Poster Number : FRI01-47

Which non-medical interventions work for autistic children? A review of best evidence

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Introduction

Early diagnosis and comprehensive non-medical intervention starting as early as possible, within the first years of life, are imperative for children with autism spectrum disorder (ASD). Given the explosion in published psychological and educational interventions for over the past several years, this review talk highlights the latest trends in interventions for children with complex learning and developmental needs and summarizes the available evidence on the intervention efficacy and effectiveness.

Methods

Recent efforts in intervention research focus on meeting standards of scientific evidence and emphasize the importance of strict adherence to the principles of high quality research and evidence-based practice. In the present talk, we review the results of systematic reviews and meta-analyses on different non-medical interventions published in high-profile peer-reviewed journals.

Results

According to recent systematic reviews, all evidence-based comprehensive intervention programs for children with ASD are based to some extent on the scientific discipline of Applied Behavior Analysis (ABA). Such intensive behavioral interventions may improve the trajectory of development of a child with ASD. In particular,

meta-analytical studies have demonstrated substantial improvement in IQ scores and adaptive behavior in children receiving early ABA-based comprehensive interventions. The majority of evidence-based focused interventions for ASD are either ABA-based or are typical elements of ABA-based comprehensive programs. Many of the interventions combine the principles of ABA with developmental strategies (so called "naturalistic developmental behavioral interventions"). There are factors that determine the resulting effectiveness of the intervention. Among such factors are the mode of the intervention delivery (where and by whom), the length of the intervention, and group (e.g., gender and ethnicity) and individual (e.g., general cognitive functioning) characteristics of children receiving the intervention.

Discussion

Children with ASD and their families should expect advances in intervention science to lead to better outcomes. This outlook is anchored in the necessity of translating scientific results into practices that service providers may access, and provide professional development and support for implementing the practices with fidelity. Such a movement from science to practice is a clear challenge and also an important next step for the field.

Keywords: Development, Intervention, Treatment

Poster Number : FRI01-49

Drawing with children with autism spectrum disorder: an investigation of collaborative drawing's potential to enhance cognitive and emotional interaction

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Introduction

This project discusses a series of collaborative drawing sessions between children with ASD and adult educators. The project was based on the Collaborative Drawing Method, an interactive method of teaching drawing to children where adult and child draw

together on the same surface. The findings challenge biases regarding people with ASD and suggest that collaborative drawing can facilitate interaction and communication between children with ASD and their adult partners to a cognitive and emotional level. It also helps develop their drawing skills and enrich their visual voca-

bulary without any formal instruction.

Methods

The project was based on the following research questions:

1. In what ways does collaborative drawing influence the cognitive and emotional interaction and communication between children with ASD and their adult educators?
2. In what ways does collaborative drawing influence these children's drawing skills and visual vocabulary?

Methodologically, the project had the form of multiple case studies, each one focusing on the collaborative drawing sessions between a child with ASD and an adult educator.

Results

The results from this research are both novel and encouraging. Firstly, the collaborative drawing sessions between children with ASD and adult partners appeared to function as a newly discovered space that facilitated the interaction between the two partners.

Secondly, a form of communication appears between the two partners. Thirdly, there appeared to be an advancement of the drawing skills of the children with ASD, as well as enrichment to some extent of their visual vocabulary. Through interaction with the more advanced drawing solutions of the adult-partner the children with ASD seem to use a hitherto unexploited drawing potential.

Discussion

The findings of this research are also the result of a collaborative effort. The three participants of this project made an effort to combine two fields of inquiry, i.e. collaborative drawing and children with ASD. In doing that they are aware that very little has been done in the way of research for this particular topic. This is both daunting and exiting. Daunting since there is little to support and inform the findings and presuppositions drawn upon. Exiting because it challenges existing beliefs, suggests novel pedagogies and functions as a starting point for further research.

Poster Number : FRI01-50

Yes we can! Evaluation of a Social Competence Intervention for adolescents with Autism Spectrum Disorders

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Introduction

Autism spectrum disorders (ASD) are characterized by impairments in social reciprocity and communication. Individuals with ASD exhibit difficulties in social competencies, that is, in knowledge of particular social skills and/or its appropriate use in everyday life. Social competence abilities include implicit and explicit knowledge of verbal and non-verbal communication skills, cognitive and behavioural abilities that allow expressing emotions and thoughts, and to adaptively respond while navigating in a social environment. It has been suggested that group-based Social Competence Intervention (SCI) training programs represent a significant improvement in the quality of life of individuals with ASD. The goal of this pilot study was to evaluate the effectiveness of a SCI in high-functioning autistic adolescents, and whether it could improve their quality of life.

Methods

This pilot study included 100 adolescents with ASD (13 girls, Mage = 15.30, SD = 3.02), that participated in a SCI. This 10-month SCI occurred in 1h30 sessions, every two-week. The program included themes such as understanding and use of verbal and non-verbal

communication, conversational abilities, emotion recognition and expression, and empathy. Sessions followed a consistent structure: reviewing a previously learned skill and introducing a new one in a group discussion format, practice of the skill, and a closing activity or review. To evaluate the SCI's effectiveness, several questionnaires were used, before and after the SCI: Empathy Quotient (EQ, Baron-Cohen & Wheelwright, 2004), Questionnaire on conversational abilities (Pomini, 1999), Rosenberg self-esteem scale (Rosenberg, 1992), Rathus Assertiveness Schedule (Rathus, 1973), and the Pediatric Quality of Life Inventory (Varni, 1998). Parents also completed the parent's version of the EQ.

Results

The results indicate general ameliorations in the domains measured, excepting for self-esteem. Specifically, results showed that parents, but not the participants, perceived an enhancement in empathy after the SCI. Significant improvements were also found for conversational abilities, self-assertiveness, and in the psychosocial quality of life and its subscales: the emotional, social, and academic functioning.

Discussion

Taken together, these findings suggest preliminary support for the hypothesis that SCIs can contribute to the improvement of social abilities, and to a better psychosocial quality of life in adolescents

with ASD.

Keywords: Intervention, Quality of life, Teenage

Poster Number : FRI01-51

Effects of equine assisted interventions on communication and language development for children with autistic spectrum disorders (ASD)

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Introduction

Autistic spectrum disorders (ASD) affect interactions and communication, with delay and special features in language development. The aim of communication and speech therapies for subjects with ASD is to build communication, and then permit language development. Currently practices associating equine mediation increase and benefits are observed.

Methods

In many researches it appears that horse (or pony) stimulate child communication systems and operate as a partner to facilitate interactions (Hameury, 2017). This approach, which brings neuro-psycho-physiological benefits and also propitious frame for language development and learnings, will be described and discussed

Results

Equine mediation helps autistic children to exchange and to progress in communication. Indeed it stimulates functions involved in interactions with others, communication development (joint at-

tention, association, imitation, intention, perception) and develops systems interfering in social adaptation, regulation and information processing. Horse will lead child to experiment co-action and reciprocity, promoting interactive behavior and exchanges with language. Horse movements, through multisensorial stimulation, activate sensory-integrative functions and encourage vocal productions. Many international scientific studies about quantitative evaluation of results in equine mediation empower to validate this approach. They show significant improvement in autistic symptoms. Also benefits in communication and language are highlighted in some of these researches (Gabriels, 2015, Hameury, 2010, Memishevikj, 2010).

Discussion

Equine mediation completes and reinforces communication and speech therapy benefits. Impacts assessment on language will continue to be studied.

Keywords: Communication, Language, Speech Therapy

Poster Number : FRI01-52

A systematic review of play based intervention effectivity for children with autismspectrumdisorder

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Introduction

Autismspectrumdisorders (ASD) are an urgent global mental health problem with a worldwide estimated prevalence of one in 132 individuals. Studies show that 64% of the people with ASD have comorbid problems. Parents of children with ASD display

more mental distress. Children with ASD with comorbid problems in combination with parental distress influences the parent-child relationship and may significantly interfere with the overall life outcome. Play therapy has been proven effective for children who experience mental health problems. The development of play within

children with ASD differs from other children. There are play treatments for children with ASD. We want to determine which forms of play therapy and/or play based interventions are effective for children with an ASD and their parents.

Methods

A systematic literature search following the PRISMA guidelines. Studies were included if they reported quantitative data on any type of 'play therapy' or 'play based intervention' used within a population of 'children' with 'ASD'.

Results

We identified 69 studies fulfilling our search criteria constituting of 13 RCTs, 54 quasi experimental studies and 2 case studies. Positive outcomes regarding diminished behavioural problems and increased social skills in children with ASD were substantiated by randomized controlled trials (RCT) in seven play based interventions: PLAY project, Developmental, Individual-differences & Relationship-based model/Floortime, Lego therapy, Joint Attention

Symbolic Play Engagement Regulation, Early Start Denver Model, 1-2-3 project and Pivotal Response Treatment. Another three play based interventions showed positive results through quasi experimental research: Theraplay, Child Centered Play Therapy and Parent-Child Interaction Therapy. Large variation in treatment goals as well as in outcome measurements was found within all ten play based interventions. Main outcome measurements constituted of reduced withdrawn social behaviour or tantrums, increased social skills such as joint attention and eye contact and improved language skills.

Discussion

Although a vast amount of studies regarding play based interventions for children with ASD are available, only a minority comprise RCT's. Future research should focus on evaluating the effectiveness of play based interventions for children with ASD through RCT's, in which parental distress and the parent-child relationship are included to improve the over all life outcome for people with ASD and their parents.

Poster Number : FRI01-53

SACCADE: AN INNOVATIVE MODEL FROM QUEBEC (acronym for: Structure and Continuous Conceptual Learning Adapted To an Evolving Development)

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Introduction

Since its creation, the SACCADE model has proven its value everywhere it has been implemented. SACCADE's fundamental principle is that the lack of understanding of the true and unique needs of a person with autism causes an injustice, which constitutes in itself a form of abuse. SACCADE is a cognitive developmental intervention model which was developed in 2005.

Methods

The authors of SACCADE developed tools and compared their innovative intervention model to the scientific literature and obtained the same success everywhere the model is applied. It is built around the hypothesis of the internal functioning of the thinking structure of autism, an analysis model developed by a person with autism and a neurotypical person, which is recognized for its relevance and its ability to integrate, without inconsistencies, contemporary theories in various research domains concerned with autism. SACCADE uses cognitive and pedagogical remediation using a graphic code called the Conceptual SACCADE Language (CSL). The model is

defined as a reframing of the scientific and clinical literature which takes into account the unique cognitive structure of people with autism.

Results

Within a few years, SACCADE established itself: the internal functioning hypothesis has made its mark. The CSL is understood as the natural language of people with autism which they can effectively communicate with, fewer people wonder if people with autism have emotions: they know they do and the SACCADE model allows them to access these emotions, the confusion between autistic manifestations and behavioral disorders is less present, the distinction between autism and intellectual disability is increasingly clear, 'typical autistic crises' are better understood.

Discussion

Specifically, the model addresses the different and unique cognitive configuration of people with autism (hidden face), which influences communication and social interactions (apparent face). The model

gives people with autism access to an integrated form of communication, the detection of their emotions, and the creation of cognitive links. This, in turn, leads to a significant decrease in anxiety. Lastly, it allows people with autism to access their full potential.

Keywords: Education, Intervention, Neurodevelopment

Poster Number : FRI01-54

Psychoeducational groups for adults with autism spectrum condition and their significant others (Prisma): an open feasibility study in a clinical outpatient context

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Introduction

There are few evidence-based interventions for adults with autism spectrum condition without intellectual disability (ASC) and their significant others/family members. The Prisma program entails manualized psychoeducational groups, designed to provide basic knowledge about both ASC and available intervention options, as well as empower the participants and provide an arena for shearing experiences with similar others. This first study evaluated feasibility and preliminary effects of the Prisma in an outpatient psychiatric and disability services context.

Methods

The Prisma program consisted of four 120-minute weakly structured group sessions administered at 12 publicly funded outpatient psychiatric and disability services clinics in Stockholm. The participants with ASC (n=56) and their significant others (n=52) completed self-reported questionnaires before and after the Prisma program to evaluate preliminary effects, as well as at the end of each of the four sessions to evaluate treatment satisfaction.

Results

The participants gained significantly improved knowledge on ASC

from pre to post intervention (ASC Knowledge Quiz, large effect), and improved wellbeing as measured by Hospital Anxiety and Depression Scale (HADS). Moreover, the significant others and family members reported improved relationship quality and reduced burden. The Prisma program was considered to be credible and the participants would highly recommend the intervention to others in a similar situation. In the open ended qualitative evaluations, the participants provided us suggestions how to improve the Prisma program, e.g. by increasing intervention components offering possibilities for active participation.

Discussion

The findings in this open feasibility trial provide preliminary support for good feasibility and preliminary effects of the Prisma program. We have revised the contents of the program according to the feedback from the participants and are currently conducting a pragmatic multicenter randomized controlled effectiveness trial.

Keywords: Adult, Family, Intervention

Poster Number : FRI01-55

Adaptation of cognitive remediation to adults with ASD: a pilot study

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Introduction

Autism Spectrum Disorder (ASD) appears in early childhood and evolves throughout adulthood. While several educational programs have been developed for children with ASD, to our knowledge none are dedicated specifically to the particularities and needs of adults. Cognitive remediation programs have been validated in other psychiatric disorders, namely in schizophrenia, in order to support psychosocial rehabilitation. Our aim is to evaluate the feasibility and benefits of such programs in ASD adults without any intellectual disability, and to adapt these programs to the specificities of this population.

Methods

Two groups of ASD adults took part in this study. According to their clinical profile and personal complaints, they followed either a program targeting executive functioning (CRT, Cognitive Remediation Therapy, Delahunty & Morice, 1993) or one focusing additionally on social skills (IPT, Integrative Psychological Treatment, Pomini, et al., 1998). The impact of these programs was evaluated by comparing the neuropsychological assessment before and after the program's completion. We also considered qualitative measures, in particular perceived quality of life and autonomy.

Results

Positive outcomes were observed in both groups when considering qualitative as well as quantitative measures. Participants showed improved cognitive abilities on the neuropsychological assessment. Moreover, they developed conversational skills and expressed increased self-confidence in social situations. Furthermore, their everyday-life autonomy was increased and they reported having achieved personal goals.

Discussion

These programs appear applicable and beneficial to adults with ASD. Some adaptations to the specificities of this particular population are however required. In particular, a longer familiarization phase seems important and implies a longer total duration than initially announced in other psychiatric disorders. Moreover, this pilot study puts forward the interest in an ASD population of combining both neurocognitive and social cognition remediation in a single program, and of the use of personalized concrete everyday life tasks, in order to help generalize these newly acquired skills in daily life. Further studies, with greater groups, are required to confirm the benefits on the trained cognitive functions as well as on the quality of life.

Keywords: Cognition, Social, Training

Poster Number : FRI01-58

Connecting with inner world, connecting with outer world through simple plays in autism

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Introduction

The play is an area where the children could experience the life. This experience allows the children to establish a dynamic relationship with their inner world and with outer world. This dynamic relationship brings the children to feel themselves on a solid and

safe ground. When the children feel that they are on the solid and safe ground, they allow themselves to touch the world and their potential. Children with autism have difficulty to discover the outer world and their inner world as they keep themselves in a narrow space. It is important to set a simple and trusting environment for

children with autism to create a bond and to bring their potential out to become to share the experiences of plays which contain daily life with specific toys. They could express their potential and connect with the world.

Methods

Experiences of individual therapy based on special education with children with autism for a long time and long term animal assisted therapy with a special dog to improve the social and communication skills of children with autism transformed to a practice to emphasize to play together with children in a specific structured environment with a single child. Each session work with child shared with

family and the work evaluate by psychiatrists in a regular periods.

Results

The play opens the children with autism to the world and they could express their feelings through the games.

Discussion

The play is important for the children with autism. This intervention needs academic study.

Keywords: Communication, Intervention, Language

Poster Number : FRI01-61

Framing the conversation in therapy and professional settings

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Introduction

Research has shown that Cognitive Behavioural Therapy (CBT) is one of the most effective therapeutic methods to treat mental health problems in people with autism spectrum disorder (ASD). Some research articles also offer good suggestions on how to frame the CBT-conversation and use the method adjusted to the difficulties in ASD. In my everyday praxis as a psychologist, I supervise professionals and offer therapeutic conversations to people different places on the autism spectrum with various cognitive abilities. I often meet questions about how we as professionals adjust and improve our conversation-skills to meet the communicative difficulties in autism. With a starting point in the ASD-adjusted CBT-research complemented with own cases, it will be the aim of this presentation to introduce key points on what to consider when setting the frame of the therapeutic and professional conversation with people on the spectrum.

Methods

In everyday praxis we must not only look at adjusting our verbal communication but also at the preparations needed to be done in framing the conversation to optimize the outcome (e.g. preparing our clients to the content of the conversation, including the clients network in the conversation, adjusting the decoration and interior in our conversation-room and our use of techniques to visualize via models, drawings or writing). Evaluation on this adjustment-process must be an ongoing process within the conversation with the individual client or supervisee.

Results

From my praxis-experience it is clear, that both our professional communicative abilities and framing the conversation are impor-

tant foci in therapeutic and professional conversation as a way to optimize the outcome of our conversations.

Discussion

The experiences from everyday praxis corresponds to the general recommendations from CBT-research adjusted to ASD. But still I recommend more focus on how to frame the conversation as a starting point of all therapeutic and professional conversations.

Keywords: Communication, Mental health, Treatment

Poster Number : FRI01-62

Impact of ESDM therapy 9 hours per week at home on young children with ASD

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Introduction

Early intervention for young children with ASD is a widespread recommendation. The Early Start Denver Model (ESDM) is among the most widely used intervention programs and has shown to be effective in a randomized controlled trial (Dawson et al, 2010), with a 1:1 ratio, 20-hour intervention per week in specialized center. At the Cantonal Autism Center in Lausanne, Switzerland, we have been applying an Early Intervention program based on the ESDM model for 2 years. Due to logistic limitations, it was impossible to launch the intervention project with all the desired conditions. As such, a transitory intervention program was put in place, in order to respond to local families' needs. We hence adapted the model by reducing the number of hours of intervention to 9 hours per week at the children's home. We would like to evaluate the impact of treatment according to this modality, to better understand the impact of intensity and place on the effectiveness of therapy.

Methods

Currently, 8 children with ASD between 24 and 48 months are included in the Early Intervention program. In order to evaluate the impact of this adapted version of the treatment, all the children were evaluated at their entrance (ADOS / Mullen / Vineland /

Sensory Profile), and will be reassessed at T1 (Mullen / Vineland) and at T2 at the end of care (ADOS / Mullen / Vineland / Sensory Profile). We will also evaluate the parent's point of view about this modality of intervention.

Results

We will examine the impact of ESDM therapy 9 hours per week for 2 years at home on the severity of autistic symptoms (ADOS), level of development (Mullen), adaptive skills (Vineland) but also the processing of sensory information (Sensory profile) and the parent's reports.

Discussion

Recommended intervention models can be time-consuming and hence expensive to implement. It is important to understand the effectiveness of these methods, especially if they are effective with a decreased number of hours. These results will assess the range of progression of children following 9 hours of ESDM-type intervention per week at home.

Keywords: Intervention, Toddlers, Treatment

Poster Number : FRI01-63

MIKADO GAME : Ecological Exchange and Development Therapy, a challenge for health care teams

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Introduction

Much progress has been made in patient scaffolding to sustain the emergence of communication prerequisites. Developmental therapies such as the Exchange Therapy have shown their relevance for the rehabilitation of communication functions. Nevertheless, at the moment of inclusion, particularly in school environment, we note the difficulty for the patient to generalize his skills outside the healthcare setting. Between an overadapted individual situation and an out-of-care situation, the step is too high. Here we propose intervention strategies to support patients towards more ecological conditions.

Methods

A work has been set up at the day-hospital by the exchange and development therapy team. Weekly sessions with a group of two patients and one of three had been conducted over several months. The clinical impact has been evaluated thanks to supervisory meetings based on videos of the sessions in addition to usual patient individual assessments of the center.

Results

This experience confirms the interest of the video tool to reflect upon our practices. We have seen the need to deal with complexity in a progressive, secure way. This requires the attitude of the the-

rapist but also the choice of the right partners to form groups. To avoid the pitfall of learning by conditioning and to move towards our objective of multimodal acquisition of elementary functions, the combination of modalities and contexts has been proven to be essential. Finally, the most relevant thing was not to build up new therapy contexts, but to instill therapy in the daily life of the day hospital (free time, snacks, recreation, etc.). For this reason, two aspects appear to be of major importance: the interest of involving all caregivers and the interest of raising awareness of the scaffolding in place, which sometimes become automatic when accompanying patients.

Discussion

Removing the scaffolding requires as much attention and method as the early care that put it in place. This problem is critical for autonomy and integration, and raises questions about our practices. We have noted the need to continue our action towards the establishment of a reference frame for describing therapeutic gestures and attitudes for an appropriate removal of scaffolding. The Mikado game as a model of care, emphasizes the need to train the entire teams for both intensive and ecological interventions.

Keywords: Adapting, Care, Communication

Poster Number : FRI01-64

Exploratory project of a french adaptation of the PEERS-UCLA social skills program: ASD Teenagers participation and parent involvement

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Introduction

Improving social skills is a constant challenge for individual on the autism spectrum, especially in the teenage years. Social deficits are often a factor of being isolated from their peers and having mental health risks for depression and anxiety disorders. International consensus on best practices regarding social skills interventions in ASD agrees that psychoeducational interventions and cognitive behavioral techniques are essential. Social skills intervention services offered in French speaking countries are sparse and vary in their content, duration and objectives

Methods

In this context, the PEERS UCLA program (Laugeson and Fran-

kel 2010) offers those two aspects, the joined implication of ASD teenagers and their parents in the program, to learn, develop and maintain their social skills. This program consist of 14 weekly sessions of 90 minutes of social skills training with ASD teenagers (6 to 8 teenagers) while their parents are simultaneously receiving coaching sessions to offer them tools to support their child in generalizing these skills. In between sessions, parents take over to support their teenager in their homework, so that they use what they have learned during the sessions, in more natural social contexts. Two recent meta-analysis on social skills interventions validated this program as being one of the most effective for this population . Our exploratory project consist of conducting this program in french for a group of high functioning ASD teenagers (14-18 years

old) integrated in the mainstream school system and their parents.

Results

The aim of our project is twofold : Clinically, the aim is to improve the teenagers social skills and support their parents in their role as social coaches. Research wise, our objective is to explore the possibility of replicating and adapting this program in a french speaking cultural context. Two variables will be explored more closely : regarding the teenagers with ASD, we will assess how this program affects the quality of socialization and decrease social anxiety , regarding parents, we will examine how this program increase their

feeling of competency in supporting their child’s social skills.

Discussion

We expect to see an improvement in the social skills of these teenagers that took part in this program. With our results, and continued research, this program could be considered a standardized and scientifically validated in French and be included as best practices for the development of social skills in ASD adolescents.

Keywords: Family, Social, Teenage

Poster Number : FRI01-65

Occupational therapy and autism: an intervention focused on the needs of children with autism in their different life contexts

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Introduction

Occupational therapy is a profession in the paramedical field that bases its actions on an understanding of the challenges of daily life that people in vulnerable situations must face. In the field of autism, the profession is often little known, although its contribution is fundamental to people’s well-being and social participation. The scientific evidence currently available provides information on specific areas of intervention offered by occupational therapy for children with autism. However, little data is available on the articulation of its interventions.

Methods

Case studies were conducted with three children with autism and their families. The occupational therapy intervention proposed in the three situations was based on three axes: individual, family and community. The formulation of objectives was carried out by the family and the school community. They were measurable by the people themselves and focused on everyday life. Following the objectives formulated, the occupational therapist, as part of the person-centered approach, offered interventions aimed in particular at reducing sensory difficulties and developing social cognitive skills. The family-centered approach focused intervention on family environment adaptation and parenting education directed on the needs of the family. In the community-based intervention, occupational therapy targeted on teacher training, adapting the school environment and developing positive peer relationships.

Results

The results show that by focusing occupational therapy intervention on the three axes: child, family and community, individual and collective needs are mostly respected. Organized in this way, occupational therapy intervention promotes the acquisition of autonomy, relevant for the child, by adapting the intervention to the demands of life contexts. The intervention follows the evolution processes of the entire system, thus allowing for better social inclusion.

Discussion

Recognizing the needs of the child with autism, but also those of his or her family and the contexts in which he or she evolves, makes it possible to achieve objectives related to quality of life quickly and effectively. The intervention becomes a process decided by the persons concerned, for the persons concerned. Thus, occupational therapy provides the interdisciplinary team with important support by using its skills in understanding environments and occupations to support the people concerned in their self-determination process.

Keywords: Childhood, Intervention, Quality of life

Poster Number : FRI01-66

Play Intervention in High Functioning Autism at school

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Introduction

Playing is a primary social activity through which children acquire symbolic capacities, interpersonal skills and social knowledge. Children with autism have poor quality friendships and even children with High Functioning Autism are more often neglected and rejected by their peers compared to pupils without ASD due to difficulties in social interaction and in peer play. The present study focuses on the use of playing as an intervention strategy to promote social-communicative abilities in children with HF-ASD in mainstream school settings.

Methods

The project started in 2015 with 4 children. Due to good results in promoting social and communicative skills, the number of children increased. In 2018 we enrolled 12 patients. Inclusion criteria: diagnosis of ASD, cognitive abilities and adaptive behavior overall in the average range. The age of participants ranged from 7 to 14 years old with an average of 10.5 years. 9 males, 3 females. The intervention took place in mainstream school. The duration of the intervention is 1 year (Sept.- June). The average duration per session is 60 minutes, twice a week. According to Play Group Integrated Program, a group is made of four/five children, including patients with ASD, selected by the teacher. Each group plays together 6 times, then peers change. We evaluate, at the beginning and at the end of the project, the effectiveness using CLCB, SDAG,

Vineland-II and Observational Checklist for Interaction Between Peers.

Results

According to literature, we observed that participants became more aware and friendly towards their peers. Children improved verbal expression, social and spontaneous playing. They improved their flexibility and reduced outbursts behavior and impulsivity. They bear better frustration and wait. Parents reported that these aspects were extended also in other settings (home, spare time).

Discussion

Playing is an important learning method during developmental age; however children with ASD have been neglected to a certain extent in school practice due to the focus many teachers place on academic attainments and to the difficulty in engaging autistic children in playing activities that don't involve their specific interests. Teaching staff should be specifically trained in order to adopt the successful strategies used during playing sessions without the implementation of clinical interventions. Further investigations are required in order to define a standardised and validate procedure internationally recognised.

Keywords: Childhood, Peer support, Treatment

Poster Number : FRI01-67

Preliminary Study on the Effectiveness of Kindergarten-based Integrated Intervention in Children with Autism

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Introduction

Autism spectrum disorder (ASD) occurs worldwide, however adequate therapy programs to support children with ASD are not readily available in many parts of the globe. Integrated models of therapy use a combination of existing therapies simultaneously to reinforce common goals, these often consist of both autism spe-

cific practices and general rehabilitation therapies. Due to the versatility of integrated therapy models they may be more accessible for countries in which autism awareness and support is not as prevalent. The current study assesses the effectiveness of an integrated model, which utilizes a combination of occupational therapy, speech-language pathology, and psychiatry within a class-

room setting.

Methods

18 children (aged 2-6) received integrated intervention as a full day kindergarten program (40 hours a week) over 12 months. Knowledge & cognition, communication, adaptability, and autonomy were assessed 3 times over the span of the intervention. Measures in developmental ability of these four domains were compared to the child's actual age and the expected developmental milestones of a typically progressing child to produce a measurement of developmental age. Variation in developmental age across assessment periods was then used to calculate effect size.

Results

The therapy showed highly effective results in knowledge & cognition (g = 1.21), communication (g = 0.85), adaptability (g = 1.52), and autonomy (g = 1.55) after 6 months. However this effect was not linear as the consecutive 6 months of therapy yielded only a

small positive effect for knowledge & cognition (g = 0.17), communication (g = 0.26), adaptability (g = 0.18) and autonomy (g = 0.23). The net effect over the full 12 months of therapy was highly effective across all 4 domains.

Discussion

Integrated therapies come under particular interest internationally as they are more affordable and accessible to replicate than ASD specific therapies such as Applied Behaviour Analysis or TEACCH, however they are studied far less. This study shows integrated therapy to have some positive effect when applied as a full day program to preschool children, however it is highly likely that confounding variables are leading this effect. Future research should look towards identifying these confounding factors and the impact they have on developmental support.

Keywords: Childhood, Development, Services

Poster Number : FRI01-68

Collaborating to Learn & Learning to Collaborate (CollaboLearn): A collaborative play-intervention for children with autism

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Introduction

Our rapidly changing and highly interconnected world makes it increasingly difficult for people with autism to participate and learn. There is a great need for especially children with autism to become experienced in collaboration and social problem solving. Children learn and practice collaboration and social problem solving through play. The aim of the project is to develop a structured play intervention (CollaboLearn) that enhances social learning and collaborative competence in children with autism.

Methods

CollaboLearn is developed based on a well-established intervention method, LEGO®-based therapy, in conjunction with the newest research insights on autism and co-created learning environments. CollaboLearn takes a constructivist approach to learning, and core to the method is a set of facilitation principles that must be met at each session in the play club. The project is a community-partnered research study where the outcome of the project is a co-created, workable, and highly implementable play intervention manual that in future projects can be validated through a large scale mixed-methods randomized controlled trial. Currently we are exploring fa-

ilitation principles, tasks, activities, and structures in a series of pilot-studies at a large danish specialist school. The project is funded by Danish foundation TrygFonden and the LEGO Foundation.

Results

Autistic children have special personal preconditions for entering into social play, but it is possible and crucial that they do. The final intervention will specify which facilitating principals, task, structures, and activities (the physical and social environment) that best simulate, and hence engage the autistic children in social learning processes and improves their collaborative competence. The manual will describe models of partnership between teaching staff, the autistic pupils, the parents and the professionals who deliver the intervention in order to ensure the optimal conditions for learning (co-construction of learning) and generalization of learned skills within the play club.

Discussion

If the method proves effective the project outcome is a manualized intervention that will be implemented in special education schools and for social inclusion of autistic children in mainstream educa-

tion. In order to secure sustainability the project also contains a development of an intrusive and playful training program to both staff who works with - and parents to - autistic children.

Keywords: Communication, Inclusion, Intervention

Poster Number : FRI01-69

The impact of early and intensive intervention using the VB-MAPP as a guideline

Authors:

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Introduction

This research demonstrates the positive effects of early intervention for children on the autistic spectrum, not only concerning the child himself, but also the whole family. The research tells us that the early years of a child's life are critical in impacting on a range of outcomes through the life course. This subject is the main argument to emphasize the necessity of providing ABA therapy for young children in France. The French families struggle with the financial burden of being able to provide an effective ABA program for their children. Even those families who have the financial means have difficulties finding a qualified team.

As well as having a profound impact on the child and the whole family's lives, an early intervention program has a significant impact on the whole society. If we want to improve outcomes in adult life we have to focus on the early years. Investing in early childhood is a sound economic investment (the best investment society can make). We cannot do much to change biology, but we can change the environment in which young children grow and develop

Methods

This research was carried out in Paris between 2015-2018 with ex-patriot families who had sufficient funds to provide the necessary treatment. We provided an evaluation followed by a tailored ABA home program for 4 individual children and families. The first

phase of the project was to evaluate the child's level compared to neurotypical children. We then developed a program using the VB-MAPP evaluation tool as a guideline. We taught communication following the principals of B.F Skinner's analysis of verbal behavior. The child's progress was re-evaluated once a year.

Results

The progress for each case depended on the number of hours of treatment, the efficiency and the experience of each team member, as well as each individual family's level of commitment. Each child made significant progress in all areas of development. The most significant factor was that not only did all the children make substantial progress in all developmental domains, but they all developed speech after using an alternative communication system.

Discussion

As expected, the results mirrored the positive ones we have witnessed for many years in other countries, especially the English speaking ones. The outcome of this research emphasizes the lack of appropriate treatment in France and encourages us to do everything possible in order to find a way to pursue this type of ABA treatment in this country.

Keywords: Childhood, Intervention, Quality of life

Poster Number : FRI01-70

Adaptive Responses and their Impact on Social Life

Authors:

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Introduction

My motivation to submit this Abstract is to show how Occupational Therapy based on Sensory Integration can help Children with Autism to better cope with their difficulties and how it can help them to further development.

Methods

A seven year old boy, who latterly was diagnosed with High Functioning Autism (2018), was brought on May 2017 to my Occupational Therapy office (Au, Germany) by his mother. At the time of our first consultation she had informed me that her child had learning problems, demonstrated sad feelings, could not speak like a boy at his age, had trouble making friends and looked uncoordinated. Afterwards the boy came to the first OT appointment and a high tuned speech was observed as well as clumsiness, motor planning and motor performance problems, low self-esteem, distraction, hand tremors when performing fine motor activities, difficulties to verbally communicate his ideas or feelings and difficulties with eye contact. In addition to clinical observations and the conversation with the family and his teacher, I had chosen the Sensory Profile (W. Dunn), the Movement Assessment for Children 2 and the DTVP3 to evaluate the boy. The results showed problems with

sensory processing and perception, hand skills and balance.

Results

After an year and four months having OT Treatment based on the Sensory Integration Therapy the boy was able to better modulate sensory inputs, was much coordinated, had no longer showed sad feelings, could better motor planning, could maintain eye contact, demonstrated better learning skills at school, could verbally communicate his ideas and feelings and showed higher self-esteem. Moreover he was able to participate on a social competence group with other Kids who also had been diagnosed with Autism.

Discussion

It has been showed that Children with Autism have many problems with sensory processing. These difficulties have a big impact on their social life. After one year and four months of Occupational Therapy Treatment based on Sensory Integration, this Child was able to better process sensory inputs and therefore he could better deal with his environment, including peers, showing adaptive responses.

Keywords: Adapting, Inclusion, Social

Poster Number : FRI01-73

Supporting People with Autism Spectrum Disorder into Employment

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Introduction

Many people with autism can experience social disadvantage and exclusion, as well as exclusion from the labour market. Adults with autism often lack the support they need to gain and maintain employment. Each person with autism is unique and needs a completely individualised approach at job searching and employment. Employment sustainability and work efficiency depend on both, working conditions and workplace adaptations.

Methods

In order to obtain aspects from all sides, the study included 6 employees with ADS, the same number of employers and 6 professionals/supported employment specialists, who were working with employees in question. First, a systematic literature review was conducted. Next, we developed three semi-structured questionnaires, separate for each target group, and finally, we carried out the interviews. Quantitative analysis was used to collect the data on perceived needs from all three sides.

Results

The findings highlight the importance of knowing and understanding the characteristics of the autism spectrum disorder, and consequently, the employment needs emerging from it. These findings can be useful in the process of vocational counselling as well as in the workplace after employment with the aim to achieve

sustainable employment. All the participants in the study reported about the benefits of the expert support, both during the job searching and on the workplace. Employers particularly emphasised the need of the ongoing support and cooperation from the professionals and mentors in the workplace. Managing employees with autism requires that managers and co-workers understand and react appropriately to the display of characteristics by an autistic employee. Moreover, they expressed the need and willingness to obtain further knowledge on how to manage these kind of situations

Discussion

The main learning outcome of the study is that close cooperation before, as well as during employment is essential. Awareness raising among employers and their knowledge of appropriate methods and techniques to work with employees with autism as well as providing relevant information on autism to management and colleagues is the key to sustainable employment. The role of the professionals/SE specialist, as the bridge between the person with autism and employer, is crucial. As well as active participation of the individual, especially involving them in individual planning and empowering them can be beneficial and can lead to successful work and social inclusion.

Poster Number : FRI01-74

Education, vocational training and narratives for future employment of people with autism

Authors:

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Introduction

The employment of people with autism is another serious factor for the Inclusion and Community living. So, the Commission on Equality and Human Rights in Great Britain (2010) drew up a comprehensive technical guide with legal details on apprenticeship at work and vocational training for People with Disabilities recognizes

the social model of special education and signs the text on parity at work. In the present study, we are addressing the problem of education and vocational training with regard to the narratives for future employment of students with autism according their four-year attendance in the Unified Special Vocational Gymnasiums and Lyceums (USVGL).

Methods

In the methodology, we use the study of bibliographic texts and data from one case study with autism we highlight the narrative explores Greek legislation for students with disorders in the autism spectrum. According to the normative texts for future knowledge and work, they are taught general education courses, orientation courses in certain fields of study, and elective courses. Also, in the fourth grade of USVGL be taught theoretical and laboratory courses in continuation of technological and vocational courses. So, with this they are supported the apprenticeship and the practices in the laboratory lessons . In this context, the case of a twenty-eight-year-old man with autism at the Agricultural University and his low-paid employment adventure, the library and the reading room are being discussed.

Results

In our results, we have proved that the narrative for future employ-

ment attempts to approach the law in depth and to explain how it can be applied in practice by improving the meaning of the work and employability of people with autism disabilities. So, two key themes emerged regarding the narratives: 1) the enhance trans-disciplinary processes to inform transition planning and teaching and educational vocational interventions, and 2) the facilitation comprehensive and developmentally appropriate employment transition services over a life course.

Discussion

In conclusion, businesses, employers and public authorities need to understand regulatory changes in education, vocational training and the autism culture. According to this, the discussion for future employment of autistics can accommodate their education expectations of USVGL. So means that they can exercise their rights for equal education and vocational training and respond as employers.

Keywords: Complex Autism, Employment, Vocational Training

Poster Number : FRI01-75

How an Autistic Colleagues Network has helped embed autistic-friendly practises from recruitment to ongoing professional development

Authors:

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Introduction

Autistic people are an under-represented group in the working world, with statistics often talking about numbers of those in full-time employment only, and failing to identify the numbers of non-disclosing autistic employees who are struggling in the workplace. In 2016 a national autism charity put together a working group with autistic colleagues aimed at improving recruitment practises, this evolved over the next two years until in the summer of 2018 the Autistic Colleagues Network was formalised, led by the Equalities, Diversity and Inclusion Coordinator, an autistic full-time member of staff within the HR team.

Methods

This paper will explore the various strands of the practises being embedded by the work of the Autistic Colleagues Network, including looking at the internal auditing of departments, the inclusion of autistic employees on interview panels, the expansion of the employee upskilling program, and the creation of sensory information guides for staff and visitors to major events.

Results

The data gathered looks at the ongoing impact to employee satis-

faction and wellbeing, the trends in recruitment and retention rates, and the feedback received from stakeholders.

Discussion

The Autistic Colleagues Network has pushed for meaningful representation and inclusion on multiple levels of the organisation, this has been a key element of the major successes of the initiative and has enabled the formation of a robust strategy for the long-term sustainability of the Network and its ability to achieve its continual aims.

Keywords: Employment, Inclusion, Training

Poster Number : FRI01-76

Improving Employability of Autistic University Graduates

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Introduction

As autistic young people increasingly receive the right support at school and university, the number of autistic graduates is growing at an unprecedented rate. These individuals are academically competent but unfortunately very few enter graduate employment. Reasons are multifold: careers advice provided by universities is ineffective, tutors fail to support students with developing employability skills, recruitment procedures create barriers, and employers are unsure how to support autistic graduates in the job. We report initial findings from an Erasmus+ funded multi-national project that aims to increase and improve employability by influencing the work-focused support autistic university students receive. A particular focus is on university careers guidance by staff and tutors, and the development of self-advocacy and employability skills in students.

Methods

Participatory, transdisciplinary research is being conducted in five European countries: the United Kingdom, the Netherlands, Finland, France and Germany. The project team, which consists of autistic and non-autistic researchers, collaborates with students, careers advisors and prospective employers using mixed methods. The study includes stakeholder interviews, participatory

design workshops and a multi-stakeholder survey. Good practice guides will be co-produced with professionals, and a digital toolkit will be co-designed with autistic students. Through this approach, students will also gain self-understanding and self-advocacy skills.

Results

The research started in January 2019 and first results will be available in June 2019. In our presentation we will report these results and our findings. As the underlying ethos of the project is participatory design, we will share insights about the process itself as well as the initial outcomes of this research.

Discussion

Project outputs will directly benefit future generations of autistic students and allow the sharing of good professional practice across Europe. Further, through involvement in participatory activities and engagement with project outputs, an increasing number of employers will recognise the strengths and benefits of qualified autistic employees, and reduce disabling barriers to recruitment and employment. Project outputs will likely benefit other disadvantaged student groups too, including students with other disabilities.

Keywords: Employment, Self advocacy, University

Poster Number : FRI01-77

Employment skills and experience for autistic university students

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Introduction

A 2012 Equality Challenge Unit (ECU) study highlighted that autistic university graduates in the UK were statistically more likely to be unemployed (i.e. not in education or employment) following their graduation, compared to their disabled and non-disabled peers. 22% find themselves unemployed following graduation. Through our experience, this group of students is often less likely

to acknowledge the importance of work experience alongside study. We hypothesise that this lack of experience is a disadvantage when competing for jobs. A programme was created in collaboration with the Careers Service at the University, to offer workshops to prepare students for employment. Following the programme, all participants are offered a work placement. The aim is to investigate whether exposure to the recruitment process, and work experience

rience, would better prepare students for life after university.

Methods

Over the course of trimester B, students are invited to attend workshops aimed at demystifying the world of employment. These are themed around, applications, recruitment (and the processes involved) and the environment within the workplace. Following these practical workshops, all students are offered a guaranteed, supported, placement within a company or voluntary organisation. Both students and employers will be supported during the placement and feedback gathered to evaluate the effectiveness/success of the placement. Each placement will have a set task/project to be completed within the timescale, allowing a measure to gauge success.

Results

These workshops take place during the academic trimester (February to April) with placements in May and June. All participants

complete evaluations at each stage aimed at monitoring their confidence levels and preparedness for employment. Along with this, employers/placement providers, provide feedback on their experiences and confidence in working with autistic graduates. Providers will also have the option of receiving autism awareness training prior to the commencing the placements.

Discussion

The aim of the study is to assess whether exposure to supported employment opportunities for autistic students, during their studies can increase their preparedness for leaving university. In turn the aim is to reduce the likelihood of these students finding themselves unemployed. Secondary to this, we see the impact that these placements will have on the employers and whether it increases the awareness of the skill sets of these students.

Keywords: Education, Employment, University

Poster Number : FRI01-79

Employment through professional job coaching, one day at a time!

Authors:

Marko Lahti, Autismsäätiö, Helsinki, Finland

Introduction

Our foundation has been providing Employment Advancing Professional Coaching for two years now in this particular model. The aims are to provide individual support to people with special needs in order to get them employed in a part-time or full-time work on open labor markets.

Methods

Our foundation has so far been working with approximately 170 participants in this process with 10 job coaches. The process is divided into five parts and two follow-up meetings. The first period lasts 60-120 working days and upon this one or more follow-up periods can be applied. The primary goal is to find a paid employment. This is managed by practical training to help lower the threshold for hiring a person with special needs. Parts of this rehabilitation process are for instance career planning and suitability of profession as well as the actual job hunting and support for staying at job. Support is also offered both the employer and work community.

Results

Autistic individuals often need a strong support evaluating their skills for the demands of working life, finding a range of suitable jobs and applying for a job. How to find a job, how to perform at job interview and what are the unspoken (and sometimes even

spoken!) rules of each work place are often ambiguous and inconsistent. For many writing official material like e-mails, job applications or resumes is stressful, takes a lot of time or is even impossible. For many templates found on the internet are not useful because they are not precise enough. It should also be noted that this kind of stressful effort for a whole day and five times a week can be very demanding. It seems that the solutions for these difficulties are the time-old methods of structuring, visual and written instructions and making visible the hidden rules. For the employers it is useful that there is a guidance for different financial benefits, instructions how to organize the work environments and help to understand autistic thinking.

Discussion

Working with this particular model has given as insight that the obstacles for employment are mostly presented by modern day demands of job searching and varied or even conflicting instructions. Even after finding a job the demands of efficiency and multi-tasking can be overwhelming if not taken account by the job coach. But with decisive and long-lasting support like regular visits by job coaches and most importantly influencing employment processes, attitudes and work environments employment is possible.

Poster Number : FRI01-80

Exploring participants' views on a supported work internship programme for autistic and disabled young people

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Introduction

Individuals with autism spectrum conditions and learning conditions face a crisis of unemployment in the UK. Many of these individuals find few adult services in place to address their needs. Supported work internship programmes are one attempt to address this. The West London Alliance has implemented one such programme in London using the Project SEARCH model. Though some studies have explored the efficacy of the Project SEARCH model, few have focused on eliciting the participants' voices through qualitative study. This research study aimed to fill that gap by speaking to the interns and job coaches who participated in the scheme.

Methods

The participants in the study were 7 interns aged 17-24 diagnosed with autism spectrum conditions or learning conditions, and 3 neurotypical job coaches who worked closely with the interns throughout the internship. Semi-structured interviews were conducted with each of the interns and job coaches. These interviews were audio recorded, transcribed, then coded using thematic analysis. The researchers organised interview quotes into themes and sub-themes to construct an in-depth view of the internship programme from the perspectives of the participants.

Results

Interviews with the interns revealed a strong and consistent sup-

port network involving their Project SEARCH job coaches, co-workers, and supervisors, as well as challenges they faced while trying to navigate the internship. Interviews with the job coaches revealed an emphasis on giving active support to the interns and helping to overcome challenges. These results were in line with the expectations of the researcher about positive support networks being essential to successful internships for autistic and disabled individuals. The impact of these findings was to contribute to a better understanding of what leads to successes or challenges in a supported work internship scheme.

Discussion

The study found that the internships resulted in overwhelmingly positive experiences for participants, in line with previous research that evaluated the Project SEARCH model as a bridge to positive employment outcomes for autistic and disabled individuals. This study also gave the wider community valuable insights into the positive and negative aspects of the programme model. It highlighted the need for further research focussing on participants' views and may contribute to the refinement of similar schemes to better serve these individuals and have a lasting impact on their futures in employment.

Keywords: Complex Autism, Employment, Personalised Support

Poster Number : FRI01-81

Preparing Complex Young Adults for Inclusive Workplace Success

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Introduction

For young adults on the autism spectrum, navigating the world after high school can be very daunting. According to the U.S. Department of Labor's 2011 statistical findings on Labor Force Characteristics, the Millennial aged workforce is usually the last to be hired and the first to be fired. It is of the utmost importance for this generation to understand what skills and knowledge is needed to stay ahead of the statistics and find meaningful, inclusive, and lasting employment.

According to a CareerBuilder article from May 2015, an overwhelming majority of companies say soft skills are just as important as hard skills. Seventy-seven percent of employers think personality skills are just as important as hard skills, and 16% find them more important. How are we preparing our students for a successful transition to the working world?

Methods

This workshop will provide an overview of career to work curriculum

designed to strengthen students' perspective-taking, self-advocacy, and emotional regulation through a myriad of supports (advising, academic, career, clinical, independent living, social thinking, and wellness). This will be an opportunity for attendees to learn from real scenarios of young adults in an inclusive workplace by discussing real-life challenges faced by students striving to maintain internships/jobs and searching for paid employment. Despite obstacles along the way, young adults that have gone through the career continuum have been able to approach their careers with greater confidence and appropriate interpersonal skills that provide an advantage above their peers.

Results

Participants developed a deeper understanding of key soft skills, self-advocacy, social skills, and executive functioning that can impact a young adult's future success in careers. Young adults

learned how to avoid invisible but obvious pitfalls. Specific strategies and creative approaches provided the practical tools and skills necessary for individuals with ASD to establish and maintain employment in their desired field of choice.

Discussion

Our student's inherent challenges create additional obstacles finding work and keeping employed in this very competitive employment market. Having a University degree is often not enough. Employers are seeking candidates with the necessary soft skills that our students often struggle with the most. It is our responsibility to equip our ASD youth with the knowledge, confidence and tools necessary to be successful.

Keywords: Employment, Inclusion, Transitions

Poster Number : FRI01-82

Neurodiversity and Inclusion : Hiring Autistic Employees

Authors:

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Introduction

Autistic people often have extraordinary technical or cognitive abilities, yet many find it difficult to secure or maintain mainstream employment. auticonsult recognises this potential and is the first enterprise to exclusively employ adults with Asperger syndrome or high functioning autism as IT consultants.

Methods

To tackle the autism employment gap and to make best possible use of the skills that autistic people have to offer, we strongly believe that it is not autistic people who need to change – it is the environment that needs to be more understanding, aware, and respectful. In order to help facilitate conducive environments, and to offer a sustainable support network to our autistic colleagues, we employ our own in-house job coaches and tech lead, we adapt our recruitment processes, and we organise briefing sensibilisation about autism to our customers' teams. Our job coaches can support from a social/communication angle as and when needed, by offering individualised and sustained support mechanisms to our autistic employees, while the tech lead ensure work content is well-suited to our consultant. We take great care that our roles are matched to the personal skills and interests of each employee and work together with employees on developing their career.

Results

By taking the time to get to know each autistic colleague's skills, interests, and challenges, and carefully matching those with the right tasks and support mechanisms, we create careers that allow autistic people to not only work, but work to their full potential in autism-positive environments. The significance of employment for mental health, confidence and quality of life is widely acknowledged. We believe that society and workplaces greatly benefit from understanding and embracing autism-specific strengths.

Discussion

This is a win-win-win model: for people with autism, for corporate clients, and for society. Autistic people get rewarding careers that utilise their strengths and talents appropriately, and they maintain or gain independence and confidence in themselves. Our clients benefit from receiving outstanding quality of work, and have the opportunity to practice kindness. Ultimately, there is a benefit to society through the acceptance of cognitive and neurological diversity. We are also part of the project entitled «Building an Aspie-Friendly University

Keywords: Employment, Neuro-Developmental Disorders

Poster Number : FRI01-83

Career skills assessment adapted to people with ASD

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Introduction

Many autistic people are out of the labour market, either because they have no precise employment project or because they experience difficulties finding a job. A standard tool in such situations is a career opportunity/skills assessment. Psychometric tests, personality questionnaires, experience accounts are used to help define the person's profile, strengths and weaknesses, to make choices for the future and guide the career. Such a process could be very useful for autistic people, but many impediments are foreseen: -Difficulty talking about oneself, expressing one's feelings and emotions when judging past experiences-Questionnaires comprehension problems-Lack of cognitive flexibility and the existence of highly focused interest can make the exploration of career possibilities difficult-Autobiographic memory troubles, psychological trauma due to bullying can narrow the possibilities of remembering past experiences-Planning problems might hamper the possibility of considering various career paths. The question is: is it possible to adapt skills assessment to people with communication impairments? In this case, what kind of benefit can be expected?

Methods

Since 2016, 34 persons with autism and no mental retardation came to me for a skills assessment to evaluate education or career options. Follow-ups have taken from 6 to 20 hours. Many innova-

tive instruments have been developed. They are combining career assessment tools and neuropsychological ones used in autism: interviews, sensory and cognitive questionnaires, prior experiences auto-analysis, role-playing, graphic tools, photos analysis...

Results

The results are positive, the method is effective in different ways: The objective that was set out at the beginning was reached: finding academic or job direction taking constraints into account. The ideal environment is set up, possible arrangements from the employer defined, personal adaptation from the employee considered. Job search is made easier: CV, cover letter comes out naturally, interviews are rehearsed.

Discussion

Benefits go beyond the initial goal-Anxiety is lowered, self-esteem and motivation are improved because the assessment gives the coach opportunities of positive reinforcement. -Self-advocacy and empowerment are facilitated. -The assessment develops executive functioning: ie planning, shifting (by wandering through time). Theory of mind improves by taking distance from one's experience, and imagination develops with the search of solutions.

Keywords: Assessment, Education, Employment

Poster Number : FRI01-84

Workplace support model for person with asperger syndrome

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Introduction

Asperger syndrome is a form of autism, a lifelong condition that is reflected in the individual's understanding of the world, the processing of information and the establishment of relationships with other people. In people with Asperger syndrome, we often see problems that are associated with executive function. These also appear later in life, at the time of adulthood. Executive functions play an important role in the everyday life of each person, they

are important both in education and at the workplace. The success factors at the workplace include also the development of executive functions.

Methods

The existent article presents a designed model of support at the workplace, the implementation of which was carried out with an adult diagnosed with Asperger syndrome. In the model of support,

we focused on two executive functions - organization and planning. First, we determined how much the organizational and planning skills were developed in the person, we developed a model of support and then implemented it with the person at the workplace. We have examined the extent to which the model of support has helped to improve organizational and planning skills in a person with Asperger syndrome at the workplace, and if it has contributed to greater productivity of a person at the workplace.

Results

The recorded results show that the person was able to partially follow the daily schedule, which was the basis of the model of support. This means that the person often performed all the tasks assigned, but not within the timeframe set by the daily schedule. The support of the mentor in the form of one-hour supervision per day has proved successful. During this time, the mentor compiled

a daily schedule with work assignments and norms and then followed the person in the beginning of the assignments according to the schedule. In the meantime, the person performed the work assignments attentively, yet later, in the absence of the mentor, the person performed the tasks for a longer period of time and paid attention also to irrelevant assignments. It follows that a person with Asperger syndrome needs support from the mentor more time per day than the latter research enabled.

Discussion

Research contributes to the development of the special education pedagogy and also to the development of the entire pedagogical profession. Even though the model was implemented with an adult, model can be transferred into schools, where the daily schedule for the student is set in a similar way.

Poster Number : FRI01-86

Autism and construction

Authors:

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Introduction

The construction of an autism centre, especially for people with mental disability and challenging behaviour, requires the consideration of many specific elements. In Luxembourg, we have built 2 buildings with 3 houses. Each home accommodates 6 to 7 people with autism. The first building was built more than 15 years ago. The second one has just been completed. These achievements have allowed us to learn a lot about the requirements to be taken into account for construction.

Methods

To build the first building, we visited many places in Europe where people with autism are living. For the second, we were able to benefit from the experience of the first construction and the lessons learned from its use over 15 years. Based on this experience, we were able to identify essential elements to be taken into account in such a centre. The advice of psychologists and educators in contact with our residents was also very important.

Results

We have highlighted this 1. Architecture - Provide sufficient living spaces - Have places for the return to calm - Organize the rooms for a soft surveillance of the residents - Straight corridors for a complete view - doors that do not prevent you from seeing the

corridor - significant green spaces (exercise outside) 2. Technology (safety) - Underfloor heating (radiators could be pull out) - Temperature of the water at the taps (avoid burns) - Be able to close the water distribution : general valve (autistic people can play with water or drink too much) - Control of centralized heating - provide for suction in the rooms (odour control) - Electric shutters to avoid belts 3. Finishes - Wall covering that cannot be pull out - Easily washable floor - Light that does not blink - Suitable colours - Lockable windows - Some rooms easily locked (kitchen, bathroom,...) - non-toxic material 4. Organization - Locked doors to avoid running away but respect fire safety - Silent alarm so as not to frighten people with autism - Rooms in a well-designed location for educators during the night (global view of the rooms)

Discussion

Thanks to these experiences, we have the opportunity to offer other future manufacturers advice to optimize their implementation. We have already passed on some of our experience to parents of people with autism who have construction projects. With the presentation of photos, plans and answers to the various questions, it is possible to transmit as much information as possible.

Keywords: Adult, Environment, Organisation

Poster Number : FRI01-89

Multifunctional Autism Therapy House

Authors:

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Introduction

After many years of working as an OT primarily with children and adults suffering from ASD of varying degrees, I had to come up with a viable solution to facilitate communication, concentration and learning. I was convinced that an alternative way had to be found. If I were to be effective in what I was doing and if the children or adults were to be learning, there had to be a way, a method, a supportive environment, something that would aid me in my work through every session.

Methods

After a lot of thought and observation, experimentation, using a variety of materials and through a great deal of trial and error, the idea of the Multifunctional Autism Therapy House was born in the working area overcoming all obstacles. It is a versatile wooden structure consisting of an adjustable table, bench and floor within a limited three wall space with roof, doors and windows with protective foam inside, all in soothing colours that eliminates all potential problems and accommodates an ideal, safe learning and commu-

nication environment. It is easy to move around and stabilise. It is suitable for all body types, all ages and easily adjustable.

Results

It has made a huge impact in the field of education and has truly made learning easier, enjoyable and accessible to everyone with ASD. Firstly I was able to increase the ability of the child to concentrate on an ongoing game or task by decreasing visual and auditory stimuli, increasing motivation and positive reaction. The child is interested in what it is doing, participating effectively and happily and so work is done. Secondly, eye contact is achieved, isolation is avoided and both verbal and non verbal communication improved. Additionally, aggressive, stereotypical and self injurious behavior is reduced and even eliminated completely. The space between me and the child or adult is ideal for my guiding or handling it successfully.

Discussion

The Multifunctional Autism Therapy House means that during every session the child or adult is being given a chance to learn in an ideal environment that respects its needs and enhances communication and concentration span. The child or adult is protected from any distraction or overflow of information. It is highly interactive, safe and every single detail has been taken into consideration. It is an indispensable tool for professionals, parents and children or adults with ASD, easy to use and its impact on communication, learning and every daily activity is highly effective. It is a life changer!

Keywords: Behaviour, Communication, Learning

Poster Number : FRI01-90

Cognitive accessibility in autism: evidence for specific guidelines?

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Introduction

Cognitive accessibility involves removing barriers to inclusion caused by a mismatch between contextual demands and individuals' perceptual, attentional, memory, problem-solving, social skills and styles. Context needs to be adapted to respond to these skills and styles. For example, changes have been introduced in urban environments and transport through the use of pictograms or pictures. Texts are written in an Easy-to-Read style. Usability of web pages is increased by adapting formal aspects and content.

There are specific guidelines and recommendations for the adaptation of physical contexts and of written materials. However, many of these recommendations have originated in the field of intellectual disabilities and learning disorders and are non-specific to autism. Also, it is unclear if how much evidence supports their impact on the inclusion of persons with autism.

In our study we aimed to carry out a systematic review that: 1) Determined the specificity of recommendations of cognitive accessibility for persons with autism, and 2) the level of empirical evidence which supports different recommendations.

Methods

A systematic research search was carried out in the main databases (ERIC, PsycInfo, PubMed, and Web of Science) using an all-fields search of terms such as "cognitive accessibility" (and re-

lated topics such as Easy-to-Read), with no date or document-type limitation. Documents were screened on title and abstract for relationship with autism and empirical testing of effects.

Results

Only isolated studies were found which provided empirical evidence for cognitive accessibility guidelines. They were not usually specifically aimed at people with autism.

Discussion

It is very important to continue in the development of research that proves that the adaptations that are being made serve to facilitate cognitive adaptations for inclusion, specifically for people with autism.

Keywords: Adapting

Poster Number : FRI01-91

Living with Intolerance of uncertainty: experiences from families of autistic children

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Introduction

Anxiety is common in autistic children. One key mechanism underlying anxiety is intolerance of uncertainty (IU), which is a tendency to react negatively on an emotional, cognitive, and behavioural level to uncertain situations. Previous research has indicated that autistic people may be particularly vulnerable to experiencing IU and that there may be important interactions between IU and autism related characteristics. We aimed to explore the types of uncertain situations that cause difficulties for autistic children and how IU impacts on the daily lives of autistic children and their families.

Methods

60 families were recruited to the study through clinical services in the North East of England. The children were aged 6 – 16 years, had a diagnosis of ASD, and were experiencing anxiety. Parents completed a semi-structured interview during which they identified two everyday uncertain situations that were challenging for their autistic child: the first was a situation that their child would like to participate in that was difficult for them due to uncertainty, and the second was a situation that was a necessary part of everyday life that their child struggled to engage with due to uncertainty. Parents were asked to report on their child's reactions to these situations,

the intensity and duration of their responses and the impact on the child and the wider family unit. The data were analysed thematically.

Results

Parents identified a range of contexts in which their child experienced IU, including situations where there is potential for exposure to aversive sensory stimuli, challenging social communication contexts, changes to routines, and performance related uncertainty.

Discussion

Parents were able to identify a range of everyday situations which are characterised by uncertainty that interfere significantly with child and family functioning. Both autism-related characteristics and experiences (e.g., sensory hypersensitivity, social communication difficulties, rigidity) and IU were identified as important in these everyday situations, and were found to interact to increase anxiety. . These data provide further support for the importance of considering the interplay between IU and autism-related characteristics in the development of interventions to tackle anxiety for autistic people.

Poster Number : FRI02-01

Evaluation of the effectiveness of the serious game JeStiMule for the improvement of social cognition in adults with autistic spectrum disorders

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Introduction

Numerous studies suggest a deficiency regarding social cognition in patients with ASD, especially in the recognition of negative emotions. The serious game «JeStiMule» developed by the Resources Center of Autism in Nice, was created to teach emotion recognition in context, and has been able to demonstrate its effectiveness in children with ASD. The goal of this study was to determine, in adults with ASD who have social cognition deficiency, whether the practice of Jestimule improves their recognition of emotions more than a classic video game.

Methods

A randomized prospective biomedical study was designed with a control group of 30 subjects with ASD, and a blind evaluation. The primary outcome was the recognition of emotions with the FEEST of Ekman. The secondary outcomes: the other components of social cognition, adaptation to everyday life, and emotional vocabulary were assessed before and after the game sessions, to measure improvement.

Results

Recognition of fear showed significant results. Regarding the secondary outcomes, the improvement of intentionality in the control group suggests an impact of the so-called classic game on the intentional logic and the central coherence. The qualitative results suggest an impact of any innovative management on the social cognition of the subjects.

Discussion

These results are consistent with current literature and confirm the need to offer remediation tools with innovative technology to young people with ASD, enabling them to overcome the difficulties encountered in dual relationships.

Keywords: Adult, Complex Autism, New Technologies

Poster Number : FRI02-02

Internet-delivered psychoeducational intervention for youths with ASD

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Introduction

The recommended support for youths with ASD include interventions to facilitate coping with life challenges and improving social skills, as well as treatment of psychiatric comorbidity. Psychoeducation has been recommended as a first-line post diagnostic intervention in national guidelines. Only a few previous studies have described psychoeducational interventions for ASD. Promisingly,

these studies have shown preliminary positive effects. The aim of the open feasibility study was to evaluate feasibility, treatment credibility and satisfaction, as well as preliminary efficacy of an internet-based psychoeducational intervention for youths with ASD, named SCOPE.

Methods

The internet-based psychoeducational intervention, consisting of eight ASD themed modules, was developed in cooperation with youths with ASD. The intervention includes weekly contact with an experienced clinician via an online message-function. The youths (16 – 25 years of age, n=28) completed self-rating scales measuring knowledge about ASD, mental well-being, as well as acceptance of their diagnosis and quality of life. Feasibility was evaluated by compliance, satisfaction and a rating scale for treatment credibility.

Results

Treatment feasibility was good in the clinical context: 79% of the participants completed at least 6 out of 8 modules in the program. Treatment credibility was good and increased significantly. Participants' knowledge about ASD also increased significantly, and the increase in knowledge was not associated with negative effects on psychological well-being. Three-month follow-up showed that the participants had retained their knowledge.

Discussion

An aim of the intervention was to inform and educate older adolescents and young adults with ASD about different aspects of ASD – common difficulties and impairments as well as strengths, so as to enable empowerment through psychoeducation. In the current study, knowledge about ASD significantly increased, without negative effects regarding psychological well-being. These results indicate that, similarly to a previous study on the effects of psychoeducation on children with ASD and their parents, this type of intervention can help to improve knowledge about ASD without adverse side effects. Internet-delivered psychoeducation is a promising, new treatment method for youths with ASD. An ongoing randomized controlled trial (so far n=90) will generate further evidence concerning the SCOPE intervention.

Keywords: Alternative Communications, New Technologies, Transitions

Poster Number :FRI02-03

EMOFACE: an educational video game for learning emotions and training social skills

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Introduction

This project proposes a novel approach towards training social skills for persons on the Autistic Spectrum Disorder. We refer specifically to difficulties in: recognizing emotions, producing emotions and understanding social situations. We propose an educational game for iPad which uses expressive and interactive 3D avatars. This ongoing study is based on our previous work on the generation the audio-visual prosody for a given emotion and sentence. Our tests have shown that the method is efficient in producing expressive animations for complex emotions such as: seduction, irony or embarrassment.

Methods

We use this technology to illustrate social situations in 3D animations. The idea is to contextualise an emotion by immersing the user in everyday life situations which are played by 3D avatars (for example: job interview, asking somebody out, etc.). The game is characterized by two phases: (1) Learning phase: learning to associate facial expressions, gestures and intonations with an emotion or a social situation and (2) Training phase: participating in games in which the user would recognize emotions in a given social situation. We are currently testing the interface and conceiving the content for the social situations to be illustrated in the game. We have carried pre-tests with the help of 20 diagnosed

children (ages 6 to 14) and 5 adults (ages between 20 and 50). The content is co-designed with the help of diagnosed persons, parents and specialized researchers and medical professionals (psychologists, neuropsychologists and speech practitioners). We envision carrying a scientific validation of a version of the game for children using a control group and 20 diagnosed children aged 6 to 14.

Results

Specialists in structures such as hospitals, schools and associations have tested a prototype of the game during their interventions. Their observations state that the game is an effective tool in helping express basic emotions and identifying the facial expressions produced by avatars. Playing the game have also proved to be a preferred reinforcement during interventions.

Discussion

This project is aimed at creating a digital tool for learning emotions and improving social skills, which is adapted for people on the Autistic Spectrum. The technology used for content creation makes this tool versatile and useful for medical practitioners also. Future work includes introducing more social situations and conducting a scientific evaluation of the results of game usage.

Keywords: Education, Emotional Life, New Technologies

Poster Number : FRI02-04

Effect of digital tablets based practices on emotion recognition and social skills in ASD children and teenager : a pilot study conducted in classrooms

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Introduction

Technologies are constantly present in our daily lives. Some of them aim to increase the comfort of society, others aim to increase the potential of everyone by allowing them to act more effectively on their environment. Following the recent implementation of these tools within schools, we see new ways of teaching, not based essentially on a modification of content, but on new modalities, new pedagogical practices to transmit more efficiently information to students. And if these new technologies could bring benefits to students with Autism Spectrum Disorder (ASD), especially in their social skills development?

Methods

Forty-four children and adolescents with low-functioning ASD aged between 6 and 14 years old participated in this pilot study. These participants were followed by educational teams from specialized schools who benefited digital tablets into their practices. We conducted a pre- and post-intervention assessment of emotional recognition and social skills over a one-year period. We compare their performances with Bayesian statistical methods with new students arrived in classrooms at the end of the project. Individual interviews and focus-groups were set up to collect from teachers

their options, practices, drags and levers related to the implementation of these technologies within the classes. A content analysis was performed on these data.

Results

The results show that students who have benefited from tablets perform better in recognition of emotions and social skills than newcomers. In their students, teachers report greater spontaneity in communicating, improved understanding of language and emotions, and easier learning of social codes. In addition, they note an increase in interactions between their students. The motivation to use tablets in class seems to be an important lever during learning.

Discussion

The use of digital tablets offers a multiplicity of pedagogical methods which are promising in social skills and emotions learning. We will discuss on the one hand the pedagogical practices used by the teachers, and others by the drags and levers related to their uses as reported by the teachers. Finally, we will discuss how these tablets can be incorporated in an inclusive perspective.

Keywords: Education, New Technologies, Social

Poster Number : FRI02-05

Design for all? A new sensory design approach for people with Autism Spectrum Disorders

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Introduction

«Many studies have shown the impact of the environment on people's quality of life. People with ASD are particularly sensible to the environment, because of their ipo- or iper-reactivity to sensory stimulations. The world in which we live in could be overstimulating, confusing and stressful for them. "nihil est in intellectu quod prius non fuerit in sensu": everything we know about the world starts from the senses. The sensory disorders or alterations could

influence also the comprehension and the development of abilities during the entire life. The famous sentence by Dr Lorna Wing "once you've met one person with autism

Methods

you've met one person with autism" well expresses the strong variety inside the wide spectrum. Does the sentence "design for all" make sense for people with ASD? This research aims at develo-

ping a new design tool that takes into account people's sensory preferences, but make professionals able to design public spaces "for all", thanks to assistive technologies. This tool would be experimented in healthcare environment, that represents also one of the biggest challenges in case of ASD. «

Results

The research has been lead in different phases: international literature review, questionnaires and interviews to people with ASD and their families, focus group with professionals, analysis of some international case studies, definition of requirements for a new analysis and design tool, definition of "sensory design" as a new technology to make the environment flexible and customisable,

experimental case study: a sensory waiting room in Emergency Department, evaluation.

Discussion

The use of assistive technologies supports the flexibility of the space. The first results present the capacity of the environment to adapt to different people. In the emergency department the sensory waiting room is used also to make victims of violence feeling secure and confident and to manage health professionals' burnout. It represents an autism-friendly facility, but also a secure space "for all".

Keywords: Adapting, Environment, New Technologies

Poster Number : FRI02-06

Screening for autism spectrum condition (ASC) with digital technologies: an overview of methodological difficulties

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Introduction

Various digital technologies have been experimented with to enhance early detection of ASC. We focus on the methodological difficulties which may underlie the fact that none of them has become part of daily practice. We present (1) key findings from a research and development project aimed at developing a multimodal, social serious game based digital system for screening for high functioning cases of ASC at kindergarten age, and discuss methodological difficulties (2) in adapting technology and research methodology, and (3) in recruitment, due to the characteristics of the target group.

Methods

Results and methodological conclusions are reported from a series of studies with the first prototype of the game. We collected data from typically developing children and children with ASC (n=10/10 and 13/13 in subsequent studies). The following data types were recorded: emotional facial expressions (classified by both automated and human analysis), overt actions (mouse clicks) and visual scanning behaviours. Foci of analysis were user experiences with the game, data quality, group comparisons and test-retest reliability. Methodological challenges were collected and analysed in the process of the empirical studies, via expert group discussions.

Results

(1) Data quality is sub-optimal but still allows meaningful conclu-

sions, machine coding of facial expressions is highly, but not totally reliable, human coding was highly unreliable, we found some promising ASC/NT differences in emotions shown during the game. (2) (i) Very few studies have explored the specific emotional facial expression characteristics in ASC by using automated recognition technologies, and these come from other age groups. (ii) Synchronisation of data is a crucial element of the analysis. (iii) Unexpected artefacts may hamper machine-coded emotion analysis. (iv) There is a positive relationship between the quality of machine-coded emotion data and eye-tracking data. Head movements seem to impair data quality. (3) Assembling the control sample was difficult as we repeatedly encountered at-risk children in the process of selection.

Discussion

Our findings show encouraging directions to implement and validate game-based multimodal systems for screening for ASC and can help planning similar projects with particular attention to key methodological issues.

Keywords: Adapting, Assessment, New Technologies

Poster Number : FRI02-07

PEGASE: a telemedicine programme for autism

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Introduction

We present a telemedicine programme, created in 2013 by an association for its MAS located in the center of France. In 2013, the MAS which houses 24 residents with autism might have lost its accreditation because it couldn't hire neurologists and psychiatrists in the area. For this reason the managing association decided to devise an experimental telemedicine programme. It aimed at organising high standard consultations with an important university hospital and its autism unit, through the recently created regional telemedicine platform. This is how the institution was able to achieve full compliance and look after its residents without having to move them which is costly, stressful and difficult to organize for a small unit. It also gave the hospital department the opportunity to train the MAS' staff and accompany autistic adults.

Methods

- Looking for sponsorship for the equipment and telemedicine expertise.- Writing down the project after a needs and feasibility analysis.- Convincing the the hospital administrative departments and the "ARS" (Regional Health Agency).
- Standardization of the residents' health transmission data, nurses' training in the use of the telemedicine platform with numerous technical tests and cases studies.- Signature of two agreements with the hospital for tele-expertise sessions, tele-assistance and tele-consultations. - Organization of a steering

committee to validate the programme and presentation of a story-telling report of the full experiment to make it widely known.

Results

This programme has made it possible for all the residents to be known and followed by the regional expert unit for autism and has secured the MAS through the acquisition of new skills in the nursing profession. The the final results of the acts via the platform from the beginning are:3 training sessions, 14 tele-consultations in neuro and 17 tele-assistance and expertise in psychiatry. Our main concern was not so much the quantity but the quality of the care – and without this successful experiment, the MAS' future would have been endangered .

Discussion

In a second phase, this programme will enable opening up to other specialties, other hospital centres or city medicine, and anticipate autistic people's aging either in institutions or at home.It is also a very interesting communication tool for cases studies, and inter-institutions training. A 3mn film has been directed to present the telemedicine programme, the MAS, and all its users.

Keywords: Care, New Technologies, Training

Poster Number : FRI02-08

Assistive technologies to increase the employment of adults with Autism Spectrum Disorder (ASD)

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Introduction

Employment is a major issue for adults with ASD in the world. In France, 95% of adults with autism are unemployed. Most of them face difficulties that are barriers to recruitment : communication, tasks sequencing, imitation, social interactions...

The WHO global plan 2014-2021 enhanced that assistive technologies are an opportunity for people with autism to face those

difficulties and access employment, even for severe non-verbal autistic people. Dedicated customizable software can provide assistance and help develop skills.

Methods

For one year, 30 adults with ASD have used tablets to develop professional skills in 5 different activity sectors to: • remind and prepare their work schedule• give assistance

to perform the steps required to complete a task with audio-visual sequences• show the passing time with timers• practice social skills with social quizz• communicateContents (videos, timers, sequences, colors, texts, quizz) were customized to fit the needs of each individual and their working environment.

Results

At first, the project in itself required to dedicate extra resources to train carers and workers, and time to customize the tools. After one year, tablets became a daily assistive tool for workers. According to statistics, carers and workers with autism have created and use 350 sequences. Carers and workers feedbacks mention that tablets are intuitive, customizable and non-stigmatizing tools that they are all pleased to use. The worker can repeat the order and replay videos as often as needed. Tablets helped to implement customized visual aids and schedules as recommended by the High Authority of Health, what was impossible to do previously because

of a lack of skills and time. Some of the workers were quickly able to create their own sequences, and set up a system of peer counseling. Data collected give feedback to the employer to help him adjust the monitoring and evaluate the tasks.

Discussion

The results converges with the recommendations of the WHO and similar studies as it highlights how assistive technologies can be a lever to empower autistic persons throughout their employment lifecycle - from training to a continuous process of skills development - in sheltered, supported or competitive employment. This calls for a socio-economic study to measure the potential impact of assistive technologies on autistic persons employability and the potential cost reduction of the current social and health care system.

Keywords: Employment, Empowerment, New Technologies

Poster Number : FRI02-09

COMET - model of online communication in the therapeutic team of children with developmental disorders - a pilot study

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Introduction

The efficiency of the therapeutic team is today recognized as an essential tool in building an effective and patient-centered mental health system. The quality of communication is essential for building such teams. The same is the quality of information provided to patients and their families. Numerous studies have documented the existence of significant communication barriers between health care providers and people with developmental disorders and their families. The objective of this study is to develop and implement a model of online multimedial communication of the therapeutic team members in the intervention specific to children with autism and to investigate the effect that the use of online therapeutic journals has on the perception of parents and therapists about information, intervention techniques learned / taught and relationship skills with the child.

Methods

We performed a prospective, observational clinical study using a pre-post and post-intervention design with repeated measurements. 44 participants, 33 parents and 11 therapists were enrolled in the study. They have formed 33 teams that tested for 3 months online multimedia journals designed in accordance with the proposed model. The logs were created by the coordinator and personalized for each service beneficiary. The participants were instructed to use daily this communication model with all the avail-

able functions.

Results

Specific modalities were applied to the descriptive statistics, calculating the mean scores for each item analyzed, and group comparison techniques were applied, namely t tests for pair samples. The results suggest that the use of online communication journals in the therapeutic team indeed has a positive effect on communication. Participants consider the use of online journals as being accessible, the transfer of information in the therapeutic team was improved, group members report increased learning and increased capacity to implement specific therapeutic techniques. In the therapists group there are significant pre and post-test differences in the ability to relate to the child.

Discussion

There is now an unprecedented global effort to speed up the adoption of technology in the health system and revolutionize innovation. The study contributes to enriching the literature by proposing and testing an accessible, free and flexible online communication model, as well as obtaining statistically significant data with great practical relevance.

Keywords: Communication, Complex Autism, New Technologies

Poster Number : FRI02-10

Can a flower robot (Daisy Robot) be the social mediator that motivates children with ASD to participate and fulfill collaborative games?

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Introduction

ASD is a neurodevelopmental condition characterized by stereotyped repetitive activities and interests, and significant impairment in communication skills, which affect the socialization of children and their interaction with others. Children with ASD may express the disorder in a mild or a severe form, they tend to respond to sensory stimuli impulsively and have a strange interaction with objects and adhesion to them. They tend to feel annoyed by proximity. Every new social interaction may cause them anxiety, so they withdraw and they engage in familiar activities that help them distress. Due to those characteristics participation in collaborative game activities becomes rather challenging. In an attempt to motivate children with ASD to participate in game activities, and help them obtain the social skills needed to fulfill them, Daisy Robot was utilized, a flower robotic partner, to mediate interactions among children with ASD and typical development children. In those interventions were incorporated board and digital games.

Methods

The designed interventions took place in Greek public schools. Twelve children participated. Specifically, six children with ASD that teamed up with six classmates of typical development. The interventions lasted for approximately 10 sessions for every team

and were fulfilled in five discrete steps. Children's with ASD skill of a) reciprocity, b) turn-taking and c) compliance with the rules, were evaluated prior to and after the interventions. An observation scale was developed and rated according to a Likert Scale 1-5.

Results

Wilcoxon Signed Ranked test was utilized for the data analysis. Statistically significant results were reported, in the three items that were evaluated. The interventions, as expected, responded to the heterogeneous of ASD, as all six children managed to fulfill the games. Also, all six children of typical development were engaged willingly in those joint actions.

Discussion

The importance of the study lays on the significance that social skills development has, for children with ASD. Previous researches showed similar results but is the first time that a flower robot was utilized, in activities that combine both digital and board games. More research needs to be done, for the maintenance and generalization of the obtained skills to be ascertained.

Keywords: Education, Robot, Social

Poster Number : FRI02-11

Using visual communication in hospital: the experience of doctors, nurses and families

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Introduction

The reception of people with an autism spectrum condition in hospitals, in many cases constitutes a problem for both the patient, as well as for the medical and nursing staff, who may face with bizarre behaviour and unexpected reactions.

Methods

In order to solve this critical situation, an app designed for the communication between people on the autism spectrum and medical and nursing staff was created. It consists in a step by step of the medical procedure that the person is going to undergo, in order to make him/her aware of the procedure, of the requests of the clinicians and of what he or she is expected to do in that situation. This app, called Vi.Co Hospital (Visual Communication in Hospital), was

created to be used by therapists and parents to prepare children or adults for the visit and by nurses and doctors when they need to reassure their patients about what they are going to do. The app was given to three hospitals and introduced in the daily work of a centre specialized in ASD that treat with many people in the spectrum and their families.

Results

After three years, we used a questionnaire to investigate the impressions of families and medical and nursing staff about the app in order to test its efficacy. The data were analysed in function of the characteristics of the person on the spectrum, the person who used the app (parent, therapist, nurse, doctor) and the situation in which the app was used (training, medical examination). We also asked information about what people do not like in the app and what they would change in order to improve the efficacy of the instrument. The app was especially used for training children

and adolescents to undergo a medical examination, in the case of procedures they have never had before, or when they had a previous bad experience with medical examinations. The app was less used by nurses or doctors in their usual practice.

Discussion

The app revealed to be useful for families and therapists who need to train their children to undergo different kinds of medical examinations, making these situations more understandable and easy to face. The use of this kind of technology has to be encouraged both during trainings and therapies and during medical examinations, with the aim of making health care nearer to people in the spectrum.

Keywords: Communication, General health, New Technologies

Poster Number : FRI02-12

Humanoid Robot, Milo, Teaches Students with Autism

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Introduction

Professionals are constantly seeking new, innovative ways to reach children with Autism. We began searching for a curriculum that assists us in better teaching our students on the Spectrum. With all of our knowledge of Autism in mind, RoboKind's humanoid robot, Milo, came across our radar. We investigated the curriculum to see how the new technology would meet the specific needs of our students on the Spectrum. We, as educators, shared a common vision with RoboKind and we began to embark on a journey with a piece of technology that would soon become a friend to our children.

Methods

Milo was implemented in SC, the USA at a school for children, ages 3-21, who have significant impairments in either intellectual or behavioral ability. Seventeen students received instruction with Milo for thirty-minute sessions, two to three times per week, in addition to receiving all other instructional, behavioral, and related services or therapies. Results were measured using an evaluation system consisting of the GARS-3 (Gilliam Autism Rating Scale, 3rd ed.) and progress on IEP (Individualized Education Plan) goals.

Results

Of the 17 students using Milo, 8 showed improvements on both the

4- and 6-score index on the GARS-3, comparing scores before and after implementation. Four students showed reductions specifically in the area of restrictive repetition. Review of the students' IEP data from teacher records showed that during the first nine-week quarter before students started using Milo, all 17 students showed minimal progress toward their IEP goals. However, after Milo was added into their schedule, students showed significant progress or mastery related to their social, communication, behavioral, and academic goals.

Discussion

Milo, one of the first humanoid robots in the world, has proved to be of great benefit to educators, therapists, parents, and most importantly students who have Autism. The specialized curriculum aimed to help improve joint attention, responding to and initiating conversation, taking turns, calming down, and many other necessary skills that people with Autism typically lack. Our study definitively proved that these proposed curriculum goals are, in fact, obtainable for students with Autism. Additionally, we found that Milo has capabilities to reach a diverse of population of exceptional learners. What would our "world of Autism" look like if more schools, families, people had access to Milo?

Keywords: Behaviour, Complex Autism, Intervention

Poster Number : FRI02-13

Visual Helper

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Introduction

Visual Helper is an application for smartphones and tablets to help children and adults on the autism-spectrum to better manage their daily lives. The main purpose of the application is to create so-called «instructions»: a series of pictures or symbols with a short text.

Methods

Using a mobile device, the user takes photographs of an everyday task (e.g. getting dressed, doing homework) and adds, if necessary, short comments to each picture, creating an «instruction». In addition to photographs, graphics or symbols can be added to help explain a certain task. Each instruction is saved and can later be used to help individuals to master everyday-life situations.

Results

Visual Helper has been created, and will continue to be developed further, in collaboration with an IT-company that trains and employs

people on the autism-spectrum. It is a non-profit project and the application is available free of charge. An important feature of future updates will be the connectivity of the mobile application to a website that offers users the possibility to upload and exchange «instructions».

Discussion

The developer of the application is convinced that smartphones and tablets will play an important role in helping to empower people on the autism-spectrum (as well as people with other handicaps) to manage their daily lives. The «Visual Helper» is easy to use and the «instructions» can be used in a variety of everyday life situations, such as personal hygiene, social interaction, communication, managing emergency situations, etc.

Keywords: Autonomy, Empowerment, Personalised Support

Poster Number : FRI02-14

A Serious game to work on facial expression production in ASD: JEMImE

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Introduction

Children with ASD showed impairment in producing facial expressions (FE) that are appropriate to the social context. In order to help them training social skills, many serious games were created, but none of them works on FE production in social context and offers them a feedback on their productions in real time.

Methods

In this context, we developed a prototype of the serious game JE-MImE, which contains 2 phases: the training phase and the 3D phase. The training phase allows the player to play 4 mini-games to learn how to produce happiness, anger and sadness. During the 3D phase, the player creates and controls its avatar into a 3D virtual environment with social situations that should be resolved by producing the correct FE he has previously worked on. The

player is guided in the game thanks to a feedback of his face and to gauges that help him to evaluate the quality of his/her production in real time. This feedback is made possible thanks to an algorithm of FE recognition integrated into the game. In this study, we evaluated the progression of children with respect to the quality of their FE as their satisfaction regarding the ergonomics, playability, visual aspect and motivation during the game.

Results

During the training phase, we didn't found any effect of age or gender, but we did found a significant effect of the targeted emotion ($p < 0.001$) and games ($p < 0.001$) on the quality of FE. During both phases, it was observed that 100% of the participants actively used the software feedbacks (color gauges and video feedback) in real time. Concerning playability, all the children (100%) found easy to

use the software overall. The majority of children (94%) appeared satisfied with the general use and appearance of the software.

Discussion

All the children were able to play and were very satisfied by their experience with the game. The integration of the algorithm of FE recognition is perfectly done and the feedback in real time allows the children to modify their FE to fit with the expectations of the

game. We should now integrate new scenarios into the game to work on several social situations and proposed a pilot study to evaluate the evolution of the children concerning their facial productions in context after playing JEMImE. We planned to integrate JEMImE on an online platform (Curapy) to facilitate the access to the game to a larger panel of children.

Keywords: Complex Autism, New Technologies

Poster Number : FRI02-15

Autism and Regulation of Hypersensitivity

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Introduction

The evaluation is based on the research of Prof. Dr. Stephen Porges, which has shown significant improvement in regulation of hypersensitivity as well as stress for children with ASD diagnose, using an earlier version of the Safe and Sound Protocol, this study evaluates the application of current SSP device with a group of people with ASD diagnose of different age and degree of symptoms.

Methods

The SSP applies computer altered vocal music (i.e., filtered music) designed to exaggerate the features of human prosody and to exercise the neural regulation of the middle ear muscles. By modulating the frequency band associated with human vocalizations the ascending pathways provide dynamically changing information that feedback on the descending pathways regulating the middle ear muscles. The clinical part of the study is organized in 4 blocks of client weeks, the first block starting in February 2018 and the final block in October 2018 in Hamburg and Berlin, Germany. Clients listened to the frequency-modulated music on 5 consecutive days (60 minutes each) and were accompanied by therapists trained for the SSP (light motivating and responding interactions). Evaluation sheets are used: BBC Sensory Scales with 50 questions on 4 sensory areas: acoustic, visual, tactile and swallowing/digestion. The assessments of 36 participating children and adults were made before the SSP week and after the 1 and 4 weeks as SSP was

used. The results have been analyzed with ANOVA.

Results

The evaluation of the results shows statistical significance regarding a changed hypersensitivity 4 weeks after the use of the SSP. The largest change concerns auditory hypersensitivity as a dependent variable on age, language ability and self-care. The influence of language ability is also statistically significant for the degree of sensitivity to auditory, visual, tactile and digestive stimuli.

Discussion

The SSP allows a new approach in the field of autism therapy. The relief of sensory hypersensitivity is a prerequisite for greater ability and willingness to communicate. Further studies could evaluate whether and to what extent the SSP also improves speech processing of autistic people by reducing hypersensitivity. Sensory stimulus processing at the level of the autonomic nervous system is a decisive factor for communication and the ability to communicate, which has not yet been thoroughly identified or taken into account in therapy.

Keywords: Communication, Intervention, New Technologies

Poster Number : FRI02-16

GESTIAC APP: Time and activity management

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Introduction

All of us are able to plan our daily routines, we know what and when are we going to do something in the future. This knowledge confers us the opportunity to organize and plan our life. People with ASD and others with similar problems, are unable or have serious difficulties in the development of this planning, which is supposed something easy for us. Consequently, ASD people need an effective system in order to make understandable the sequence of daily activities, the passage of time, and the projection of the future in short, medium or long term.

Methods

As a teacher, I have had the opportunity to participate in elaborating and developing technological tools for people with ASD in several projects with national and international entities, having obtained a national award for the Improvement of Educational Quality in 2009. Throughout more than twenty-five years as a professional I have used many technological tools, but none of them, not even the ones on the internet, could offer totally what I was looking for to help these collective. That situation stimulated me to design an App which responded to the needs of people with ASD. On World Autism Awareness Day of 2016 was launched in Google Play the App GESTIAC. GESTIAC is a free App for Android (soon in iOS) through which people with this type of difficulty are able to unders-

tand in an integrated and global both the activities and the time that elapses during the realization of them.

Results

The results have exceeded expectations since it was published more than two years ago, becoming a reference tool in the classroom. Its use allows students to have control of the environment, knowing what activities will be implemented and for how long. This knowledge of the organizational structuring confers them emotional stability and quality of life. Pleasantly these results are especially positive for those people with greater difficulties to understand an abstract concept such as time in an easy way, on a clear and intuitive screen that combines the sequence of activities and time visually in a single tool.

Discussion

Another of the advantages observed is that it can be used by the group or by the individual, adapting to the needs of each person, and its use can be implemented in any environment owing to the fact that it can be installed on mobile devices. The future forecast of this App would be its dissemination and free extension to all possible platforms so that people who need it can benefit from its use.

Keywords: Autonomy, New Technologies, Organisation

Poster Number : FRI02-17

The impact of digital technologies in support and interventions for children on the Autism Spectrum

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Introduction

There is little scientific data on the contribution of digital technology to language development of "low functioning" autistic children. We decided to conduct an action research in a medico-social institution over 24 months (2015-2017) with 20 children aged between 6 and 16 who are diagnosed with ASD. The purpose of this research was to evaluate the development of language and sensory motor skills of these 20 children using a personal digital tablet for every-

day learning and communication.

Methods

The functional assessments that we conducted at the beginning, middle and end of the research protocol include scales of development (PEP3 and VINELAND 2), language tests, as well as the non-verbal tasks of Wechsler Intelligence Scale. A digital tablet was given to each child as an individual support in interventions

and for communication. The selected Apps were uploaded by the educational team according to the specific needs of each child. The team as well as the parents had been trained in the use of digital.

Results

At the end of the 2 years protocol we could conclude that the digital tablet had a positive effect on language development and helped improve adaptive behaviors on a daily basis. These results support a positive correlation between progress in language and in adaptive behaviors in everyday life. The results are in favor of a beneficial and significant contribution of digital in the cognitive interventions for children with ASD. The proposal for digital workshops

based on 4 curriculums following a bottom-up model (phonology to pragmatics) allowed linguistic and developmental progress.

Discussion

The recommendations of good practice of the Authority of Health (HAS), the indispensable educational alliance with the parents led the institution to think over its offer of services: in the future it is about working the generalization of skills in the immediate living environment of children in order to promote daily family life and the relationship between parents and children. Digital challenges us again to ask what place we, institutions, want to occupy...

Keywords: Communication, Education, Personalised Support

Poster Number : FRI02-18

Feasibility study of a randomised controlled trial to investigate the effectiveness of using a humanoid robot to improve the social skills of children with an Autism Spectrum Disorder

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Introduction

There is evidence to suggest that robots are effective in improving the social communication skills of children with ASD. However, randomised controlled trials (RCTs) are lacking. This feasibility RCT examined whether it is possible to embed a social skills intervention using the Kaspar robot within a National Health Service (NHS) diagnostic clinic in England.

Methods

Children diagnosed with ASD within the previous year aged between 5-10 years took part. They received six therapy sessions targeting key social communication skills such as joint attention. Children were randomised to intervention using the robot and a therapist or with the therapist only. Measures of social skills alongside parental stress were assessed at three time points, using parent-reported questionnaires and video analysis. Qualitative interviews with parents, therapists and clinicians were undertaken to provide richness of experience in planning and engaging with support.

Results

The criteria for recruitment and data collection were met. Forty-five percent of those sent details of the study (42/94) agreed to take part. Of these, 38 were randomised and a further seven withdrew post-randomisation: an attrition rate of 26%. More than 80% of the questionnaires were completed. Some technical issues arose, which could be addressed in a full-scale study. Feedback from parents and staff was positive.

Discussion

The findings confirm the feasibility of a full-scale trial to determine whether Kaspar is an effective social skills intervention for children with ASD in an NHS setting. Coupled with a main trial, the research has important insights for service development in order to provide timely access to support.

Keywords: Childhood, Communication, Intervention

Poster Number : FRI02-19

Can we use digital (Kinetic) learning games to enhance language development in young autistic children?

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Introduction

We explored the benefits of using digital Kinetic camera games (Kinems), a movement-based learning gaming platform with the embedded monitoring and reporting system, giving more flexibility and agency to the participating teachers/therapists. These games, which offer natural user interaction modalities, seem to be very beneficial for this population because of the combination of physical activities with cognitive-training tasks. There is still an open research issue of how to integrate such games into schools and how to organize systematic evaluation studies for showing their added value. The research question asked whether these games would have an effect on speech and language and so be useful to early years autism schools. More specifically, we asked if it can have an impact on vocabulary development (receptive and expressive).

Methods

We followed a participatory paradigm where the research team included a practitioner- researcher who was teaching assistant in the class. With a single case design which measures multiple cases pre and post a 10 week intervention was carried out twice a week. A multiple baseline design has been employed; all children's receptive and expressive vocabulary (Reynell test) and autism severity (CARS) has been assessed before and after the intervention. Five boys aged between 4 and 6 were the participants with formal dia-

gnosis as Autism. Interviews with the teacher and other teaching assistants and staff gave a full picture for each child.

Results

Assessment at the end of the intervention showed improvements in their expressive and receptive vocabulary, as well as reduction of conduct problems, improved motivation and challenging behaviours. Gains were not limited only in game-play time, but they were transferable across many activities and interaction opportunities. Teachers were surprised as they noticed some generalization of the intervention effects such as more appropriate behaviours, more spoken words and more appropriate communication efforts from the children in all contexts.

Discussion

Results are very encouraging for teachers and games designers as such games can be further adapted for classroom. Goal setting and assessment have been issues that SEN schools had to grapple with and such games can be use as diagnostic as well as skill development tools. A follow up study is planned with the same children to establish long-term effects of the intervention.

Keywords: Development, Language, New Technologies

Poster Number : FRI02-20

The journey of Elisa, participated designed Serious Game for TEA sensitization in schools

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Introduction

For many years, our team has been involved in school awareness of Autism . These awareness actions have consisted of workshops and talks in which the characteristics of their classmates with Autism are explained to the students. In this project we wanted to explore the possibilities offered by videogames for educational purposes, serious games, in order to raise awareness among the

general population and the students of Secondary Education, in particular with Autism. This work involves the participatory design of a videogame framed within the Serious Games genre, which aim to raise awareness of the characteristics and needs of people with Autism to students of Secondary Education. The design process was carried out with the contribution, both in the script and graphic design, of young people with Autism, who have provided their per-

sonal experiences on living in education.

Methods

The Videogame is accompanied by five didactic units in which different content on social skills combined with the characteristics and difficulties of people with Autism is treated. The units have been designed with the collaboration of secondary school teachers and they collect the experience of the various workshops, that have been conducted in schools, about awareness on Autism by the service of outpatient care for people with Autism the Burgos Autism Association. Both the game and the teaching units have been tested in an educational centre with the recipient students of educational material designed. With this material, we provide an educational resource to schools in order to implement strategies Game Based Learning in class.

Results

With this work we have managed to involve a group of people with Autism, mostly young, in the conception and design of the video game. This has allowed the participants to reflect on themselves, their status as people with Autism and what they believe it is necessary to pass on to others about their personal characteristics and their needs to achieve adequate social inclusion.

Discussion

A project like the one that we present needs a long period of time of implementation in the educational centers in order to arrive at sufficiently contrasted conclusions. We have been able to verify that the presentation of this educational material in videogame format initially supposes a greater attraction on the part of the students of the educational centers.

Poster Number : FRI02-21

Contribution of the humanoid robot “Nao”, in the care of children with ASD aged 3 to 6 - Experience of a CAMSP

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Introduction

The robot Nao (Aldebaran Robotics/Softbank Robotics) is a 58 cm tall, humanoid robot, able to perform movements, express emotions, listen and respond to simple instructions. For this purpose, it's fitted with colour-changing eyes, loudspeakers and numerous sensors. While its interest has been shown in the care of children with ASD, there are few descriptions of its use with children with ASD under 6. We have chosen to work on abilities to imitate movements, identify and express emotions.

Methods

In order to favor a triadic relation (child/adult/robot), one of two professionals interacts specifically with the child, while the second is assigned to the control of the robot. The sessions are filmed. We developed one observation table for the child's imitation abilities and another one for the abilities to identify and express emotions. These should allow us to evaluate the development of the child's skills while the robot is present. The introduction of the robot into the treatment process is conducted in 3 stages: - Familiarization: The robot is introduced to the child (simple movements and simple verbal productions of the robot) and the duration of exposure depends on these reactions: interest, indifference, fear.- Learning: the use of the robot is introduced in the continuity of a traditional

activity. The child is shown how the robot is able to reproduce movements or emotions.- Training : Child participation increases and diversifies. The child must imitate movements performed by the robot, identify, name, and imitate emotions displayed by the robot.

Results

We were able to observe that the use of the robot requires a significant preparation time before the session to manage the protocol that must be implemented. The experience confirms the importance of the involvement of 2 professionals. We also noticed a great variability in children's levels of interest in the robot. The familiarization period can therefore be extremely variable. We observed that the robot can be a powerful and immediate reinforcement for some children, but others may experience reactions of fear or mistrust, which may require several familiarization sessions for the child to gain confidence.

Discussion

A study must be carried out to evaluate whether the results obtained in the presence of the robot can be generalized in sessions without the robot and in everyday life.

Keywords: Childhood, New Technologies, Robot

Poster Number : FRI02-22

EHealth Intervention for Social Skills: Psychiatric Live Animation Intervention (PLAI)

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Introduction

Children with Autism Spectrum Disorder (ASD) show atypical patterns of social development, which causes difficulties with social interactions. Findings show that children with ASD are more interested in watching animated characters compared to humans. The eHealth intervention PLAI uses motion capture-technology, which makes it possible to convert human interaction into an animated character. The animated character is then streamed live to the child and a live recording of the child makes it possible to interact in real time. An intervention as PLAI will therefore potentially encourage the children to interact more and learn more social skills. The objective of the study is to create an intervention, that will make it possible for children with ASD to increase their social skills by encouraging them to interact more.

Methods

Approximately 20 children between the ages of 3-6 years with ASD according to the DSM-5 criteria will randomly be assigned to the intervention (PLAI) or Treatment as Usual (TAU). The children will be tested by Vineland Adaptive Behavior Scales (VAPS). All sessions will be coded using the Test Observation Form (TOF) and the Social Responsiveness Scale (SRS) will be filled out by parents. For qualitative data on the children's development in social skills, there will also be conducted interviews with parents and secondary

caretakers. The design of the intervention is based on the child's initiatives, interests, and ideas. The therapist wears an Animation suit, which conforms the therapist's movements into an animated character on the child's screen. The therapist uses a semi-structured system of different play routines to interact with the child as an animated character, inspired by Early Start Denver Model (ESDM).

Results

The PLAI intervention only has preliminary results available. There has not been found a significant effect on ASD symptomatology (SRS). However, the qualitative interviews describe a positive impact on the children and their ability to engage in social interaction, because the parents report improvement in social skills as social greetings gestures.

Discussion

The PLAI intervention have theoretical potential to encourage and support the development of social skills in children with ASD. Some qualitative results from the study already points in the direction of a significant positive development of social skills for children with ASD, but more data is necessary.

Keywords: New Technologies, Preschool, Social

Poster Number : FRI02-23

Design Your Life

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Introduction

Participatory design (PD) methods have been used to facilitate individuals with autism contributing to the design of assistive technologies. PD methods are traditionally applied within the context

of a particular technology development project, and the process is typically driven by designers or technology consultants. Through appropriate structuring of the PD sessions, the likelihood of developing feasible and accessible technologies that are relevant

to users' life worlds is increased. However, several challenges remain. Our previous studies showed, amongst other things, that there is still a gap between the 'participatory design' results in a design project and the (lack of) actual implementation of those results in regular health care practice.

Methods

We see a need for a practice of 'creative participatory innovation', in which the co-design process is not separate from (not preceding) the practice of daily care and support but forms an integral part of it. Our line of thought fits in a recent trend in which the design of a supporting product and its use by the person with a cognitive disability overlap (Brereton et al., 2015). This method is known as 'design in use' or 'design as infrastructure' (Bjogvinsson, Ehn & Hillgren, 2012). It is also in line with trends in the so-called 'maker culture' and the many 'fablabs', which enable creative citizens to conceive, make, use and adjust products themselves, without interference of commercial parties (Nascimento, & Pólvara, 2018). This does mean, however, that participatory design is no longer a process led by professional designers, but instead by healthcare professionals themselves, who in addition to their social compe-

tences must develop creative competences to explore technological possibilities with the client and implement innovations together (Francis et al, 2009).

Results

Based on our explorative studies we envision a new healthcare practice in which persons on the spectrum are supported by professionals using participatory methods to shape their own (technological) supportive environment. The process involves guidance in creating personal content and combining technological elements into a supportive structure that over time develops into an integrated part of the supportive environment in the broader sense. At the same time it reinforces the person-driven development process of the client.

Discussion

In our presentation, we will elaborate this vision into a practical methodology and evaluation approach.

Keywords: Empowerment, New Technologies, Personalised Support

Poster Number : FRI02-24

Enable- ASC: Enabling Collaboration in the Classroom with the Use of Touchscreen Devices with Young Children with Autism

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Introduction

Young children with autism have many talents and special interests among which can be their affinity with digital technologies (Porayska-Pomsta et al. 2012). Despite the increasing use of mobile tablets in schools, and the motivation of the children to use them, there is limited guidance and research on how teachers use touchscreen technologies in the classroom to support children with autism develop specific skills, such as social communication (Kagohara et al. 2013). Specifically, the literature about the impact of teacher training on developing social communication skills in class is scarce (Mangafa et al. 2016). This study explored the effectiveness of iPad teacher training on improving teachers' practice and interactive style and the child's behaviour and engagement in joint interactions.

Methods

An action research methodology was followed at a primary special school in England, UK. Video recordings and semi structured interviews were used to collect data. Video recordings of four children with autism aged 10-11 were conducted as they interacted with

iPads over a period of five weeks. Interviews with teachers were carried out to explore their experiences of teaching autistic children and using new technologies in their teaching. Teachers also participated in a training workshop to share experiences and learn about new ways of using touchscreen technologies in class.

Results

Children were more actively engaged in joint interactions when using iPads with their teachers than without the use of technology. During the training workshop, teachers mentioned that discussions about iPad use and autism strategies grew their confidence and helped them reflect on their practice. Following the workshop, teachers were found to adjust their communicative style (e.g. by allowing time for the child to respond), make changes to the environment (e.g. by minimising distractions) and use resources (e.g. by using symbols/pictures) to engage with young children while using the iPad.

Discussion

Teacher training on iPad use and autism specific teaching strate-

gies is an effective approach that can improve teachers' confidence in using mobile devices in the classroom in more collaborative and engaging ways. Future studies should incorporate the active involvement of school staff and investigate their personal experiences

in developing social communication skills in autistic children for the use of touchscreen technologies in real world settings.

Keywords: Communication, Education, New Technologies

Poster Number : FRI02-25

Social Imaging for Autism Research: Advances in Computational Behavioral Science

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Introduction

From the perspective as a computer vision researcher, Rehg (2011) recently proposed the importance of sensing and modeling techniques for understanding human behavior, a research area he referred to as "behavior imaging" in an analogy to such neuroimaging technologies as CT, MRI, and DTI (Filler, 2009). Recently, psychologists succeeded in measuring eye gaze in young children with Autism Spectrum Disorder (ASD) as derived from the personal viewpoint of cameras worn by their adult social partners (Edmunds et al., 2017). However, social behaviors include not only eye gaze, but also encompass physical contact, approaching, smile, and toy play behavior. Further, measuring the behavior of one person is insufficient to understand social interaction, and it is necessary to measure the behaviors of multiple individuals.

Methods

This presentation aims to highlight collaboration among psychologists and engineers in using social imaging technology for autism research. The goal of this multidisciplinary research team is to measure social interactions of children with ASD via the use of wearable/robotic devices, measuring such behaviors as body contact (Suzuki, Hachisu, & Iida, 2016), approaching others (Miura,

Isezaki, & Suzuki, 2013), turn taking (Nuñez, Matsuda, Hirokawa, Yamamoto & Suzuki, 2016), along with the facial expressions and ECG signals that accompany and follow these interactions (Funahashi, Gruebler, Aoki, Kadone, & Suzuki, 2014, Gruebler & Suzuki, 2014, Takahashi, Matsuda & Suzuki).

Results

Our series of studies revealed that 1) paired robotic devices facilitated social play behaviors (Matsuda et al., 2017) and turn taking (Nuñez et al., 2018) in children with ASD, 2) motion capture systems allowed us to construct a model of the interpersonal distance dynamics for children with ASD (Tsuji et al., 2018), and 3) visualization of gaze estimation results facilitated video coding of social attention for children with ASD (Higuchi et al., 2018).

Discussion

Such a series of studies provides a promising means of understanding social behaviors in children with ASD, and they also indicate potential new intervention strategies through the immediate reinforcement of social behavior based on computational measurement.

Keywords: New Technologies, Robot, Social

Poster Number : FRI02-26

Serious Game in Special Education

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Introduction

The inclusion of technologies in the classroom is becoming a popular practice in both mainstream and special education. The adapted learning features and the use of playful or fun resources make these technologies very attractive for students, increasing acceptance rates and ASD students are no exception. Accessibility, routines, methodologies and customization are key aspects in the decision making process to implement technologies in a special education school setting. In this paper we present the experience of including serious games in a special education school with students with special needs, Autism and other conditions.

Methods

The school teach students with cognitive disabilities and/or Autism Spectrum Disorders during the whole education process, from 6 to 21 years old and 55 students attend to our school daily. For the last 5 years IPADS had been incorporated as part of the class materials in three intervention blocks: 1. Augmentative and Alternative Communication. 2. Support to improve personal autonomy. 3. Resources for school learning. Serious games are part of resources for school learning and they are used in the development of instrumental abilities, cognitive competences as well as other academic abilities related to the curriculum. We cluster serious games in three categories: reading games, writing games and calculus games and

assess the suitability for each after implementation.

Results

We selected, assessed and implemented 3 games for reading, 3 games for writing and 3 games for calculus with good results from our students and classes. Students got high benefit from their interactive and multimedia capabilities as well as the motivational effect and ease of use. Suitability assessment was key regarding the special needs of each student. The support teacher was present, providing additional support and valuations to guarantee the comprehension and proper use of the resources

Discussion

Even in big schools settings, the implementation of serious games had good results. The student should be the main point of focus though. His objectives and needs should be defined in order to select the most appropriate games. Besides our experience in this paper, a systematic review of different the applications should be carried out, in order to extract the most common features as guidelines to design new serious games for special education students.

Keywords: Alternative Communications, Autonomy, Education

Poster Number : FRI02-27

Improving Access to Autism Diagnostic Services with Asynchronous Telehealth Technology

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Introduction

Early diagnosis of autism is a public health priority in order to provide a child with intervention options that may help overcome disabling behaviors later. Allowing families to access autism diagnostic services more quickly and conveniently, a research program was conducted to evaluate the convenience and time-saving advantages provided by the smartphone-based NODA telehealth assessment service. Findings of this study will be presented.

Methods

Three autism centers serving various urban and rural regions of the United States recruited families from surrounding communities

seeking autism evaluations for their children. Based on random assignment after informed consent, a child was evaluated using either the traditional In-person Assessment (IPA) method or using the telehealth-based NODA assessment tool. A total of 57 families were included in this study, of which 11 were from rural communities. Families provided social validity data immediately after the assessment period and 3-months after receiving a diagnostic report.

Results

The average time required to obtain an autism diagnosis using the In-person Assessment (IPA) method was 118 days. Using the NODA telehealth method, 59 days were required. The difference

between the two methods was more pronounced for rural families. Regarding the family social validity associated with the two assessment methods, no significant difference between the NODA telehealth program and the IPA method was experienced, although NODA did experience a higher drop-out rate.

Discussion

The ability of the NODA telehealth system to greatly accelerate an autism assessment provides both the users (caregivers) and the providers (clinicians) with new benefits. While the normal wait-time

associated for an in-person assessment (IPA) can be 6 to 9 months in the United States, families using the telehealth system are now able to obtain an evaluation much earlier. In addition, the ability by clinicians to review their patients' recordings multiple times can improve diagnostic consensus. The benefits of telehealth documented in this study confirm the value of remote autism diagnostic services.

Keywords: Childhood, Diagnostic, New Technologies

Poster Number : FRI02-28

EHealth Interventions for Children with Autism Spectrum Disorders: Much needed, Cost-effective and Comfortable

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Introduction

There is no gold standard for intervention or social training for children with Autism Spectrum Disorders (ASD) in Scandinavia. As persons on the Autism Spectrum are treated differently, and there is currently no intervention available for young children with ASD in Denmark, a cost-effective intervention accommodating the children's individual interests and needs is in demand. eHealth interventions have been providing promising results and cost-effectiveness in treatment of various physical and mental health problems. Young children with ASD often show interest in animated characters, and experience discomfort or lack of interest in facing social interaction with an unfamiliar person. In the present project, motion-capture technology allows for child and therapist to have direct, real-time interaction. However, the therapist appears as an animated character on the child's tablet screen, enabling the children and their families to stay in a familiar and predictable setting, thereby accommodating the special demands and interests mentioned above.

Methods

Until now, two boys diagnosed with ASD, aged 4 and 5 have received 8 weeks of intervention, utilizing a semi-structured play routine (inspired by ESDM and ABA) in the setting of the eHealth-system. The children's problem behavior is assessed with the Test Observation Form (TOF) and the Vineland Adaptive Behavior Scales (VABS) are used to assess their adaptive behavior. ASD symptoms are appraised with the Social Responsiveness Scale

(SRS-2), and qualitative data about the intervention and its appeal are collected from the parents.

Results

The technology works as expected. Both of the children improved significantly on problem behavior (TOF) and adaptive behavior (VABS), however not on ASD symptomatology (SRS-2). The parents were overwhelmingly positive, especially with regards to the settings and structure under which the intervention was carried out, and the appeal to the children.

Discussion

Appearing to be effective, appealing and practical, this project opens for a lot of different research directions. How will the intervention do if performed over a longer time-period, which components of the play routine improve which outcomes, what possible weaknesses can be identified in this intervention approach, and finally, should this be investigated as a major intervention form in ASD intervention? Further recruitment and intervention has been initiated to attempt answering these questions.

Keywords: New Technologies, Preschool, Social

Poster Number : FRI02-29

Prevention of online risks: a tailor-made tool for children with ASD

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Introduction

Our organization is as an awareness centre and helpline for children using Internet and who may struggle with some of its risks. We noticed a significant increase in the number of cases linked to the usage Internet by children with Autism Spectrum Disorder (ASD) and in the requests for prevention tools adapted to their needs. Children with ASD receive poor attention in the development of prevention material even if they may be the ones who most need it. This resulted in an online platform tailor-made for children with ASD helping them to have a safe usage of Internet. This may be used in schools and accompanying centres for children with special needs.

Methods

In order to develop this online-tool we needed a graphic and web-development partner who paid special attention to the visual aspect and the navigation through the platform. This meant research on which colours to use, the shapes of the icons as well as where would the user find help at every stages of the activities. As specialist for online risks and content writers we had to pay particular attention to the phrasing of the activities. At each step of the creation of this tool we invited specialists and carers of children with ASD in order for them to validated the content and the aspect of the tool. Their participation was essential to be sure to address the needs of the targeted public. At the moment of submission of

this abstract the tool has just been finished and the evaluation of the impact must still be conducted.

Results

Four main topics have been selected in accordance with our ASD specialists: Safety, Trust, Friendship and Respect. On these topics we address how to, e.g., set one's own privacy settings on social media, recognize Fake News, deal with online "friendship" and behave when interacting with others. Pedagogical documentation is always available for each activity in order for teachers to go further on the subject.

Discussion

The development of such a tool aims at giving to children with ASD the skills needed to surf safe online. It was necessary because if this group is vulnerable offline, it definitively also is online where everybody can pretend to be someone else. It has been developed to be easily adapted in a smartphone application for a broader usage and could effortlessly be localised in other countries with slight adaption to the help centres to which it refers. Disclosure : this is co-founded by the european commission and inspired on the STAR Toolkit by Childnet.

Keywords: New Technologies, Social, Teenage

Poster Number : FRI02-30

Diagnosis of autism spectrum disorder by an avatar

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Introduction

The diagnostic criteria for Autism Spectrum Disorders (ASD) include impairment in the use of non-verbal behaviors such as facial expressions. ASD children shown a total lack of facial expressions, suggesting that expressive abnormalities could constitute a prevalent and discriminating feature of ASD. Studies recording facial electromyography (invasive conditions) revealed that individuals with ASD exhibited atypical facial muscles activity.

Methods

We would like to propose a new non-invasive system based on an avatar running on a tablet in order to recognize facial expressions. These devices are low cost and they give the researchers the possibility to explore the psychophysical state of the users in the field of medical diagnosis and rehabilitation. The system proposed consists of: 1. a Samsung Galaxy Tab A Android OS tablet, 2. an avatar (running through an app installed on the tablet) specifically developed to interact with ASD people which performs 4 basic

emotions (anger, fear, happiness, and sadness),³. a workstation to process the video streaming which comes from the camera of the tablet,⁴. a medical program. The medical program consists of two phases: first of all, the avatar performs facial expressions and then it asks the child to imitate the expression (5 times for each expression) in order to evaluate his/her facial expression imitation capability. The traditional method delegates to a therapist the evaluation of the children's imitation.

Results

The introduction of machine learning techniques can relieve the therapist of the subjective evaluation assessing information about the rehabilitation progress or diagnosis with objective measurements. The preliminary experiments were carried out with the involvement of 3 children with ASD (high functioning autism). The

system was able to successfully complete the protocol for all the children. In particular 28 interactions were successfully completed with the imitation by the children (10 happiness, 7 sadness, 6 anger and 5 fear) and correctly recognized by the system. Instead, the imitation completely failed for 30 interactions.

Discussion

All participants imitate the happiness face, whereas difficulties are reported with other emotions. In the failed imitation, children did not put in place the imitation. Two interactions have to be deeply analyzed since in those cases the Facial Expression Recognition engine did not work. In the next few months, we will test the system with a more large number of children.

Keywords: Childhood, Diagnostic, New Technologies

Poster Number : FRI02-31

Your own voice, the assets of speech-generating devices for autistic children

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Introduction

Language input from communication partners has been shown to support language development in all children including those with autism. Many individuals on the autism spectrum can benefit from use of AAC as a means of supplementing their speech from an early age. These AAC devices offer an additional benefit in providing further modeling of language. However, the voice output of some high-tech devices is limited to one voice with limited characteristics. This impacts the ability of the user to distinguish his voice from others and to modify that voice based on the environment.

Methods

Review of the current research and implications for AAC devices for autistic people.

Results

Most recent research works (Kazari et al., 2014) confirm that speech-generating devices help autistic children in acquiring spoken language. We will thus study the characteristics of the synthesized voices regarding how well they adapt to personal characteristics, how easy they are to set up, and how lifelike the speech-generation is.

Discussion

As research shows, speech-generating devices can help autistic children develop language from when they are very young. We challenge AAC developers to include a greater variety of voices and features in software. Also, we encourage those making recommendations about AAC to consider these factors as well.

Keywords: Alternative Communications, Development, Language

Poster Number : FRI02-32

Li-AR. Leveraging new methodologies and technologies to improve communication skills in people with autism

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Introduction

Raising communication skills in people with ASD can improve the subject's everyday life. Methodologies based on AAC (Augmentative and alternative communication) are most widely used because of their effectiveness. Scientific studies have also demonstrated that there is a correlation between the use of AAC instruments and the reduction of dysfunctional behaviors such as self-injury.

Methods

We aimed to create a new generation of AAC system, with unique features focused in particular on autism: we designed our User Interface to give a clear, no-distracting experience, integrated Bluetooth Low Energy beacons in order to let the environment interact with the device, record every interaction with the instrument to generate real-time feedback for teachers, operators, and caregivers. The training phase is strictly coded into the application and is based on "i-Mand", a methodology built upon the Mand concept as formulated by B. F. Skinner. Teaching Mand can follow various paths, in particular, manipulating Motivation and teaching Verbal Behavior. Hardware and software have been tested on a group of

3 children, with ASD diagnosis, between the ages of 3 and 8.

Results

All the children were capable of learning the optimal use of the instrument, reaching acquisition criteria at 80% in each phase, with a mean of 57 trials. After the training, the number of functional requests grows by more than 80%. During the training, it was possible to observe an increase in interactions and a reduction of dysfunctional behaviors.

Discussion

Training people with ASD requires a specialized view of the spectrum. Our system and methodology have proven dedicated, smart tools can facilitate the training path and have a huge impact on the everyday life of our subjects.

Keywords: Alternative Communications, New Technologies, Training

Poster Number : FRI02-33

Impacts of digital tools on children with ASD caring: a 17 months follow-up study

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Introduction

Digital technology can now be seen as a real lever for social inclusion and autonomy. It represents an opportunity to compensate the daily disabilities of people with autism spectrum disorders and/or intellectual disabilities. Our study aimed to evaluate the impacts of using digital apps, with appropriate trainings for the carers, on the progression of ASD children towards their individualized development plan objectives.

Methods

Twenty six children, aged from 5 to 19, with ASD and intellectual

disability, were included in the study. Each beneficiary has used digital applications in individual session or independently in relation to the objectives defined by its referents. Professional carers were priorly trained in the use of the mobile apps and tablet. In addition, they were supported throughout the study. Interventions focused on hand-eye coordination, categorization, communication, time perception, sequencing, social skills and recognition of basic emotions. Children cognitive skills were assessed, based on qualitative and quantitative data, during 17 months using semi structured interviews, observations forms and scoring grids. "Usage" data was automatically sent from the apps to a cloud.

Results

In total, 624,6h were spent by children on the apps, with an average value of 1293.4 min (± 517.66 min). In the end of the 17 months intervention, data analysis showed that 86% of children made tangible progress towards their individualized objectives, regardless of the focused theme. The joint use of tablet and apps is perceived by 85.7% of professional carers as a relevant support and adapted to the field-known best practices.

Discussion

Children included to this study have progressed and acquired new skills, by using, inter alia, apps. There is a correlation between the recorded progression and the use of highly customizable user in-

terfaces down to the beneficiary context, perception and capacities, hence creating a motivational environment. Furthermore, this experimentation showed a real need to support professionals in integrating apps into their practices, since change management efforts are often underestimated. According to this pilot study, it would be interesting to carry out a controlled experiment on a larger scale by increasing the number of participants. With a better profiling of beneficiaries, progress axis and indicators could be improved. In addition, the implementation of intensive support methods for carers should be assessed.

Keywords: Autonomy, Inclusion, New Technologies

Poster Number : FRI02-34

Several autism and humanoid robot

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Introduction

We wanted to use humanoid robots to improve learning motivation and skills for people with severe autism and non verbal communication. The aim was to increase the social skills and the attention by using robot as a mediator. Adults and children we accompanied appreciated digital environments.

Methods

Firstly, the action was conducted with 29 children and 24 adults. The second step was implemented with 2 adults and 3 children. It will be widespread in the futur. First, we chose which robot would be used. We selected it among humanoid or non humanoid robots. (animal or others). Secondly, we introduced learning with the robot. The team was composed by a neuropsychologist, specialized teachers, a biomedical engineer and a psychiatrist. The direction was part of the team. The method followed was :- Identify bibliographic sources and experiments- Confront and familiarize the 53 autistic people with five robots (Cosmo, Cubeto, Paro, Alpha, Nao) during one year and observe the social interactions- Choose the relevant robots for the action, NAO was selected- Reprogram NAO (humanoid robot) according to a protocol from the teacher's course (translation of the classical course)- Identify issues related to robot programming by an educator- Set up a double learning, classical course and course with the robot-

Conduct the action during one year with 2 adults and 3 children in pairs with a specialized teacher (one session of one hour per week)- Adapt the programming of the robot by involving a young adult programmer with an Asperger syndrome- Identify the risks of the development of a unique patient-robot relationship- Make observations and evaluations

Results

For the first part of the experience 30% of the population shows a high interest for one robot. For the second part of the experience, with the observations with NAO, the most significant results are :Children and adults are better able to focus attention.Nao's mediation increases the motivation for learning. Nao gives comfort to children and adults when they have to focus on a task (positive answer to learning).Signs of being happy increases.The relation with therapist and other people is much better

Discussion

First results are very promising.This approach cannot replace non-digital learning support but increase its efficiency.Robots makes everything simplified.

Keywords: Autonomy

Poster Number : FRI02-35

Reaction to robots in social and non-social context - comparison of children with autism spectrum disorders and their typical peers

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Introduction

Creating effective support for children with autism spectrum disorder (ASD) through their interaction with robots is the focus of numerous studies in the field of social – assistive robotics. They are based on the premise that children with ASD show preference to electronic devices and have reduced interest for social aspects of their environment. However, very high interest for electronic devices of all children raises a question whether children with ASD really react differently to the presence of robots than their typical peers. The aim of this study was to compare reaction of children with ASD and typically developing children to robots in non – social (“robot – object” task where robot and other interesting object is present in the room) and social context (“robot – person” task where a robot and person are present).

Methods

Sample consisted of 20 preschool children, 10 in each group. The study was conducted at the Child Communication Research Lab in Zagreb. Upon entering the study room, spontaneous behavior of the child was observed for 100 seconds, which was later coded by video analysis.

Results

Results have shown that children with ASD show similar behaviour patterns as typical peers in non-social context. There were no differences between groups in mean length of duration of gaze directed to robot and duration of physical interactions with robot. However, differences were detected in the social aspect of that situation – typically developing children communicated more about the robot with their parents. In the social context (“robot – person” task) children with ASD have engaged in physical interaction with robots significantly less than their typical peers while the latter have directed their attention to the person more than children with ASD. Finally, both groups have directed their attention to the robot more than to the person, but children with ASD were engaged much less in the social aspects of both conditions.

Discussion

The results have shown that robots are very attractive for both children with ASD and typically developing children but also that there are significant differences between those two groups evident in the lack of social behaviours and directedness to other persons in children with ASD.

Poster Number : FRI02-37

VR and 360-degree video as support for daily needs of students with ASD

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Introduction

We present findings from an experiment aiming to support students with autism spectrum disorder (ASD) in daily actions and social situations by means of virtual reality (VR) and 360-degree videography.

Methods

Eleven students with ASD participated in the two-phase experiment. The first phase took place at a school unknown to the students. We shot instructional 360-degree videos about transitions in

the building and buying a drink from the cafe. The second phase was at each student's own school, where we shot 360-degree videos based on the wishes of teachers and special needs assistants. These included safe transitions to recess, visiting the school nurse or buying breakfast. In both phases students watched the videos using a head-mounted display (HMD) and then tried to follow the instructions in the real environment. Their actions were observed and videotaped. Teachers and special needs assistants were interviewed afterwards.

Results

The production of 360-degree video was fast and the immersion affected the students. The positive connection of immersive video with student behaviour was visible in students' confidence in their real-life actions and clear adherence to the video instructions. This observation was reinforced by the teachers and special needs assistants concerning each student's typical challenges in these situations. The benefit of VR for students with ASD was visible in their independent and spontaneous action, executive functions and interactions. VR seemed to be a safe way to rehearse everyday situations. Challenges with VR include possible dizziness and lighting issues. Safe and fluent use of VR is enabled by familiarity with the technology and professional experience of students with ASD.

Discussion

Previous research on VR and people with ASD shows that VR interventions promote life and social skills. VR provides a safe, personalized recreation of specific situations and places. 360-degree video is a form of VR that can effectively present a person's environment and the important people in it. In future research we will explore other VR and 360-degree video solutions. These include support for people with ASD in traffic, on public transport, anticipation of new people or surroundings and safe actions in emergencies such as fire alarms.

Keywords: New Technologies, Personalised Support, Quality of life

Poster Number : FRI02-38

Visual exploration and comprehension of a cartoon displayed slowly: an eye-tracking study in children with Autism Spectrum Disorder

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Introduction

The Temporo-Spatial Processing Disorders model of autism (Gepner and Féron, 2009, Gepner, 2014) states the difficulty to perceive and process fast and/or complex sound and visual stimuli in some people with ASD. Since interaction between partners occurs in real-time, these peculiarities of information processing can lead to limitations in verbal and non-verbal communication, and in social interaction. LogiralTM (Tardif & Gepner, 2012, 2014) is a dedicated software aimed at slowing down audio-visual stimuli to ease information processing in people with ASD. Using this software to slow down the speed of audio-visual stimuli, previous studies showed that performance of children with ASD improved in tasks evaluating comprehension of instructions (Tardif, Latzko, Arciszewski, & Gepner, 2017) and visual exploration of a face measured by eye-tracking (Tardif, Charrier, & Gepner 2017). Thus, the present study aimed to evaluate the visual exploration and comprehension of social scenes from a cartoon displayed slowly (using LogiralTM) in children with ASD.

Methods

We collected data from 34 children with ASD (mean age = 9.69

years, SD = 3.75). Each child randomly watched three sequences of the Inside Out© cartoon, at three speeds (real-time speed (RTS), 70% of RTS, and 50% of RTS). An eye-tracker recorded their eyes' movements during the movies (DV). To analyze their visual exploration, we identified areas of interest both on the character's face and body (social question) and on an object in the scene (context question). Moreover, each sequence ended with two questions of comprehension (social scene and context) in a same speed condition. Children could answer those questions by looking and/or pointing at pictures displayed on the screen (one good answer among three pictures).

Results

The results, which are currently under analysis, will be presented and discussed in relation to the literature. We expect that for all children with ASD: 1) the average number and duration of fixations on the character's face and body and on an object in the scene will be higher when videos are slowed down compared to real-time speed, and 2) scores for comprehension questions will be higher when videos are slowed down compared to real-time speed.

Discussion

The expected benefit would be to use Logiral™ as a new tool, integrated within the digital tools already available and daily used by professionals, families of children with ASD, and users themselves.

Keywords: Childhood, New Technologies, Social

Poster Number : FRI02-39

CESAR : Cognitive, Emotional & psychoSocial Avatar Reinforcement program. CESAR as co-therapist in Neurodevelopment Disorders-ASD & Emotional Dysregulation.

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Introduction

We wish to describe our clinical experience and the good results of the psychotherapeutic approach of CESAR program for children and adolescents with neurodevelopmental disorders (Autism Spectrum Disorder) through the prepositioning of general functioning levels, individual adjustment, group therapy, family support and the graphics support of stories (Individual Avatar).

Methods

It is an observational pilot study of therapy based on the project of individual care of six children between 5-6 years old. They have an ASD diagnosed by ADI-R, ADOS & CARST,(DSM-5 criteria) without a moderate to a greater deficit in cognitive ability. All of them participated in 12 sessions-one per week-(sometimes with their siblings and their two parents) of training programs with two therapists. Interventions were based on the positive reinforcement thanks to caricature characters representing each child and his family, emotional expressing, social skills and adapted behaviors. Social Skills Rating necessary for Interpersonal relations (EHSRI) was used to evaluate generalization with parents and Quantitative evaluation was carried out before the training program and the fee-

dback at the last session.

Results

-Our findings highlighted an increase in the total score of social and emotional skills following the training sessions. ADOS and CARST give better results in the objectivation of symptoms. -Children were more interactive between them, identifying each one with his avatar and more spontaneous with his partners. -CESARprogram is an excellent intervention in transdisciplinary teamwork with children an Autism Spectrum Disorder, specifically in stimulating social communicative development and using new technologies based on their avatar. -The results would have more scientific validity with an enlargement of the sample.

Discussion

CESAR program is an excellent co-therapist with different approaches and the positive results for patients, their families and psychoeducation process.

Keywords: Alternative Communications, Empowerment, New Technologies

Poster Number : FRI02-40

CESAR : Cognitive, Emotional & psychoSocial Avatar Reinforcement program. CESAR Social Challenges for People with autism inside and outside the world of Higher Education

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Introduction

Learn about the social Experiences of Adults with Autism who attend college. There were

Methods

A group of adults with autism were interviewed for the study. Qualitative data (interview) was collected for this study. An in depth analysis, cross case analysis was used to come to conclusions using the voices of individuals with autism spectrum disorders.

Results

1. Ongoing Challenges in and outside of classrooms for social interaction.2. Lack of knowledge among professors in higher education to make proper accommodations.3. Struggling to smoothly tran-

sition from college to work life.4. Ongoing issues with identifying proper care providers5. Transportation Issue during late hours to get to places especially to socialize.

Discussion

This study will help higher education professionals, high school professionals, parents and people with Autism Spectrum Disorders smoothly transition from high school to college, be successful in college and transition into the adult world. Several suggestions from both respondents in the study, professionals who run autism support programs, professionals and scholars will be discussed. Current and supporting literature will be highlighted. The stories will help participants connect with similar situations that they have experienced.

Poster Number : FRI02-41

Implementation of Evidence-Based Practice for Children with Autism Spectrum Disorders in Slovenian School Settings

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Introduction

Children with autism spectrum disorders (ASD) require additional support in education. Providing the right approach is crucial for their learning and development. Behavioural interventions (BI) driven on research-based methodology showed their effectiveness in improving adaptive behaviour, language, cognitive and social skills. Only a few researches have focused on the implementation of evidence-based practice into service delivery models within existing education systems. We provide a description of new developed Slovenian educational model of BI for special education teachers (model SI-VP), that has been implemented in three special schools with curricula for children with ASD and moderate intellectual disability for a period of six months. The goal is to evaluate whether implementation of SI-VP model in Slovenian

special schools impacts on most challenging behaviour of children with ASD.

Methods

To evaluate the efficiency of the SI-VP model for children with ASD and intellectual disability, descriptive assessments including the Behavior Problems Inventory (BPI-S, short version) and a direct observation were completed for four children (ages 9-10) with ASD and intellectual disability. The BPI-S was administered by four special education teachers in the ex-post impact-training phase. Challenging behavior (self-injurious, stereotyped and aggressive/destructive behavior) was assessed and measured in the terms of the frequency of occurrence and the seriousness. Special education teachers also completed functional analyses (FAI-Functional

Assessment Interview) within the classroom setting of the same participants. The research results were presented as an qualitative analysis of the data.

Results

The results show the improvement after SI-VP model of all three measured types of challenging behaviors of children with ASD and intellectual disability.

Discussion

Implementation of SI-VP model significantly lowers frequencies and severities of challenging behaviour of children with ASD and intellectual disability. Results show that evidence based practice can be successfully integrated into the school system by highly competent special education teachers.

Keywords: Challenging Behaviour, Education, Treatment

Poster Number : FRI02-43

'This is Me' - A pilot program to support autistic pupils at risk of school exclusion

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Introduction

Following the implementation of inclusive educational policy the majority of autistic young people and children within Scotland are educated within non-specialist mainstream schools. Mainstream teachers are tasked with meeting the complex individual additional support needs which arise for autistic pupils to ensure their provision of equal educational opportunity is maintained. Whilst mainstream schools do have systems in place to meet additional support needs it is clear schools face major challenges in providing equivalent educational opportunities for autistic pupils. Significant rates of official/unofficial school exclusion and/or self – exclusion mean autistic pupils frequently experience a detrimental loss of educational opportunity and further impact on well - being and development. This project worked intensively with autistic pupils within mainstream schools who were identified by their local education authority as experiencing significantly reduced school attendance or exclusion. The collaborative pilot program sought to improve the autism knowledge of education professionals and implement autism profiling in order to improve support for autistic pupils at risk of school exclusion.

Methods

The 'This is Me' program supported seven autistic pupils within four secondary schools between 2016 and 2017. Following staff autism training a specialist Autism Advisor facilitated the collaborative development of autism profiles used to inform individualised programs of pupil support.

Staff questionnaires, post program focus group, advisor feedback and case note analysis were used to assess the barriers and facilitators associated with pupil learning engagement.

Results

Staff initially identified barriers and facilitators to pupil learning engagement in external and environmental terms. Following program engagement staff identified interpersonal and cognitive factors as most relevant to pupil learning engagement. The role of autism training, individual autism profiling and the expertise of an autism advisor within school appeared pivotal to autistic learning engagement.

Discussion

This exploratory pilot evaluation showed that providing education staff with a baseline understanding of autism and the means to develop an accurate profile of individual autistic pupils meant autism specific-needs could be better met within the educational setting in a manner fundamental to the provision of equal educational opportunity for autistic pupils.

Keywords: Anxiety, Education, Personalised Support

Poster Number : FRI02-44

Developing Autism Awareness and Collective Capacity in Inclusive Schools: New Brunswick (NB) Provincial Autism Training Framework

Authors:

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Introduction

The NB Department of Education and Early Childhood Development (EECD) has an inclusion policy that mandates all students be included in the regular classroom and school environment, regardless of ability. A key element for inclusive education is professional development. Given the prevalence of autism spectrum disorder (ASD) in Canada of 1 in 66, a comprehensive model was required for autism awareness and capacity building in evidence-based intervention.

Methods

In 2012, the NB Dept of EECD created a provincial framework to equip anglophone and francophone educational personnel with knowledge and skills to support learners with ASD. Validated by experts in the field, the program includes three levels of professional development including introductory online training, advanced training with practical skills development, and continued education. Parents in NB have been provided with free access to introductory online learning. A customized version is also offered to preschool autism agencies. All materials are based upon principles of Applied Behaviour Analysis. Participation data and completion rates have been gathered, and educators' level of confidence in their knowledge and skills related to autism and evidence-based interventions is currently being studied.

Results

The NB training model has supported building system-wide capacity. All educational assistants are enrolled in the introductory level program upon hiring, and 1 in 4 of all educational personnel in the province has successfully completed. The completion rate for the introductory online program is over 80%. Preliminary results of an ongoing study from Memorial University Newfoundland demonstrate significant increase in participants' confidence in their knowledge of ASD and their application of behavioural interventions in an educational context. Advanced training has been offered in 49% of schools and to a third of resource teachers in the province, and to other professionals.

Discussion

Jurisdictions all over the world are striving towards inclusive education for diverse learners, as mandated by Article 24 of the United Nations convention, particularly for children with ASD who present specific challenges and require supports and interventions. The success of the New Brunswick framework may serve as a model for other jurisdictions wishing to support professional development in inclusive educational contexts.

Keywords: Education, Inclusion, Training

Poster Number : FRI02-45

A Model for Effective Inclusion In Schools: Multiyear Analysis of A Systemic Intervention in Improve Evidence-Based Practices

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Introduction

For many children with autism spectrum disorders (ASD), the ability to access appropriate education as part of the local school system is restricted. In these cases, education provided in a substantially separate setting is often reflective of the community's experience building capacity for sustainable inclusive programs. When advocacy is directed toward development of effective instructional systems, communities are able create educational pro-

grams accessible to all students. This study assessed the impact of developing educational systems which apply evidence-based programming (EBP) on students' ability to access instruction in an inclusive setting.

Methods

The impact of a community-based initiative to implement a multidisciplinary, EBP for students with ASD was assessed via a ca-

sual-comparative/quasi-experimental design with convenient sampling. Hallmarks of the programming included evidenced-based person-centered procedures used to guide instructional practices and on-going staff training delivered by a licensed psychologist/board certified behavior analyst via a hybrid telehealth/in-vivo manner and utilizing a pyramidal training model.

Results

The findings indicate that following the development of EBP, students time in inclusion increased significantly. Analysis of student progress data showed that individual students were able to make meaningful gains when instruction included structured access to inclusive environments. Further analysis of progress report data concluded that there was a significant increase in the educational team's ability to contrive instructional opportunities within the inclusive setting across consecutive years in the program as evidenced by the number and quality of individualized learning objectives de-

veloped for teaching within the general educational setting.

Discussion

The results from this preliminary study offer an introductory framework outlining procedures for the implementation of EBP in school settings with direct planning for instruction in inclusive environments. This information can be translated into models for program development for students with ASD which can be effectively implemented by members of the school community and are based in multidisciplinary teaming. By applying a capacity-building approach, the benefits described in the current study, have the potential to be replicable across many schools, allowing for the technologies of best-practice, evidence-based, inclusive teaching methods to reach greater populations of students.

Keywords: Community based, Education

Poster Number : FRI02-46

Increase school inclusion of children with ASD by using peers and skill transfer

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Introduction

In France, we notice that in spite of the school inclusion law for Children with autism spectrum disorder (ASD), it remains difficult to send them to school. A lot of children don't even make it to primary school (despite having a normal IQ). Our purpose is to try to support school inclusion from our day care hospital for 3 - 13 year old children suffering from ASD, in Paris. Our aims are twofold : to enhance school acquisition, and to support social integration with peers.

Methods

In this aim we decided, one year ago, that the entire hospital team will become «mobile» to support parents at home and enable school inclusion by harmonizing both environments with our visual supports (TEACH, PECS, ABA, neurocognitive support) and a shared timetable. For a child of a given age and capacity to be a pupil we accompany parents in procedures with our specialized teacher. Each child has a referent psychologist and educator with a pedopsychiatrist's oversight. This referent team go to the school to meet teachers to build the school project and explain the particularities associated with ASD. The educator's referent go to school once a week with our patient for a skills exchange with the teacher

Results

We already have notice a significative increase of the amount of

school inclusion and time spending in class. But despite this device we still have to fight against apprehension and misunderstanding of ASD particularities from the school. So we decided to go further by meeting the others children of the class to explain them how welcoming and support their futur «ASD friends» and we create our own protocol of this approach

Discussion

We notice that «using» the inherent empathy of the other children in this way not only improves the social life of the ASD child, but also reduces the apprehension felt by those in roles of responsibility for the school. We now wish to go further by analysing not only what worked well in our approach, but also by categorising the main obstacles and the most common resistance encountered and share this experience with you.

Keywords: Alternative Communications, Childhood, Peer support

Poster Number : FRI02-47

Educational aspirations of well-functioning adults with Autism Spectrum Disorders (ASD) in the perspective of social factors

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Introduction

This poster presents the results of research carried out in the interpretive paradigm, and is an attempt to characterize the potential relationships of various social factors with the educational aspirations of well-functioning adults with ASD in Poland. 1. What is the context of the educational environment of well-functioning adults with autism? 2. What is the context of interests, preferred forms of activity and recreation and participation in the culture of HFA adults with autism? 3. What are the educational aspirations of HFA adults with autism? 4. What are the links between the context of the educational environment and the educational aspirations of HFA adults with autism?

Methods

Twenty detailed auditory-taped interviews were conducted, utilizing qualitative analysis, as well as individual case study methodology. This study specifically addressed the basic functional problems of HFA autistic adults, along with identifying the educational aspirations of this group. Due to the difficulty of access to the targeted group as defined by specific criteria, the study was conducted from Sept. 2014 to Jan. 2017 in Poland.

Results

1. The difficulties experienced by the respondents with ASD in

the education process is diversified, along with a high intensity of complications, regardless of the level of education and the demographic status of the persons examined. 2. The social aspect, interpreted in the dimension of peer relations, is one of the key factors to consider in the perspective of the school career, and the quality of the peer relations clearly determines the educational aspirations of the respondents. 3. In the development of educational aspirations, importance needs to be placed on the durability and scope of support provided to people with ASD, in both the family and the institution.

Discussion

The analysis of the narratives indicates the importance of support given to people with ASD, especially in the area of developing individual interests and sustaining cognitive motivation. It was also found that within the surveyed group, the type of interests declared by these adults with ASD significantly affects their educational experience. Their statements showed that revealing these specific interests, and the need to express and develop them, may be a significant motivator to overcome the fear of failure and their learning difficulties, as well as to constructively deal with the stress experienced within this group of well-functioning people with ASD.

Keywords: Adult, Development, Education

Poster Number : FRI02-48

An exploration of perceived best practice in 8 Autism Specialist Schools

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Introduction

This study is across 8 autism specific schools, run by a national provider. Best autism practice is based on longstanding experience and an 'eclectic' blend of educational interventions is adopted. There is no clear, consistent description of what is used or why. This leaves unanswered questions about what is meant by best

autism practice. This study will identify strengths and weaknesses in how practice is adopted, reviewed and evaluated and reveal synergies or inconsistencies within and between these schools. A detailed description will be made of the interventions used to meet the educational needs of autistic children with complex profiles whose needs have not been met in mainstream provisions. This will lead

to an understanding of what is meant by 'best autism practice' in order to develop a structured approach that can be implemented in other autism specific educational provisions. This study is the first stage of evaluating SPELL a framework widely used in these schools, developed 1999 (Beadle-Brown & Mills). Aims: 1) to gain a clear picture of perceived best practice in 8 schools, 2) to identify how practices are being adopted, reviewed and evaluated, 3) to identify barriers to good practice.

Methods

Ethical approval will be sought from our partner university's ethics committee. This is a mixed methods study with two data collection phases: online staff survey, approximately 20 face-to-face interviews or phone interviews to explore staff perceptions of the interventions used within their school.

Results

Quantitative data will be analysed using SPSS (IBM SPSS Statis-

tics for Windows). Results will be presented in table and charts. The semi-structured interviews will be recorded and transcribed verbatim for analysis to identify the main themes. Qualitative data from the open-ended questions on the survey and semi-structured interviews will be analysed using a thematic approach. All data will be anonymised in line with standards of ethical research. A thematic framework analysis approach (Ritchie et al, 2003) will be used.

Discussion

These 8 schools are basing their educational approaches and best autism practice on many years of autism knowledge and expertise. Determining the extent and nature of these practices and interventions will enable the development of a framework of best autism educational practice. An exploration of this nature will facilitate the next phase which is to evaluate the use of SPELL in these schools.

Poster Number : FRI02-49

Inclusive approach of students with ASD at our University College of Applied Sciences based on the new student support model

Authors:

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Introduction

Our University College considers the solid support of students as a key task. An overarching framework has been developed to streamline the various efforts and to reflect from a meta-perspective on the current and desirable support offer. In our support model, the improvement of the 'study ability' plays a key role. Study ability relates to learning results, students' well-being and study progress. The support model emphasises that working on study ability requires a common effort of every member of the academic community. All support is illustrated in a triangle subdivided into different phases, ranging from broad support in the base to gradually more extended support to the top. Decisions regarding support and guidance of students with specific educational needs can be situated using these different stages.

Methods

In our presentation we will explain the support of students with autism in the light of this model, since we chose to specifically provide for students with autism and other target groups. Choices have been made concerning the admission requirements, the fundamental offer and the practical organisation of this support by student counsellors.

Results

In the academic year 2018/2019, more than 100 students took advantage of the individual support being offered. Scientific research on the result of the provision of extended support is not yet available. However, a student survey shows an improvement of their well-being. Through individual coaching, there is also an easier access to the most appropriate service according to the needs of the student.

Discussion

Nevertheless, some challenges still need to be faced: our University College initially decided that one of the admission requirements for extended support is an official diagnosis. One of the remaining questions is whether people with a presumption or with characteristics of autism can also benefit from the extension of support. Another challenge lies in the fact that working on study ability requires a common effort. This implies a good cooperation between the various departments. We have already set some steps to sensitise employees of all departments but getting everyone on board remains a challenge.

Keywords: Inclusion, Personalised Support, University

Poster Number : FRI02-51

Effects of repeated retrieval on the retention and the transfer of learning in younger children with ASD

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Introduction

It is important for children's adaptation to daily life to not only promote the long-term retention of to-be-remembered events and general factual information, but also transfer of learning them. A number of studies with adults have demonstrated that the retrieval practice effect is one of the most effective educational techniques. But is it effective for young children with ASD, especially for transfer. So, the main aim of the present study was to test whether this finding could be extended to 5-6 year old children with ASD in the verbal learning domain task.

Methods

Fifty-four children from 5 to 6 years old with and without the diagnosis of ASD participated in the experiment. All the children took pretest related to the food chain task (Valch & Sandhofer, 2012, presented by personal communication from Dr. Vlach, H.A.). We consisted of three phases. As a pre-test phase, they were asked to answer the question After that, they were assigned to the Retrieval or Studying groups. In the Retrieval group, children were asked to retrieve the question three times consecutively. On the other hand, in the Studying group, experimenter told the story. After that, all children took the same test during the retrieval/studying and transfer test after 1 week.

Results

More importantly, in the TD group, the recall performance of the repeated retrieval group was better than that of repeated studying group, whereas in the ASD groups did not differ from that in the repeated study and retrieval groups. The results showed a powerful effect for the importance of retrieval on learning retention and transfer in the TD group, but not in the ASD group.

Discussion

One of our new findings was that repeated retrieval had effect on not only retention, but also transfer of learning in the TD younger children. More importantly, younger children with ASD had high performance in simple same task took before 1 week, in both retrieval and studying conditions, whereas the performance in the repeated studying condition was worse than that in the repeated retrieval condition. These results suggest that the listening the story repeatedly could lead to promoting retention the same factual information in younger children with ASD, whereas the effect decreased in the generalization information in both retrieval and study. The pattern in children with ASD differed from those with TD. We need to conduct the replicate study.

Keywords: Cognition, Development, Preschool

Poster Number : FRI02-52

Using schema-based instruction to teach a student with Autism Spectrum Disorder to solve addition problems

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Introduction

The difficulties in learning mathematics that individuals with Autism Spectrum Disorder (ASD) experience exceed those found in the typically developing population, and generally result in lower access rates to higher education. Some studies have focused on the mathematical learning of the population with ASD. Notable among these studies are those that focus on problem solving and follow the teaching methodology called Schema-Based Instruction (SBI),

which relies on visual representations. This research involves solving additive word problems with a changing structure varying the place of the unknown («Pedro has 9 candies and he buys 11 more, how many does he have at the end?», or «Silvia had some tokens, she lost 4 and now she has 7. How many tokens did she have at the beginning?»), following an SBI teaching methodology. The subject of the study was a 14-year-old student diagnosed with ASD. The research question is posed: To what extent does the SBI

teaching methodology help solve change additive problems and acquire more effective strategies?

Methods

A single-case research methodology is employed with a multiple baseline design that is intended to establish a functional relationship between instruction and performance when solving this type of problem.

Results

The results indicate that the SBI methodology is proven effective in solving these types of problems and in acquiring efficient addition and subtraction strategies.

Discussion

We consider the need to conduct further research on learning other types of additive problems (comparison or combination) by using a similar methodology in students with this disorder. Acknowledgments. This work was supported by the Ministerio de Economía y Competitividad. Madrid. Spain. 220 Resolución de problemas y competencia matemática en la educación primaria y secundaria y en la formación de profesores. EDU2017-84276-R.

Keywords: Education, Inclusion

Poster Number : FRI02-53

Teaching Mathematics in a Naturalistic Setting: A Case Study

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Introduction

Early mathematics achievement is an important precondition for future math learning. However, young children with ASD are at risk of becoming underachievers in mathematics. In addition to the cognitive reasons for these difficulties (e.g., weak central coherence, executive functions), many teachers do not have the appropriate knowledge concerning instruction for children with ASD. Research regarding teaching of mathematics in ASD is limited.

Methods

We developed a multifaceted mathematics intervention in a naturalistic setting for a five-year-old boy with ASD (Dan) in his kindergarten setting and conducted a single case study to investigate its efficacy. An 8-week diagnostic-based intervention utilizing three instructional approaches that included direct, embedded and kinesthetic instruction (DI, EI, KI) was implemented. Within the diagnostic teaching framework, we incorporated various levels of scaffolding. The assessment measures were the following: 1. Three mathematical assessments: initial, intermediate and final assessment. 2. Videotaped documentation of sessions. 3. Dalia's (third author) reflective journal.

Results

Analysis of the data followed a process of qualitatively analyzing behavioral data, and was in two steps: 1) Intervention structure.

This step examined Dalia's evolving intervention-design process and shows how she adjusted: a) the curriculum contents - when planning the intervention, Dalia's reference points were Dan's mathematical abilities and difficulties as found in the assessments, b) the instructional methods - Dalia's decisions concerning the application of DI, EI, and KI, c) the scaffolding type - the use of imitation, imitation and generalization, or verbal support, d) the criteria for ending the intervention. 2) Dan's Mathematical Development. This step examined Dan's mathematical development regarding: a) instructional methods (DI, EI, KI) - when DI and EI were not sufficient, Dalia included KI, and b) scaffolding type, that was chosen dynamically. The integration of the instructional methods and the scaffolding types led to Dan's success.

Discussion

One of the major difficulties that teachers face is choosing an intervention that meets the needs of a student's disability. Especially within ASD, this requires a more active role on the part of the teacher in determining which strategies to implement in relation to the cognitive characteristics typifying their academic abilities in general, and in mathematics specifically.

Keywords: Assessment, Intervention, Learning

Poster Number : FRI02-54

Exploring experiences of educational transitions for autistic pupils across nursery, primary and secondary transitions.

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Introduction

This project is part of the Autism Community Research Network @ Southampton ACoRNS, www.acornsnetwork.org.uk initiative that brings together researchers and practitioners to jointly identify and construct a research agenda that is mutually informed by, and informing of, practice. ACoRNS places children and young people's views and experiences at the core of what we do. The aim of this programme of research is to gather the views of children and young people on the autism spectrum, their families and their teachers, on experiences of educational trajectories and transitions. This includes bigger transitions between levels of schooling (nursery to primary school, primary to secondary school) as well as the smaller transitions (e.g., from year group to year group, from home to school, from activity to activity).

Methods

We have worked to support autistic children and young people to share their stories of educational transitions including the use of photo-voice, observation schedules, and interviews. Specifically we have sought to understand aspects of educational practice across different levels of schooling that have both helped and hindered experience of school transitions from multiple perspectives

for 13 autistic pupils from nursery, primary, and secondary school settings.

Results

Several core themes and effective practices that led to positive transitions across levels of schooling were found. These included a focus on the child or young person as an individual, and getting to know the child in multiple contexts prior to transitioning. The use of flexible timetables, visual supports, and a 'safe base' that pupils could choose to access were also cited as important.

Discussion

This study is based on the principle that autistic children have unique perspectives on the world and on their own experiences, and these perspectives have value and validity in their own right, not merely as points of comparison with children without autism (for example). Young autistic children may not be able to express or communicate their views in so called 'typical' ways and so, rightly, the onus is placed on us as researchers and practitioners to find ways to reveal authentic insights into their experiences and capabilities.

Poster Number : FRI02-55

Educators' Perceptions of Sex Education Needs for Students With Autism Spectrum Disorder

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Introduction

Students with high-functioning autism spectrum disorder (HFASD) are included as one of the student groups with special education needs (SEN) in Hong Kong. They are placed in mainstream schools with the support of inclusive education strategies. However school educators have reported a lack of systemic and teaching strategy support. The purpose of this study was 1) describe educators' perceptions of sex education needs of their students with an autism spectrum disorder in secondary schools in Hong Kong, and 2) ex-

plore educational intervention strategies.

Methods

This presentation was informed by the concepts of comprehensive sexuality education and social-relational model of disability. The interview transcripts were part of the data collected from a larger sexuality research project in Hong Kong. Qualitative phenomenological interviews were carried out to collect data from schools and social service agencies. In this specific presentation, transcripts

came from a subset of 9 teachers who have encountered students with special educational needs and experienced professional training in sexuality education. Phenomenological data analysis was carried out through Nvivo to identify common themes related to teachers' experiences. Issues of trustworthiness in qualitative study were addressed based on qualitative research paradigm.

Results

The following themes were identified: 1) "Understanding Chinese sexuality within cultural context – moral and medical perspective" 2) "Remedial education vs proactive education" 3) "Disempowering

when facing barriers and prejudice" 4) "Professional training could be empowering" 5) "Suggested educational strategies: paradigm shift and rights-based".

Discussion

These findings highlight a need for additional research and enhanced rights-based sexuality education training to ensure that students with autism spectrum disorder have their sexual rights and inclusive educational needs met.

Keywords: Education, Right-based, Sexuality

Poster Number : FRI02-56

Predictors of inclusion in mainstream schools at ages 8 and 15 in children with autism spectrum disorders from the EpiTED cohort

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Introduction

«Autism Spectrum Disorders (ASD) are defined by two main diagnostic criteria: "persistent deficits in social communication and social interaction" and "restricted

Methods

repetitive patterns of behavior

Results

interests

Discussion

or activities". Children with ASD are confronted with social challenges in their everyday lives. Inclusion in mainstream schools is

challenging for them and research in this area is lacking. In 2016 in France, the Ministry of National Education estimated that less than 40% of children with ASD were educated in mainstream elementary schools and this proportion decreased in secondary schools. However, according to a recent study, children with an experience of inclusion during the school years are more likely to have positive developmental trajectories of autism symptoms, maladaptive behaviors and daily living skills in adulthood, whatever the severity of autism symptoms at age 5. The main objective of this study was to identify demographic and clinical factors in childhood associated with later inclusion in regular classrooms at ages 8 and 15 of children with ASD.

Keywords: Childhood, Education, Inclusion

Poster Number : FRI02-60

'Behaviours of concern' : Changing mindsets - reducing exclusion

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Introduction

This programme was commissioned to develop a local response to reduce exclusion of children from schools in Greece by reason of 'challenging behaviour'. Some of these children were autistic but the excluded group also included children with intellectual disability, ADHD, mental illnesses and refugee children. Other approaches had been tried and had not succeeded. The programme sought to focus on and change mind-sets, culture and narrative and reduce stress through application of well-established psychological, physiological and sociological models supported by an internal and external mentor network. The challenge was to develop a sustainable approach that could be tailored to local conditions and be operated in a climate of scarce resources. It needed to be ethical and effective. It transpired that the condensed and intensive nature of the workshops allows for excellent fidelity.

Methods

Starting in 2013 we developed a UK/Greek partnership to deliver a programme comprising one one-day practice workshop and one one-day follow up workshop on mentoring, supported by a network approach in schools in Attica, Greece. The focus is on the behaviour of support adults and changing this. The programme is subject to ongoing evaluation by the participating schools and by the Universities of Athens and Peloponnese. It has been independently evaluated and accredited by the Continuing Professional De-

velopment (CPD) Service of the UK and is now being rolled out elsewhere in UK and other countries. There is an annual conference event hosted by a member organisation.

Results

Reported results include: Stress reduction in teachers, changed mind –sets, narrative and culture and improved planning. The results exceeded expectations. No child exclusions in four years for those schools taking part in the programme. There are now 30 schools in the Greek programme.

Discussion

The programme emphasises the ancient Greek philosophy of the importance of focusing on what can be changed i.e. the behaviour of the support adult (e.g. teacher) and school and of critical thinking and planning around behaviours of concern. This includes strategies and practical techniques for developing self-awareness and self-management and in stress-reduction and crisis management. It is an ethical approach that does not rely on coercive or aversive techniques and has been commended by autistic adults as a different and more acceptable approach. Consideration is being given to use with other groups e.g. people with dementia.

Keywords: Challenging Behaviour, Complex Autism, Education

Poster Number : FRI02-62

Building an Aspie-Friendly

Authors:

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Introduction

«The number of autists in employment is extremely low, due both to a lack of access to education and to specific conditions of the job conditions. The project entitled «Building an Aspie-Friendly University» brings together 20 Universities across France and many public and private partners. It is part of the French National Strategy for Autism and is funded by the Programme Investissements d'Avenir.»»We set up an experiment

Methods

Starting in 2018

Results

To improve university inclusion for people with ASD without intellectual disability. The project tries to cover all areas of concern: preparation for entry into higher education

Discussion

Curriculum adaptation

Keywords: Employment, Learning, University

Poster Number : FRI02-64

Autistic students Perception of Social Inclusion in Upper High-School: A Fresh Start

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Introduction

An increasing number of students with autism spectrum disorder (ASD) enroll in inclusive schools and classrooms. However, social exclusion and bullying are commonly experienced in school-settings (Williams, Gleeson & Jones, 2017). The aim of this study was to investigate how youth with ASD experience social aspect of inclusive high schools. Specific research questions are as follows: (1) is school an arena for social interaction? And (2) do the students feel that the schools support their social needs?

Methods

Five adolescents in high school diagnosed with Asperger Syndrome in Norway participated through a semi-structured interview on topics relating to social inclusion aspects. The data was analyzed through a thematic approach to crystalize out key patterns and themes.

Results

the results show that high school was perceived as a key platform for social training by the students, and the main arena to find new friends. Most participants had experienced loneliness and bullying in junior high school. However, high school was seen as a new start, with a more open and inclusive environment. Nevertheless,

the participants underscored they used a lot of energy on engaging in social settings, such as interpreting social situations and on being amongst a larger group of students.

Discussion

Although earlier studies have highlight crucial challenges like social exclusion and bullying, our study contributes in showing that sometimes school transition means leaving negative experiences behind and an opportunity for a new start for Autistic students. The students in this study expressed feelings of social inclusion and had learned a lot about being social through school and interacting with other students. Despite the social challenges the participants experienced in regard to for instance the energy it took for them to engage socially, they seemed determined to face these challenges. This study shows that some Autistic students thrive in inclusive classrooms and can be determined in their quest to learn more about social skills, and in mastering social situations. That all participants highlight their desire to part-take on the social arena in their respective schools is important information for teachers and practitioners that still may subscribe to the myth that Autistic people just like to be left alone.

Keywords: Education, Inclusion, Social

Poster Number : FRI02-65

Targeted, Individual, Structured, Integrated Program for Students with intellectual disabilities (TISIPfSIDs) and Autism to general secondary education

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Introduction

One of the issues in the field of special education research is the school inclusion of students with special educational needs. This study highlights the need for educational programs to allow these students to have access to the curriculum in general secondary education. Their simple placement in the general class does not always ensure their full adaptation to the school community. Therefore, we look through this study if an educational program, such as the Targeted, Individual, Structured, Integrated Program for

Students with intellectual disabilities (TISIPfSIDs) and Autism can define teaching goals to join the demanding general curriculum of language courses in secondary education.

Methods

The methodology of the present work was carried out in a general secondary school of the Peloponnese Region in Greece. In particular, an action study was conducted by the philologist of special education on a sample of 4 pupils with autism spectrum disorder

and intellectual disabilities. The teacher applied the TISIPfSIDs to the first and second grades of high school. The co-teaching intervention lasted 4 months for 2 hours a week. The tools used were the informal pedagogical assessment with Checklists of basic skills according to the observation methodology and the handwritten documents collected according to the special teaching methodology of differentiating language interventions.

Results

The results of the action research showed that students with autism spectrum disorder and intellectual disabilities gained their teaching goals by having access to some modules of language courses of the general curriculum.

Discussion

In the conclusions recorded that the TISIPfSIDs contributes positively to the access of students with special educational needs to general secondary education. In particular, according to the basic pedagogical principles, the philologist can define functional and realistic teaching goals, taking into account: (a) the frame curriculum of the special education program, (b) the general curriculum, (c) the students' specific learning difficulties in language skills and their deficiencies in the neurodevelopmental areas of learning and sensorial readiness.

Keywords: Complex Autism, Education

Poster Number : FRI02-66

Special support for special needs: Peer-to-peer coaching in Dutch Higher Education

Authors:

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Introduction

The number of students with a disability, especially the number of students with an autism spectrum disorder (ASD), has increased in many European countries in recent years. This development is particularly evident within the study in information and communication technologies. However, practical experience and research also show that students with ASD can only study successfully if they receive support tailored to their needs and a flexible approach to their studies. Especially the admission and the beginning of a study costs students with ASD a lot of energy. The extra support and guidance that they need to successfully complete their course of study is often not guaranteed and because of that many of them fail and inevitably have to abandon their studies.

Methods

Many universities are faced with the question of how this form of support can be designed and implemented. Often students with ASD still encounter traditional support services that are hardly aimed at their needs, but there are useful framework conditions and projects to be found in some European countries, e.g. in the Netherlands, in which flexible and inclusive education has not only been discussed for many years, but has already been implemented in many respects. Students with ASD need special support

and accompaniment in the beginning as well as during their studies and accordingly a special form of coaching. The competence for such individual support lies in the fields of Social Sciences, e.g. Social Work.

Results

Best practice models in Dutch Higher Education include The Autismproject (orig.: Het Autismeproject) of the University of Amsterdam and The Saxion Studymates (orig.: De Saxion Studiemaatjes). These projects facilitate individual peer coaching to students with ASD with the aim to timely trace and overcome problems that can lead to study delay or drop-out.

Discussion

During the session I will look beyond (national) borders and focus on framework conditions and support services for students with special needs, especially in Dutch Higher Education. I will present and discuss aspects of peer-to-peer coaching using the example of the two above-mentioned projects for students with ASD.

Keywords: Peer support, Services, University

Poster Number : FRI02-67

ASD in Higher Education Settings - Inclusion Strategies

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Introduction

Our Project main objectives are: devise strategies and accommodations to promote inclusion in a higher education institution, design and implement strategies to facilitate future inclusion in workplace settings,

Methods

A few years ago, students with Autism Spectrum Disorder begun to enrol in our university. We started to be concerned about the best way to assure the support these students needed. We found it necessary to develop a step by step strategy :1. Make the academic community (both teachers and staff alike) aware and thoroughly informed about prevalence, specific characteristics and needs of its students with Autism Spectrum Disorder,2. Promote different set of activities in order to raise awareness to the issue, specially focusing on the needs of these students in an academic context. 3. Since 2017 for the 2nd of April, the ASD international day, the University decided to promote different set of activities which included students with ASD in its organiza-

tion(namely participating in international awareness projects like #breakingbarrierforautism) ,4.Devising plans for future projects, mainly in what concerns inclusion on workplace settings,

Results

The numbers of new ASD students (both national and mobility in) coming to our university have increased after this.Evidence of the need to support programs regarding application to and inclusion in workplace settings.

Discussion

With those initiatives a higher number of ASD students were identified. They felt more comfortable in disclose their condition and share their needs and their difficulties with the University staff and teachers. A better academic performance and a sense of belonging was identified both in national an in «mobility in « students.

Keywords: Education, Empowerment, Inclusion

Poster Number : FRI02-68

Transdisciplinary Embedded Approaches: Single Case Study through the Lenses of a Wellbeing Model

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Introduction

Multidisciplinary, Interdisciplinary, Transdisciplinary approaches (TDA) although conceptually different have often been used interchangeably in the development of approaches for health, social care and education. Understanding their differences, scope and effectiveness can be a useful process when working and supporting autistic individuals and their families, where the involvement of a number of disciplines is often implied. Transdisciplinary approaches aim to provide a useful way to assess, formulate and evaluate person centered support strategies which share a common starting point. Expertise from different disciplines come together from the beginning in better and more efficiently understand the autistic individual and their special needs, strengths and qualities. Differences between multidisciplinary, interdisciplinary

and transdisciplinary approaches are discussed to promote further reflections on their enablers and barriers.

Methods

With this paper we aim to explore through an evidence-based single-case study the experiences of working through a transdisciplinary perspective and by adopting a well-being model of PERMA (Seligman, 2011). We address how shared formulation informs interventions which are implemented in the support of the autistic individual, their family, education staff teams and external professionals.

Results

Through this single case study we have identified specific barriers

experienced in accessing learning, evidence-based behaviour of concern profiles, identification of sensory needs and functional communication needs, a shared understanding of the autistic individual and a consistent resilient team approach are presented. Qualitative and quantitative outcomes are discussed with further reflections on the impact for wider education practices.

Discussion

Poor coordination between providers, inefficient communication between professionals and their teams can lead to misunderstanding and to limited progress/development. In adopting from the

outset an individual special education plan, an embedded trans-disciplinary approach can contribute and enhance a more efficient and inspiring positive experience both for the individual, families and teams. This can for many, as shared by Ofsted questionnaires feedback from families, 'transform their child's life'. Working truly together, respecting each other knowledge and differences, being open to be challenged and learning from each other, can facilitate growth and overall well being in us all.

Keywords: Assessment, Complex Autism, Education

Poster Number : FRI02-69

Developmental and Sequenced One-to-One Educational Intervention (DS1-EI) for autism spectrum disorder and intellectual disability: a 2-year randomized, single-blind controlled trial

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Introduction

Individuals with autism spectrum disorder (ASD) and severe-to-moderate intellectual disability (ID) still face many challenges, are poorly included in schools with peers, particularly in France, and are the subjects of fewer evidence-based trials. We aimed to explore if schooling is possible even for children with a very low IQ and behavioral impairments and whether an appropriate intensive educational implementation for those children could either compromise or potentialize other global therapeutic interventions.

Methods

Design: Randomized, single-blind controlled trial. **Interventions:** We implemented in 11 French child care institutions, a new model called the "Developmental and Sequenced One-to-One Educational Intervention" (DS1-EI) for children with cooccurring ASD and ID. The intervention was based on intensive schooling in small classrooms, in one-to-one condition, encouraging spontaneous communication, promoting skills through play with peers, supporting positive interactions, providing supervision, and developmental and sequenced learning. **Participants:** In each institution, 5-to-9-year-old children were recruited in dyads matched by developmental quotient and randomized to the treatment-as-usual (TAU) group or the DS1-EI group (combined with half-time TAU). **Primary and secondary variables:** The primary variables [Childhood Autism Rating scale (CARS) and the psychoeducational profile (PEP-3)]

were blindly assessed by independent raters at 18 months. The secondary variables [Vineland adaptive behavior scale (VABS) and Clinical global assessment score (CGAS)] were assessed at 12 and 24 months.

Results

At baseline, 72 participants were randomized. Nine patients (5 in the DS1-EI group and 4 in the TAU group) dropped out of the study. Using linear mixed models, both intent-to-treat (ITT) and per-protocol (PP) analyses at the 12-, 18- and 24-month outcomes showed no significant group nor group-by-time interaction effect. However, we found significant improvements in most primary and secondary variables over time in both groups.

Discussion

The study did not show that DS1-EI was superior to TAU in treating children with ASD and ID over 24 months. However, the low dropout rate shows that an adapted intensive educational model is feasible and should be promoted since it allows a more intensive schooling than the usual practice in France. Further analyses will study impact of this DS1-EI intervention on children academic ability and inclusive education project at follow-up.

Keywords: Education, Intellectual disability, Intervention

Poster Number : FRI02-71

A model of education that has endured for 40 years - Western Autistic School Melbourne Australia

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Introduction

The work of Western Autistic School to close the gap for autistic students. Western Autistic School is in Melbourne Australia. It is a government funded school for 340 early years students (5-9 years), and serves a small class of adolescent students with ASD, mental health issues and complex needs. For WAS, closing the gap for students with autism means holding true to an educational philosophy and teaching approach has endured for near forty- years.

Methods

Our purpose is to address the needs arising from ASD and to build on individual strengths thereby optimizing each student's skills by the time they move into a non ASD specific school setting. We achieve this by providing intensive, personalized teaching of foundation communication, social, emotional and language skills (foundation skills) at the start of each child's schooling with the aim of students learning the functional skills they will need in order to access learning at their next school. The majority of the curriculum content is taught through a wholistic curriculum based on student strengths, interests and learning preferences. Teachers incorporate student ILP and Victorian Curriculum priorities into a range of sessions (cooking, music, community excursions and play) aimed at learning and applying functional communication, literacy, numeracy and social skills.

The goal for teachers is to build a program around the needs of the child, addressing the impact autism has on each unique child as our primary task where the Victorian Curriculum (for all Victorian school students) provides the context for learning social, communication and emotional and language skills. Teachers maintain the focus on the individual child as the focus of their teaching but pay attention to what others/peers are learning in mainstream.

Results

In order to do that teachers must commit to the mindset where the individual child is the centre of their work. Teachers learn to look, listen and describe what they see in the child and then filter their formulations of the child through the ASD 'lens' (diagnostic criteria, current conceptualisations of autism and explanatory models) linked to frameworks for intervention.

Discussion

In this presentation, we hope that sharing our knowledge and practice will assist other schools and educators around the globe to close the gap for autistic learners in school based programs.

Keywords: Education, Inclusion, Personalised Support

Poster Number : FRI02-72

Adjusted dialogic teaching to facilitate the inclusion of students with autism in class discussions

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Introduction

The rise in the inclusion of students with autism in mainstream classrooms has created the need for teaching strategies that can support their participation in class activities. These students often face negative social experiences when interacting with others in class activities (e.g., isolation) and frustration when misunderstanding activities due to implicit directions or sensory overload. This study proposes to develop and trial teaching strategies that could facilitate these students' inclusion in class discussions, based on

dialogic pedagogies and the students' communicative characteristics. A dialogic pedagogy can provide a social environment in which class goals are explicit, communication rules provide guidelines on how to interact with others, and a space is opened up in which different ideas interact. The study aimed to answer if and how dialogic teaching can support these students to engage in class social interactions.

Methods

A preliminary set of adjusted dialogic teaching strategies that consider the communicative characteristics associated with autism was developed based on current literature on dialogic pedagogy and evidence-based practices for students with autism. As part of three workshops in the school year 2018/19, these strategies were developed further in collaboration with three mainstream primary school teachers in the UK that taught students with autism. The teachers put in practice the strategies in their classrooms for four months, during which six lessons were videotaped in each one. Video excerpts were analysed by the teachers and researcher, using a coding scheme for educational dialogue for practitioners (T-SEDA, Vrikki et al.,2018), to monitor use of the strategies and refine them.

Results

The study is currently being developed. In this presentation I will

share the preliminary set of adjusted dialogic teaching strategies, which were based on dialogic strategies included in the Scheme for Educational Dialogue Analysis (Hennessy et al.,2016) and incorporated elements of best practices for students with autism and the participating teachers' input.

Discussion

A dialogic approach to inclusion can encourage educators to accept different forms of communication (like the ones associated with autism) and build upon them. By envisioning inclusion this way, the study promotes the development of strategies to adjust social interactions in classrooms to make them more comprehensible for students with autism.

Keywords: Communication, Education, Inclusion

Poster Number : FRI02-73

Study of amino-acid and acylcarnitine profiles in a dry blood spot in children and adolescents with autism spectrum disorder from Slovakia

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Introduction

The exact pathophysiology of autism spectrum disorders (ASD) has not been fully understood, yet. At the same time, there are still no valid diagnostic biomarkers for ASD. Previous studies have implicated metabolic abnormalities in ASD. Acylcarnitine (AC) and amino acid (AA) profiles are markers commonly used in detection of inborn errors of metabolism. In the presented metabolome study, the AA and AC profiles in a sample of children and adolescents with ASD was assessed, with the aim to investigate their role in pathomechanisms of ASD, and to analyse their possible application as a biomarkers for ASD.

Methods

The sample involved 58 children and adolescents with ASD and 72 neurotypical controls (NT) from Slovakia, aged 2-19 years. Children diagnosed with ASD met the criteria for ASD on both the Autism Diagnostic Observation Schedule—second revision (ADOS-2) and the Autism Diagnostic Interview-Revised (ADIR). A dry blood spot was collected in the morning. In each individual, 13 amino acids (AA) and 34 acylcarnitines (AC) were assessed. Commercial kit Chromsystems® was used for determination of AA and AC levels by the tandem mass spectrometry. Statistical analysis included principal component analysis (PCA), and machine learning techniques (random forest algorithm, support vector machines). The study was approved by the Ethics committee.

Results

Levels of several AC species alone, or combined in physiologically relevant sums were significantly higher in ASD, while the C5 levels were significantly lower. Of the AA profile, ornithine, leucine and isoleucine levels were significantly lower in ASD. The principal component analysis indicated differences in AA and AC profiles between the ASD and NT samples. The model to discriminate between ASD and NT suggested ornithine, C14:1, and arginine as the strongest predictors of ASD.

Discussion

Results of the study indicate deviations in AA and AC metabolic profile in ASD that may be associated with mitochondrial dysfunction, increased production of free radicals, or activation of inflammatory pathways that might be to be involved in pathomechanisms of ASD. Our results provide a basis for further investigation, since more research is needed for elucidation of the detected metabolic profile in ASD. Also, the role of AA and AC as biomarkers in ASD warrants further investigation. The authors declare no conflict of interest. Supported by grants APVV-15-0085, APVV-15-0045, ITMS 26240220086, VEGA 1/0141/17

Keywords: Biological mechanism

Poster Number : FRI02-74

Effects of fecal supernatant from Autism Spectrum Disorder patients on intestinal epithelial barrier permeability and enteric nervous system phenotype

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Introduction

Introduction. Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder with a high prevalence of gastro-intestinal symptoms. Emerging evidence unveiled a putative central role of the microbiota-gut-brain axis in ASD. Indeed, ASD patients present alterations of gut microbiota composition and bacterial metabolites. In order to study how dysbiosis could affect gut functions and enteric nervous system (ENS) homeostasis, we used fecal supernatant (FS) prepared from ASD patients and healthy controls (HC). Specifically, we studied the impact of FS on intestinal epithelial barrier functions and ENS phenotype.

Methods

Methods. Antibiotic-treated mice received enema of FS from ASD patients (n=16) and from healthy controls (n=10). Paracellular and transcellular gut permeability were measured in vivo and ex vivo in proximal colon. Gene and protein expression for glial (S100 β), neuronal (GAP43, synapsin1) and inflammatory molecules (IL-1 β , TNF α , TLR2) were analyzed in proximal colon and in primary culture of ENS treated with FS from ASD patients or HC. Moreover, concentrations of several bacterial metabolites (short chain fatty acids and bile acids) were measured in FS by mass spectrometry. Finally, 16S metasequencing of the

intestinal microbiota was performed for ASD patients and HC.

Results

Results. No change of in vivo permeability was observed in mice treated with FS from ASD patients while ex vivo transcellular and paracellular permeability of proximal colon was decreased as compared to HC. FS from ASD patients induced changes in mRNA expression of S100 β , TNF α , IL-1 β , TLR2 and GAP43 in proximal colon and in primary cultures of ENS as compared to HC. At the protein level, we found a decreased of the synaptic marker synapsin1 in mice treated with FS from ASD patients compared to HC. Regarding the content in bacterial metabolites of FS, the concentration of the secondary bile acid deoxycholic acid was higher in FS from ASD patients as compared to HC.

Discussion

Discussion. FS from ASD patients affects intestinal permeability as well as gene and protein expression of neuronal, glial and inflammatory molecules in the colon, including the ENS. We have identified the deoxycholic acid as a microbiota-derived mediator potentially involved in the activity of FS from ASD patients.

Keywords: Biological mechanism, Comorbidities, Microbiota

Poster Number : FRI02-75

Molecular language of cytokine and neuroendocrine systems in regulation of social adaptation of children with ASD

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Introduction

Preliminary data of PsychENCODE Consortium (2018) shows the activation in autism (ASD) of microglia, astrocyte and neuroimmune processes (NF kappaB-associated genes and IFN-res-

ponse) in the brain in the early prenatal period, which determine to a large extent the difficulties of social adaptation of children with ASD. Aim: to evaluate the correlation profiles of signal molecules of cytokine and neuroendocrine systems in the context of social

adaptation of children with ASD.

Methods

55 children with ASD, 47 boys and 8 girls (aged 3 to 13) were examined. Children with ASD were divided into groups based on clinical symptoms – presence/absence of social contact: with social contact (SC, 14 persons), without social contact (WSC, 15 persons), “regression”, 26 persons. Control – typically developing children (TD, 31 boys and 8 girls of the same age). Level of cytokines: IL-1 β , IL-6, IL-10, TNF- α , IFN- γ ; HMGB1 and hormones: oxytocin – O, cortisol – C, ACTH, adrenaline – A, noradrenaline – N, dopamine – D, was evaluated in blood plasma by ELISA method. The blood was collected in the morning before food. Correlations between all the parameters were evaluated using the Spearman rank correlations test.

Results

Differences in correlation profiles in TD and ASD groups of children regardless of the level of social adaptation were established. Peculiarity – O presented correlations in TD children only. SC (2 links) and WSC (8 links) groups have alternative profiles on the number of correlations and their distribution between and

inside the parameters of signal molecules of two systems: SC – one intersystem link: HMGB1-D, probably speaks to the functional immaturity of the two regular systems or late functional start. WSC – maximum number of correlations compared to ASD and TD groups. Peculiarities of distribution: correlations between the values of anti-inflammatory cytokines and neurohormones – IL-1 β -D and TNF- α -N and inside the neuroendocrine interactions – A-C, possibly demonstrate high comprehensive prepotential activity of signal molecules reflecting the “false alarm” state, which is manifested by the expressed decrease/absence of social contact (their avoidance), and possibly speaks to excessive activation of amygdale.

Correlations in “regression” group (4 links) had intermediate profile.

Discussion

The correlation profiles of signal molecules on the periphery possibly reflect the neuroinflammatory dysregulation of specific pathways of different parts of the brain.

Keywords: Adapting, Biological mechanism, Childhood

Poster Number : FRI02-77

The role of maternal autoantibodies in the pathogenesis of autism spectrum disorders

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Introduction

Autism spectrum disorders (ASD) are considered to have multiple causes, which are so far largely unknown. Recent data demonstrate that an important role in ASD development is played by immune system and that a significant number of mothers of ASD children carries maternal autoantibodies directed against various fetal brain proteins. The role of the maternal autoantibodies in pathogenesis of ASD has not been clarified yet. Microtubule-associated proteins CRMP2 and CRMP1 (Collapsin response mediator protein 2 and 1) which integrate multiple signaling cascades regulating neuron growth and migration are amongst the main epitopes targeted by maternal autoantibodies. Targeting of CRMP2 or CRMP1 by maternal autoantibodies could change the levels or distribution of these proteins in the developing nervous system leading to deficits in axon growth/guidance, cortical migration or den-

droic projection and play an etiological role in ASD development. Aims of the project are to explore at multiple systemic levels the causative role of CRMP2 signaling and isoform-specific CRMP2 autoantibodies in the pathogenesis of ASD using human samples and novel animal models.

Methods

Blood samples from mothers of children diagnosed with ASD and from control group (190 samples in each group) will be collected and the prevalence of maternal autoantibodies targeting different CRMP2 and CRMP1 isoforms will be characterized together with reactivity of the maternal serums against embryonic mouse brain tissue. We will model the effect of maternal autoantibodies in mice by in utero intraventricular injection of specific purified antibodies, and compare the effect of the maternal autoantibodies on neural

development and behavior to animal models of CRMP2 isoform deficiency induced by germline or somatic mutations. Finally, we have generated full and isoform-specific CRMP2 knockout mice which will provide detailed role of the CRMP2 isoforms in neural development in vivo.

Results

CRMP2 deficiency shares histological and behavioral features of ASD in CRMP2 knockout mice.

Discussion

The proposed project has potential to bring new insights into the role of immune dysfunction in ASD, namely the causal role of maternal antibodies against fetal brain proteins in the pathogenesis of ASD.

Keywords: Biological mechanism, Brain development, Neuro-Developmental Disorders

Poster Number : FRI02-78

Diffusion tensor imaging and tractography in autistic, dysphasic, and healthy control children

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Introduction

Diffusion tensor imaging (DTI) is one of the most powerful tools for investigating anatomical connectivity in the brain and for exploring microstructural properties and macroscopic organization of white matter tissues. DTI has already been used in separate studies of individuals with autism spectrum disorders (ASD) as well as those with developmental dysphasia (DD). The aim of our study was to compare brain connectivity among children with ASD, DD, and healthy controls (HC) in a single study.

Methods

Our sample included 113 children aged 5–12 years (77 boys, 36 girls) divided into three subgroups: ASD (n=40), DD (n=36), and HC (n=37). The International Classification of Diseases, 10th ed. (ICD-10) was used to make clinical diagnoses. A diagnosis of autism in the ASD group was confirmed using the Autism Diagnostic Observation Schedule (ADOS), in the DD and HC groups, ASD was excluded using the Childhood Autism Spectrum Test (CAST). DTI images were collected using a 1.5T Phillips Achieva MR imaging system. We focused on the weighted average of fractional anisotropy (FA) in four tracts: the arcuate fasciculus (AF), inferior frontal occipital fasciculus (IFOF), inferior longitudinal fasciculus (ILF), and uncinat fasciculus (UF).

Results

Detailed analyses of FA revealed significant differences among the ASD, DD, and HC groups in the left AF (p=0.049) and right

AF (p=0.002), the left IFOF (p=0.003) and right IFOF (p=less than 0.001), the left ILF (p=less than 0.001) and right ILF (p=less than 0.001), but not in the UF. Post-hoc analyses revealed three patterns of FA differences among the groups: (1) in the right AF, right IFOF, and right ILF, FA differed significantly between the ASD group and the DD and HC groups, however, there was no difference in FA between DD and HC, (2) in the left AF and left IFOF, FA differed significantly between ASD and HC, but there were no differences between DD vs. HC or DD vs. ASD, and (3) in the left ILF, no difference was seen between ASD and DD, but both were significantly different from HC.

Discussion

In right-sided tracts of AF, IFOF, and ILF, the FA in DD was more similar to HC than to ASD. In the equivalent left-sided tracts, there was no uniform trend, and group differences in FA were driven mainly by differences between ASD and HC. Disclosure: Supported by the Ministry of Health of the Czech Republic (research grant No. 16-31754A).

Keywords: Biological mechanism, Brain, Neuro-Developmental Disorders

Poster Number : FRI02-79

Detection of hormones of steroid metabolome pathway in boys with autism spectrum disorders

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Introduction

Currently, there are several theories regarding the cause of autism spectrum disorders (ASD). One of them is also the extreme male brain theory and postulated influence of male sex hormones. In this context, testosterone (TST) and its precursor dehydroepiandrosterone (DHEA) are monitored. However, whether other steroid hormones like mineralocorticoids, or glucocorticoids are involved in the pathogenesis of autism have not yet been fully examined. The aim of this study was to analyse the steroid metabolic pathway in ASD boys and their healthy age and sex matched controls.

Methods

Forty-five boys diagnosed with ASD (module 1, 4.95+1.69) and 24 healthy controls (CTRL, 5.33+1.60) were included into the study. ASD diagnosis was determined using the ADOS-2 and ADI-R diagnostic scales. Blood samples were collected on the morning immediately after ADOS-2 procedure. Circulating steroids were measured in plasma using gas chromatography/mass spectrometry.

Results

A total number of 104 steroid metabolites were assessed. We observed several differences between CTRL and ASD in the

concentration of steroid hormones in the entire metabolic cascade. Significantly lower concentration of cortisol ($p < 0.001$) and deoxycorticosterone was found in ASD group compared to CTRL group. No significant differences were observed within the hormone pregnenolone ($p = 0.79$), DHEA ($p = 0.29$), TST ($p = 0.95$) or estradiol ($p = 0.24$). Although there was no difference in the level of DHEA in ASD and CTRL, we observed lower concentrations in its further metabolites like androstenediol ($p = 0.02$) and keto-DHEA ($p = 0.01$). A non-significant trend towards lower progesterone concentration was observed in children with ASD compared to the CTRL ($p = 0.11$).

Discussion

These results have confirmed that steroid metabolism plays a role in the pathogenesis of ASD. Our results point to the complex changes across the whole steroid metabolic cascade. Further studies focused on the steroid metabolism in both sexes in pre-pubertal children, pubertal individuals and adults should be conducted. This study was supported by APVV 15-0045 and APVV 15-0085. No conflict of interest to declare.

Keywords: Biological mechanism, Neuro-Developmental Disorders

Poster Number : FRI02-80

New Perspectives on the Autism Quotient and 2nd to 4th Digit Ratio

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Introduction

The urge to establish a valid biomarker for ASD, lead to a complex investigation of the 2nd to 4th digit ratio and it's relation to autistic traits and number of social media friendships. Due to the recently biased validity of 2D:4D being a stable biomarker of prenatal testosterone exposure and its effect on neurodevelopment, we examined the digit ratio of adult and subadult neurotypical individuals as well as individuals with ASD.

Methods

Digital scans of both hands were taken from 271 university students (mean age 21.54), 91 boys with ASD (mean age 7.63), 108 neurotypical children (mean age 9.07) and 36 adults with Asperger syndrome (mean age 22.8). Digit ratio was measured blinded of sex and diagnosis by two independent observers, using Auto Metric software. The obtained ratio was correlated with the scores reached in the 10-item autism quotient questionnaire (AQ-10) and in the Asperger's group with the score reached in the 50-item questionnaire, which indicates the number of 'autistic traits' reported by the probands. In a subgroup of 92 students (mean age 21.2) the number of autistic traits as well as the digit ratio was correlated with the number of Facebook friendships.

Results

Contradicting previous research, 2nd to 4th digit ratio wasn't pro-

ved to be linked to autistic traits, neither in neurotypical, nor in individuals with ASD. Despite of this, 2D:4D was significantly lower in males and boys and thus sex-dependent in neurotypical probands. However, these intersexual differences were not observed in the group of adults with Asperger syndrome. The fact that there were great differences in the digit ratio of subadult groups and adults offers a new perspective on the stability of this biomarker – we suggest that the digit ratio is changing throughout ontogenesis and in a different manner depending upon the presence or absence of a neurodevelopmental disorder.

Discussion

Our study questions the role of prenatal testosterone exposure in the etiology of autism spectrum disorders. The digit ratio was not linked to the autistic phenotype in any of the studied groups. Based on this, we propose that longitudinal observations of finger growth and in general growth and formation (even dactyloscopic pattern formation) of extremities could represent a promising approach to finding a biomarker of ASD and possibly other neurodevelopmental disorders.

Keywords: Brain development

Poster Number : FRI02-81

Bovine milk consumption down-regulates galectin-3 in gut-liver axis and induces oxidative stresses in cerebellar Purkinje cells in murine model of autism

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Introduction

Bovine milk (BM) contains several bioactive molecules such as nucleotides, antibodies, hormones and peptides that resist to food processing, interact with distinct biological systems and influence behavior by mechanisms poorly understood. BM has been correlated to gut inflammatory condition, an important comorbidity detected in individuals affected by the Autism Spectrum Disorder (ASD). In ASD, bowel diseases are closely associated with neuroinflammation and neuropsychiatric symptoms as stereotypies and anxiety. A plausible target is the lack of selective permeability controlled by intestinal epithelial cells expressing galectin-3 (Gal-3), a beta-galactosidase protein that foments cell-cell adhesion, but strongly inhibited by lactose. We investigated whether BM affects Gal-3 pathways and possible consequence in neuroimmune system using experimental mouse model of ASD.

Methods

Male BALB/c (naturally develop ASD symptoms) and C57BL/6 mice (neurotypical control) were daily supplemented with BM or water (600µL/day), via oral gavage (n=5 mice/group). After 1 week, small and large intestines, liver, brain and cerebellum were collected ex-vivo and stained with hematoxylin and eosin for histological analysis. Cells expressing Gal-3, ionized calcium-binding adapter molecule-1 (IBA-1), inducible Nitric Oxide Synthase (iNOS) and KI-67 (mitotic marker) were identified by immunohistochemistry.

Statistical tests: ANOVA.

Results

Intake of BM disturbed gut-liver axis and induced cerebellar oxidative stress in experimental ASD mice. When compared with respective control, these mice showed (I) significant reduction Gal-3+ enterocytes in small and large intestines, (II) decrease of hepatic Gal-3+ cells (Kupffer cells) in lobular zone, (III) Liver steatosis and hepatocyte vacuoli suggestive cell injuries probably related to glycogen accumulation, (IV) IBA-1+ microglial cells were numerically increased in the cerebellum, (V) iNOS expression was hallmarked in Purkinje cells. No differences were observed in KI-67+ cells.

Discussion

BM intake has potential to induce neuroinflammation correlated with down-regulation of Gal-3 in the gut and liver. The high number of IBA-1+ cells indicated microglial cell activation while significant iNOS expression by Purkinje cells suggested important cerebellar oxidative stress after BM consumption. We proposed that BM disturbs gut-liver axis and neural compartments linking gut comorbidities in murine ASD and Gal-3 functions. We declare no conflict of interest.

Keywords: Biological mechanism, Comorbidities, Neurological Disorder

Poster Number : FRI02-82

The role of oxytocin in terms of neurodevelopmental theory of autism disorders - ASD and other neurodevelopmental disorders (genetic syndromes, mental disability, schizophrenia). Preliminary research

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Introduction

Social communication is an important domain of complex behaviors of critical importance for identifying, interpreting and storing socially important information. It develops in childhood and adolescence, and its abnormal development affects many different mental disorders. Recently new data appeared on the molecular mechanisms of this process, including stimulatory-inhibitory ratio E/I which is subjected to modification during development, and then stabilizes in the mature brain. In the context of brain socialization, GABA is thought to be affected by the oxytocin system.

Methods

The study planned to examine such parameters as the burden of genetic diseases, the course of pregnancy, the presence of perinatal factors and the administration of oxytocin during the third phase in mothers, combined with natural breastfeeding. The study

group consists of patients with ASD and other disorders: genetic syndromes, mental disability, schi. Research tools such as Psychiatric examination, Lewis Scale, Child Emergency Questionnaire and Obstetric Complications Scale were used. At the later stages of the study, the study of concentration of oxytocin in serum in both groups is planned and its correlation with the above-mentioned parameters. 36 patients have been examined, including 4 with genetic syndromes: with cat's cry syndrome, Edwards syndrome and congenital epilepsy. The remaining subjects are patients with Down's syndrome, ASD and intellectual disability without additional disorders.

Results

The genetic factors, obstetric complications and perinatal factors were more frequent in the study group than in the control group. Most often, observation of obstetric complications in the form of ge-

nital tract bleeding, serological conflicts, imperial cesarean section, infections, fetal hypotrophy, perinatal injuries, prolonged labor over 24 hours. In the families of patients from the study group, more often observed: schi, affective disorders, mental disability, alcoholism, violence and traumatic experiences in the immediate family. Very commonly deliveries were caused by giving oxytocin.

Discussion

We assume that most of the factors are risk factors causing ab-

normal fetal development in the prenatal period. We believe that the implementation of early prevention, diagnosis and treatment burdened with the genetic and environmental factors that constitute the risk group is of key importance in planning the therapeutic process for the majority of neurodevelopmental disorders.

Keywords: Brain development, Complex Autism, Neuro-Developmental Disorders

Poster Number : FRI02-83

Evolution to remission of autism in children after the treatment of their food allergy

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Introduction

After our first presentation of the evolution of 100 patients with autism spectrum disorder (ASD) treated of their food allergy (FA) for one year, with evolution to partial remission in their neurological disorder (LASPGHAN 2017 Porto, Portugal), we are now able to present a follow-up of 852 patients with ASD and FA, with total remission in 25% of the cases, as soon as the ASD patients completed 36 months of their FA treatment. This evolutionary report aims to evaluate the clinical progression of patients with ASD and FA, undergoing food allergy treatment.

Methods

All 852 patients with ASD who had already been diagnosed with FA entered in this study. In addition to the immunological investigation, physical examination and anamnesis, all were submitted to the skin prick test to identify the food allergens involved. The FA diagnosed was treated with hypoallergenic diet (HD).

Results

We evaluated 852 patients previously diagnosed within ASD, being 708 males and 144 females. The average age was 6 years and 1 month (ranging from 1 year and 11 months to 30 years) and the ratio between male and female was 5:1. The immunological investigation results in 34% of the patients with humoral mediation (IgE), in 16% was cellular, in 37% was mixed-mediated, and 13% had other immune mediations. The diagnosis of FA was made in 100% of the patients with ASD. At the time of the diagnose of ASD and

prior to the treatment of their FA, the verbal communication was present only in 1% of the patients, the eye contact was present in only 13%, the social interaction was good in only 9%, the restrictive and repetitive behaviours were present in 57% of the patients, the level of activity were 74% hyperactive, 18% were hypoactive and 8% had regular activity level. After 30 months of treatment of their FA 25% of the patients had total remission of their ASD.

Discussion

The patients underwent nutrological monitoring and despite dietary restrictions with HD were able to follow the normal growth curves using, when necessary, amino acid based formulas. We postulate that this diet has stopped the inflammation in the neurons of the CNSALT and also in other immune systems affected by the FA, in different MALTs. It is fundamental to follow the HD and the clinical condition of the patients with ASD until they have clinical and laboratory remission of their FA. The total remission of ASD started after the FA treatment completed 30 months of treatment.

Poster Number : FRI02-84

Superior temporal sulcus rest functional abnormality in children with autism: an MRI-ASL study

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Introduction

Pioneers studies using positrons emission tomography (PET) have described decreased rest cerebral blood flow (CBF) in children with ASD localized in the temporal regions, particularly in the superior temporal sulcus (STS). Multivariate classification analysis has shown that STS hypoperfusion allows to correctly classify individual images of children with ASD at rates of 86%, suggesting it could become a useful biomarker in autism. However, PET has significant limitations such as injecting radioisotope products. In this study we aimed to reproduce the results obtained with PET using arterial spin labeling (ASL) MRI in order to develop a possible biomarker in autism using a non-invasive brain imaging method.

Methods

Twelve children with ASD (age = 11.2±3 years) and 28 typically developing (TD) children (age = 10.1±2.5 years) participated in this study. The ASD diagnosis was based on DSM-IV and ADI-R. Rest CBF was measured ASL-MRI. All scans were acquired with a 1.5 Tesla (Signa General Electric) scanner at the Necker Hospital. Structural T1 images and ASL images were pre-processed using SPM12. A whole brain voxel-by-voxel group analysis was performed using a general linear model. Further region of interest (ROI) analyses was performed on the superior temporal regions,

bilaterally generated with WFU PickAtlas software. In addition, a receiver operating characteristic (ROC) curve was generated with the rest CBF values from the cluster identified in the whole brain analysis.

Results

Whole brain voxel-by-voxel analysis showed a significant decrease in rest CBF ($p < 0.05$ corrected) in the ASD group compared to the TD group in the left posterior STS. In addition, ROI analysis showed decreased rest CBF in children with ASD in left and right superior temporal regions. The ROC curve analysis revealed an optimal cut-off rest CBF of 76.9 ml/100mg/min. Rest CBF values within the STS lower than the cut-off were observed in 11 out of 12 ASD patients (91.7% sensibility) while only 3 out of 26 TD children had lower than cut-off rest CBF values (88.5% specificity).

Discussion

If confirmed in a larger sample, STS hypoperfusion revealed by ASL-MRI, may become a brain imaging biomarker in ASD.

Keywords: Brain, Childhood

Poster Number : FRI02-85

Study of the impact of slowed auditory and visual information on visual exploration, functional connectivity and verbal comprehension in adults with autism: an EEG and eye-tracking study.

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Introduction

Some studies brought out sensory processing abnormalities in autism that occur lifelong and from the earliest age (Germani et al., 2014, Leekam et al., 2007). Several authors have been interested in trying to understand how these processing abnormalities could alter their social interactions (Foss-Feig et al., 2012, Tardif et Gepner, 2009). Some of these studies have led to the theory of Tempo-Spatial Processing Disorders (TSPD) of multisensory stimuli, according to which clinical manifestations of autism would be explained by difficulties in perceiving and integrating rapid and complex environmental information (Gepner et Féron, 2009, Tardif et Gepner, 2009). Several studies aimed at testing this theory demonstrated the beneficial effect of slowed auditory and visual information on the performance of children with ASD (Lainé et al., 2011, Tardif et al., 2007, Tardif et al., 2017). One of these studies demonstrated with an eye-tracking method that children with ASD pay more attention to the face of a narrator telling a story when the visual scene is slowed down compared to a presentation at a real-time speed (Charrier et al., 2017). The first objective of our study is to replicate the latter results in adults with ASD and to investigate effects of slowness on verbal comprehension. The authors of the TSPD theory also postulate that these difficulties in processing and integrating sensory events could be the result of altered pattern of functional connectivity. However, although EEG / MEG studies robustly demonstrate EEG coherence abnormalities in children

and adults with ASD (O'Reilley et al., 2017, Murias et al., 2007, Carson et al., 2014), thus far, no study has investigated the effect of slowed-down presentation on functional patterns of connectivity in autism.

Methods

We investigated effects of slowed presentation of face of a narrator telling a story on verbal comprehension and visual exploration in 13 adults with autism and 13 typically-developing adults with an eye-tracking method. We also explored the particularities of functional connectivity in adults with ASD and the effect of slowed-down presentation on EEG coherence.

Results

The results are currently under analysis.

Discussion

If this study demonstrates beneficial effects of slowed presentation on brain activity and audiovisual processing in adults with autism, it could lead to a better understanding of social and communicative difficulties in autism.

Keywords: Adult, Complex Autism, Neuro-Developmental Disorders

Poster Number : FRI02-87

White matter abnormalities and social perception deficits in ASD: an MRI-DTI and eye-tracking study

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Introduction

A core difficulty to establish direct eye-contact, constitute a frequent characteristic across the autism spectrum disorder (ASD). Eye-gaze behaviour can be measured objectively by eye-tracking method allowing the evaluation of social perception in children with ASD and typical development (TD). Moreover, it is now admitted that human social abilities, disrupted in ASD, have a neural substrate, mainly localized in the social brain. In a network point of view, advances in brain imaging as diffusion tensor imaging (MRI-DTI) permit to explore white matter (WM) microstructure mediating anatomical connectivity. We hypothesized that anatomical abnormalities in social brain connectivity could account for ASD quotidian difficulties in interacting with others. The current study sought to investigate (i) whether individuals with ASD exhibit differences in WM microstructure approached by fractional anisotropy (FA) compared to TD children, (ii) to identify whether WM microstructure correlates with individual social perception characteristics measured with an eye-tracking protocol.

Methods

51 children, 27 with ASD and 24 with TD (age range: 2.5-17 y), underwent an eye-tracking and MRI-DTI session with a rigorous image quality check. Images were analysed by a whole-brain

Tract-Based Spatial Statistics method. We applied a general linear model (FSL software) in order to investigate ADS vs TD children differences in FA values and to explore correlations between FA values and number of fixations to the eye-region.

Results

Compared to the TD group, significantly reduced FA was found ($p < 0,05$, corrected) in the ASD group, in the right inferior longitudinal fasciculus, a circuit ranging along the temporal lobe, and constituting the ventral portion of right arcuate fasciculus. Yet, this WM bundle connects anterior to more posterior temporal areas known to be important for social perception and cognition. Moreover, ASD children showed a positive correlation between FA values and number of fixations in the eyes in widespread clusters including the entire bilateral arcuate fasciculus.

Discussion

The present study shows WM microstructure abnormalities in children with ASD localized mainly in temporal structures. In addition, the WM microstructural pattern correlates with an objective measured behavioural pattern reflecting visual social perception.

Keywords: Behaviour, Brain, Social

Poster Number : FRI02-88

Visual attention and proactive inhibition in a social and non-social cueing task in Autism Spectrum Disorder

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Introduction

Spatial attention allows to select and process relevant sensory information in the environment. Autism spectrum disorder (ASD) has been associated with dysfunctions in spatial attention that could affect their sensory perception. Social stimuli, like faces or eyes, are less looked and induce a faster attentional disengagement in ASD patients than typically developing (TD) subjects. However, the salience of a unique social peripheral object has never been tested. Our objective was to assess the visual attention orienting to and disengaging from a face or a non-social object in a cueing paradigm. Previous studies using a cueing paradigm in ASD subjects have found various results. However, it has now been shown that this paradigm involves both visual attention and proactive inhibition, an executive function preventing inappropriate reactions to events, i.e. the cue in a cueing paradigm. The mixed results observed in previous studies could thus be related to differences

in inhibition abilities.

Methods

Nine ASD adults were included in our protocol. The subjects performed three blocks of cueing tasks. In the first one, the subjects had to fixate a central cross and to press a button when a target (star) appeared on the left or the right side of the screen. In the two other blocks, trials with only the target (star) were mixed with trials in which the target was preceded by a cue presented on the same side (valid) or on the other side (invalid) of the screen (75% validity). The cue could either be social (a face) or non-social (a butterfly), and was presented at three possible timings before the target. The fixation was controlled thanks to eye-tracking.

Results

Performance and reaction times were recorded. Two of the 9 sub-

jects were impaired in cued trials (low performance). In the remaining 7 subjects, reaction times were faster in cued than in non-cued trials, a validity effect was observed (valid trials faster than invalid ones), with no difference between social and non-social cues. However, various results were observed for the first block (with no cue) allowing to measure the proactive inhibition, with only 3 ASD subjects exhibiting results similar to TD subjects.

Discussion

Our study shows that variability in attentional tasks in ASD subjects could be partly due to differences in inhibition abilities. These results should be confirmed in a larger population.

Keywords: Cognition, Social

Poster Number : FRI02-89

The altered physiological sensitivity to faces in autism: pupillometric evidence

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Introduction

Faces are key stimuli involving in social interaction. This visual stimulation elicits automatic processing and physiological arousal in observers. The level of arousal, indexed for example by the pupil diameter, is influenced by static but also dynamic components of the faces, like realism, postural micro-movements or emotions.

Methods

In this work, we conducted 2 studies in 185 children aged from 3 to 16 years, including 67 children with autism spectrum disorder (ASD) and 118 typical developing children (TD). In the first study we investigate pupil reactivity to stimuli ranging from static object to static emotional faces, including virtual faces. In the second study we investigate pupil reactivity to stimuli ranging from static neutral

faces to dynamic emotional faces.

Results

In both studies, we found in ASD children an atypical pupil reactivity to faces. More specifically, the first study reveals in ASD children a strong pupillary reactivity in response to virtual faces whereas the second study shows in ASD patient a pupillary hypo-responsiveness to dynamic faces

Discussion

These results suggest a disturbed physiological arousal in response to faces in these patients. These studies bring new understandings concerning the ability of patients with autism to automatically adjust to salient social stimuli.

Poster Number : FRI02-90

Physiological responses to the emotions of others in infants at elevated likelihood for ASD

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Introduction

Differences in attention regulation are observed in infancy in children who are at an elevated likelihood of Autism Spectrum Disorder (ASD). Additionally, some studies have reported higher heart rate (HR) during calm situations and smaller HR responses to social stimuli in children with ASD compared to typically developing children. In the current study, HR in response to social and non-social stimuli is compared between infants with (ASD-sib) and without (ctrl-sib) an older sibling with ASD. The amount of HR deceleration is used as an indicator of attentional engagement.

Methods

Ninety-three ASD-sibs (52 males) and 28 ctrl-sibs (17 males), who

participated in a longitudinal study with visits at 5, 10 and 14 months, had HR data available for at least one of the visits. HR was measured during a non-social wildlife (N-S), Happy and Sad video, followed by either a N-S video (5 months) or a neutral social video (10 and 14 months). Average HR deceleration was calculated as: HR during video when lower than baseline – baseline, where baseline was calculated as the median of five pre-stimulus beats. Variables were added to a mixed model in the order age, condition, group, condition-by-group interaction and compared using log-likelihood test.

Results

There was an effect of age ($p < .001$) and condition on HR ($p < .001$),

but no group or interaction effect. Data showed that HR was lowest during N-S at 5 months, but lowest during Happy at 14 months. For HR deceleration, there was an effect of age ($p=.008$) and condition ($p<.001$), but not of group or interaction. HR deceleration was largest during Happy and last N-S video at 5 months, but during Sad at 14 months. Looking at changes in HR deceleration showed that children increased their HR deceleration with age to the Sad video only.

Discussion

ASD-sibs and ctrl-sibs do not differ in HR or HR deceleration, sug-

gesting that both groups show similar amounts of attention allocation to social and non-social videos. With age, infants in both groups show an increase in attention to the negative social stimuli. Thus, although recognition and regulation of emotions is still developing, infants show some ability to discriminate between emotions at 5 months. Following-up which children in the ASD-sib group go on to have ASD can further elucidate whether children with ASD already show differences in autonomic activity and response in infancy.

Poster Number : FRI02-91

Malfunctioning feedback loop during ultra-rapid item categorization in individuals with autism spectrum disorder

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Introduction

Already in 1996, Thorpe showed that healthy individuals are able to categorize items even if the presentations were ultra-rapid (20ms). Furthermore, the enhanced perceptual hypothesis (Plaisted, 2000) assumes that this categorization processes may be impaired in individuals with autism spectrum disorder (ASD). This difficulty seems to be caused by abnormal categorization of atypical items, whereas semantic processing and the categorization process itself appear unimpaired. In accordance with the coarse-to-fine hypothesis, a typical member of a category can be recognized on a basic level, whereas an atypical item has to be processed on a subordinate level (Martinovic et al., 2008). Carmo et al. (2015) studied the process of categorization with very short presentation times (13 ms) and showed a different pattern of behavioural results for atypical items in longer presentations in individuals with ASD compared to healthy individuals, suggesting a malfunctioning feedback loop.

Methods

To investigate this in more detail, in the current study we compared reaction times and event related potentials (ERPs) of two different categories (food/animals) with short (33 ms) and long (83 ms) presentation rates. Participants were asked to discriminate whether each item belongs to a specific category.

Results

We found differences in RT and d' as a function of presentation times, item typicality, and item category. Notably, a specific RT advantage was observed for typical compared to atypical stimuli with long presentation times for individuals with ASDs ($N = 15$), but no such difference was evident in the matched controls ($N = 20$).

Discussion

Hence, these results support the notion of a malfunctioning feedback loop.

Poster Number : FRI02-92

Thinking in pictures in autism spectrum disorder

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Introduction

Individuals with Autism Spectrum Disorder (ASD) show enhanced mental imagery abilities. Some authors hypothesized that the use of mental imagery and visual strategies could partly explain the atypical performances of these individuals. Furthermore, according to personal reports, they would possess a specific visual cognitive style. The aim of this study is to assess the presence of a visual cognitive style in autistic individuals and to better characterize its manifestations. We also want to verify whether this visual cognitive style is related to the sensory atypicalities present in ASD.

Methods

39 adults with ASD participated in this study (age range 18 to 62). 104 comparison participants (age range 18 to 69) were also included. The two groups are matched on age, education levels and gender. An online questionnaire was used to evaluate the attention to detail (with items from the Autism Spectrum Quotient, Baron-Cohen et al., 2001) and mental images (with items concerning the colors, level of details, duration, level of abstraction, movements and manipulation of mental images). In addition, there were questions about their Cognitive styles (participants indicated whether they use images only, words only or both in seven different situations) and two open questions (for example: "Describe

what comes to your mind when you hear the name of a city you've already been to"). We also evaluate the sensory sensitivity (with items from the Adolescent/Adult Sensory Profile, Brown & Dunn, 2002).

Results

The use of mental images is significantly more important and mental images are more persistent in participants with ASD than in controls. There are correlations between the use of images, sensory sensitivity and attention to detail only in participants with ASD. Finally, qualitative analyzes indicate that, when describing their experiences, controls tend to use the lexical field of memories, whereas participants with ASD tend to use the lexical field of perception.

Discussion

Our results support the existence of a visual cognitive style in ASD individuals with the frequent and persistent use of mental images. This visual cognitive style is related to the sensory atypicalities present in individuals with ASD. These results question the impact of this particular cognitive style on the daily life of these individuals, especially in terms of learning and attention.

Poster Number : FRI02-93

Brain response in ASD during the detection of emotional changes in facial expressions

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Introduction

Several studies have reported difficulties in understanding and processing facial expressions in Autism Spectrum Disorder (ASD). In addition to disturbances impacting socialization, sensory particularities, atypical reactions to change and intolerance of uncertainty suggest the importance of non-social symptoms in ASD. In electroencephalography, change detection elicits a specific com-

ponent, called mismatch negativity (MMN), and previous studies suggested that the visual MMN (vMMN) to variations in geometric forms is altered in ASD. vMMN can also be elicited when a deviant emotional face is presented among regular neutral faces. However to date no study has addressed the interplay between change detection and facial expression processing in autism, both processes being at the heart of the disorder.

Methods

Two deviant expressions, neutral and angry, were presented embedded in a sequence of repetitive neutral stimuli. vMMN was measured as the subtraction of deviant stimuli presented in an equiprobable sequence from the same deviant stimuli of the odd-ball sequence. Seventeen adults with ASD, matched on gender and age to 17 controls participated in the study. vMMN latency and amplitude were measured on occipital and parieto-occipital sites in 3 time-windows (80-180ms, 220-400ms and 400-480ms) to investigate both early and sustained response. Source reconstruction was performed with sLORETA and results were statistically analyzed to compare groups and investigate deviancy and emotional effects.

Results

Analyses of the vMMN revealed that the ASD group presented smaller amplitude to both neutral and emotional deviants (220-

400ms, $p = 0.03$) compared to the Control group. Analysis of mean the amplitude in the later latency window (400-480ms) revealed that only the control group presented a sustained emotional deviancy-related effect (Group x Emotion interaction, $p = 0.04$). Analyses at the source level during this late latency range showed significantly reduced activity in the right inferior frontal gyrus, superior temporal gyrus and insula in ASD than in controls while processing emotional change.

Discussion

Findings suggest that both the broad change detection process and the emotional deviancy specific process (represented by the sustained activity in controls) are atypical in ASD. This study confirmed atypical change processing in ASD and points to specific difficulty in the online processing of emotional changes, which potentially plays a crucial role in social interaction deficit.

Poster Number : FRI02-94

Social judgements and reactions to social rejection in young adults with autism

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Introduction

Autistic individuals are at substantial risk for peer rejection, alongside more frequent experiences of loneliness, isolation and bullying. Such experiences likely contribute to heightened rates of anxiety, depression and suicide (Jackson et al., 2017). Research has shown that autistic individuals are less accurate at judging others' faces in terms of social characteristics (e.g. trustworthiness). However, it is less known how autistic individuals perceive and respond to social rejection from others and this may be crucial for shaping social experiences.

Methods

20 autistic university students (mean age=23.58) and 40 neurotypical students (NT, mean age=22.83) participated. Approximately two weeks before the experiment, participants sent a 'profile picture' to be judged by other university students. In the experiment, participants were shown the pictures of those students. For the social judgement task (SJT) participants were asked to evaluate whether the students in the pictures would have 'liked' the participant from their profile picture, then subsequently given feedback on whether their evaluations were correct or incorrect. In the age judgement task (AJT), participants estimated the age of the person in the picture and were given feedback on their evaluations. Behavioural responses and psychophysiological cardiac reactivity (in-

ter-beat intervals, IBIs) were measured. Participants self-reported autism traits, social anxiety, and depression questionnaires.

Results

Between-group behavioural and psychophysiological analyses were conducted. Autistic participants predicted to be rejected on 56% of trials compared to 48% for the NT. Importantly, the psychophysiological results showed that while the NT group had longer IBIs following social rejection trials indicating transient cardiac slowing, the autistic participants did not show cardiac slowing to the same trials. These results were not due to generalised negative feedback effects, as this pattern was absent from the AJT. Finally, there were significant correlations between negative self-bias and autistic traits ($p=.009$), social anxiety ($p<.001$), and depression ($p=.02$).

Discussion

Autistic adult participants showed atypical cardiac responsivity to social rejection. It may be hypothesized that experience of social rejection in autistic adults has a down-regulation effect on psychophysiological responses as a potential compensatory mechanism and the relationship between mental health and social rejection should be further investigated.

Poster Number : FRI02-95

Toward a motor signature in autism: studies from human-machine interaction

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Introduction

Autism spectrum disorder (ASD) is a heterogeneous group of neurodevelopmental disorders which core symptoms are impairments in socio-communication and repetitive symptoms and stereotypies. Although not cardinal symptoms per se, motor impairments are fundamental aspects of ASD. These impairments are associated with postural and motor control disabilities that we investigated using computational modeling and developmental robotics through human-machine interaction paradigms.

Methods

First, in a set of studies involving a human-robot posture imitation, we explored the impact of 3 different groups of partners (including a group of children with ASD) on robot learning by imitation. Second, using an ecological task, i.e. a real-time motor imitation with a tightrope walker (TW) avatar, we investigated interpersonal synchronization, motor coordination and motor control during the task in children with ASD (n= 29), TD children (n=39) and children with developmental coordination disorder (n= 17, DCD).

Results

From the human robot experiments, we evidenced that motor si-

gnature at both groups' and individuals' levels had a key influence on imitation learning, posture recognition and identity recognition. From the more dynamic motor imitation paradigm with a TW avatar, we found that interpersonal synchronization, motor coordination and motor control were more impaired in children with ASD compared to both TD children and children with DCD. Taken together these results confirm the motor peculiarities of children with ASD despite imitation tasks were adequately performed.

Discussion

Studies from human-machine interaction support the idea of a behavioral signature in children with ASD. However, several issues need to be addressed. Is this behavioral signature motoric in essence? Is it possible to ascertain that these peculiarities occur during all motor tasks (e.g. posture, voluntary movement)? Could this motor signature be considered as specific to autism, notably in comparison to DCD that also display poor motor coordination skills? We suggest that more work comparing the two conditions should be implemented, including analysis of kinematics and movement smoothness with sufficient measurement quality to allow spectral analysis.

Poster Number : FRI02-96

Brain oscillatory activity associated with altered anticipatory motor control in Autism Spectrum Disorders

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Introduction

The brain constantly makes predictions used to shape our perception, optimize motor control, and improve our understanding of social interactions. In Autism Spectrum Disorders (ASD), the integrity of such predictive processes is challenged. Predictive mechanisms can be explored through the study of anticipatory postural adjustments. During bimanual coordination, i.e. when manipulating with the dominant hand an object held by the postural hand, anticipatory postural adjustments are characterized by early changes in the contralateral postural muscles before the hand starts lifting the object. In children with ASD, previous studies found that this anticipatory behavior is impaired, and revealed an absence of the typical event-related desynchronization of the sensorimotor rhythm. Here we used MagnetoEncephalography (MEG) to further unveil the brain oscillatory differences that could explain the use of a reactive, rather than a predictive, mode of control in ASD.

Methods

Twenty children with ASD and 25 children with typical development (TD), aged from seven to twelve, participated in the study. A load was placed on the left arm of the child, who was instructed to lift it with the right hand. Neural oscillations were recorded with a 275-channel MEG system (CTF-275 by VSM Medtech Inc.). Sources reconstruction was performed using dynamical imaging

of coherent sources and the signal was convoluted with complex Gaussian Morlet's wavelets. For each individual time-course in the frequencies- and sources-of-interest, the amplitude of the mean power decrease and its onset were extracted during the anticipatory period.

Results

Postural stabilization did not differ between the two groups and was accompanied by an increased lifting duration hence favoring reactive processes rather than anticipatory ones. Time-frequency maps revealed a mean power decrease in the 8-13 Hz frequency band over the central regions before the onset of unloading, with distinct spatial and temporal characteristics between the two groups. Further, in the 20-30 Hz frequency band, the mean power decrease occurred before unloading in the TD group and was conversely late and concomitant to unloading in the ASD group.

Discussion

Characterizing the complex interplay between different brain rhythms, their localization, and their temporal orchestration is a step towards a better understanding of the atypical brain development in ASD.

Poster Number : SAT01-01

Demographic and Clinical Characteristics of Participants in the Australian Autism Biobank

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Introduction

The clinical and genetic heterogeneity within Autism Spectrum Disorder (ASD) represents significant challenges to advancing knowledge about etiological pathways. Considerable progress has been made through collaborative and large-scale projects, necessitating a similarly large resource to be established in Australia. Established in 2014, the Australian Autism Biobank was initiated by the Cooperative Research Centre for Living with Autism (Autism CRC).

Methods

Participants were children with a diagnosis of ASD, aged between 2-17 years. Biological parents and siblings, both with and without ASD, also participated, as well as non-autistic children ('controls') from the general community. A smaller group of children clinically referred for an ASD diagnostic evaluation but who did not meet diagnostic criteria were also invited to participate ('ASD-query'). No exclusion criteria regarding language level, cognitive ability, or co-occurring conditions was applied to children diagnosed with ASD. All children completed cognitive or developmental assessments. Parents/caregivers completed questionnaires about medical and developmental history. Physical measurements as well as blood, stool, urine, and hair samples were collected from children, physical measurements and blood samples were collected from

both parents of probands.

Results

A total of 979 children diagnosed with autism participated (20.4% females, 83.4% Caucasian), with an average age of 7.4 ± 3.9 years (mean \pm SD) at assessment. 173 autistic siblings were also recruited (7.8 ± 3.5 years, 30.1% females), comprising 145 multiplex families (between 2-5 children diagnosed) and 27 twin pairs. 847 mothers (39.5 ± 6.4 years, range 22-68 years), 548 fathers (42.1 ± 7.5 years, range 19-82 years) and 263 non-autistic siblings (8.2 ± 4.2 years, range 2-16, 51% females) also participated. 150 non-autistic controls (6.2 ± 3.4 years, 2-15 years, 51% female) and 16 ASD-query children (6.1 ± 2.6 , 3-10 years, 50% female) were also included in the cohort. 31.4% had a diagnosed Intellectual Disability or Developmental Delay ($n = 311$), 4.5% had epilepsy ($n = 45$), and 2.2% had a diagnosed genetic condition ($n = 22$).

Discussion

This initiative has resulted in a valuable and detailed resource comprising clinical information alongside biological samples to help increase our understanding of the underlying mechanisms associated with an ASD diagnosis. Both phenotypic and biological data are now available for access requests from the research community.

Poster Number : SAT01-02

BebeMiradas Programme. Detection and intervention project in babies with support of eye tracker.

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Introduction

The early detection of ASD, in Spain, and therefore the intervention in the first two / three years of life, stills remains a challenge due to the lack of universal screening programs in children.

Methods

The BebeMiradas Programme developed by Autismo Burgos at the HUBU Hospital in Burgos, has managed to establish a ASD

detection system involving pediatricians, the neuropsychiatric service and the entire network of social and educational attention in the city. The programme cares for babies aged from 2 to 36 months, who through 11 medical consultations, the presence of ASD alert symptoms is assessed. Surveillance is carried out with standardized screening instruments, along with visual follow-up evaluations through eye-tracker technology and interviews with neuropsychiatricians and Autismo Burgos professionals specialized

in ASD and child development. Once the warning signs are detected, the case is derived in parallel towards a diagnostic assessment and a specialized intervention based on the IMPACT and DENVER programs, in which one of the priority objectives is the empowerment of families

Results

In 3 years, 122 babies have been evaluated, 12 of which have been confirmed as ASD, 18 babies have received early attention. The association coordinated administrations and health departments having succeeded in implementing a detection system that is able to start working with babies with warning signals in the early years, establishing a surveillance system from 2 months of age. The success consists in implementing an effective system of detection and care within the public system in collaboration with the parents' association. The implementation of eye tracker technology, together with the impact of the program as a whole, has deser-

ved the project to be supported by the Autism National Strategy of Spain, as well as the support of companies and local entities. The impact of the programme in the society of Burgos and in the field of autism at national level is very high, is has been awarded and got visitors. We also have got proposals to mock the programme up. One of the most powerful indicators is the high levels of satisfaction of the families and professionals involved, as well as no family has left the programme so far.

Discussion

The program confirms that screening programs are effective, advances in the validation of eye tracker technology as a screening tool and in the impact of early care on the child and the family. For a future, the mocking up should be studied.

Keywords: Assessment, Diagnostic, New Technologies

Poster Number : SAT01-03

The Autism Preschool Peer Interaction Observation Scale (APIOS): Naturalistic observation to assess adaptive and non-adaptive social-communicative skills during on-going interaction with peers

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Introduction

Despite the fact that peer relations do not develop typically in children with ASD, naturalistic observation procedures to reliably evaluate spontaneous peer engagement during preschool years are scarce. Thus, this study examines the validity and reliability of a newly developed peer observation scale, the Autism Peer Interaction Observation Scale (APIOS), in (a) differentiating between preschoolers with ASD and typical age-mates regarding their dyadic interaction, and (b) linking the APIOS with standard reports to assess social-adaptive functioning (Vineland), social dysfunction (SRS-2), autism severity (ADOS), and IQ (Mullen).

Methods

Eighty-five preschoolers participated in the study: n=50 ASD (IQ>75) and n=35 typically developing age-mates matched on CA, IQ, and mothers' education. The APIOS (Rabinovich & Bauminger-Zviely, 2016) comprises a 3-hour observational procedure assessing preschoolers' social-communication abilities and difficulties during spontaneous peer interactions in the preschool. The APIOS includes 9 categories and 17 subcategories for adaptive social functioning (e.g., nonverbal communication, functional and

complex social behaviors, prosocial behaviors, social and imaginary play, conversation) and another 3 categories for non-adaptive behaviors (e.g., stereotyped-repetitive, and irregular sensory interest), rated by the observer along a 4-point scale from 1 (typical) to 4 (very atypical behavior). APIOS inter-rater reliability, ranged from 85.7% to 96.4%. To evaluate adaptive skills and social functioning, the Vineland and SRS-2 were completed by children's teachers.

Results

Main results verified the APIOS's distinctive value in differentiating ASD from typical groups, with the latter showing more adaptive socio-communication and fewer non-adaptive behaviors. Based on the APIOS, the most deficient behaviors in ASD were imaginary play and conversation, and the more intact behaviors were nonverbal behavior and functional social communication. The APIOS correlated well with the Vineland, SRS-2, and IQ: Children observed to demonstrate more intact peer relations on the APIOS showed higher IQ, better adaptive skills, and less social atypicality. In contrast, only a few significant correlations emerged between the APIOS and ADOS.

Discussion

The APIOS may be reliably used as naturalistic peer-engagement procedures to obtain comprehensive assessment of social-communication in ASD and also to provide intervention guidelines.

Keywords: Assessment, Preschool, Social

Poster Number : SAT01-04

The profile of adaptive behavior in autism and the role of prenatal, perinatal and postnatal factors.

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Introduction

The aim of this study was to reveal profile of adaptive behavior in children with autism spectrum disorder. Second, we looked for relationship between adaptive behavior profile, severity of individual autistic symptoms and variety of anamnestic data (relating with children and parents).

Methods

Data regarding anamnestic characteristics, adaptive behavior profile and behavioral symptoms were collected. Anamnestic questionnaires, Vineland's adaptive behavioral scale (VABS-3) were used. ASD symptoms were evaluated with ADI-R and ADOS-2.

Results

We suppose that the more severity of autistic symptoms, the worse

of adaptive behavior profile. We suppose that selected pre-/peri-/post-natal factors of the child and selected anamnestic data relating with the their parents are in relationship with profile of adaptive behavior and severity of autistic symptoms.

Discussion

Knowing of adaptive behavior profile of autistic children can help us to understand their real ability to meet the demands of everyday life. Knowledge about effect of different pre-/peri-/post-natal factors in adaptive behavior and severity of autistic symptoms contribute to better understand their role in pathogenesis of autism.

Keywords: Adapting, Behaviour, Environment

Poster Number : SAT01-05

Abnormalities of auditory behaviors in children with Autism Spectrum Disorders: Development of a new assessment tool, the Auditory Behavior Alterations Scale for Children (ABAA-C)

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Introduction

Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder that affects social interactions and communication and is characterized by repetitive and stereotyped activities. The DSM-5 has recently integrated the sensory abnormalities into the second diagnostic criterion. Among these, there are the auditory sensorial features such as the «impression of deafness», hyper and hyposensibility and paradoxical reactions to the sounds and the human voice have an impact on communication and language development and the adaptation to environments. The objective of this study is to present the metrological qualities and the clinical interests of an original tool, the Auditory Behavior Alterations Scale for Children with Autism Spectrum Disorders (ABAA-C) used by clinicians during ASD children’s assessments to identify auditory behavior peculiarities and thus adapted individualized educative and ecological program permitting a best social inclusion.

Methods

Fifty children and adolescents with ASD (35 Males, 15 Females) aged from 2 to 18 years were recruited in special services for autistic people. Diagnosis was made from DSM-5 criteria and based on a comprehensive diagnostic quantitative evaluation, using CARS, ADOS and ADI-R. and intellectual development was assessed using appropriated and validated tests. ABAA-C composed of 24

items, rated 0 to 4 according alteration’ intensity and ranged into seven dimensions of auditory sensory was used by two psychologists (the two first authors) during psychological examinations with a specific material involving auditive behaviors. Total and dimensions scores were calculated.

Results

Psychometric analysis indicates good homogeneity of the scale and good reliability inter and intra-rater. Scores to the ABAA-C appear to be independent of the overall severity of autistic symptomatology.

Discussion

ABAA-C appears as an original and relevant francophone clinical scale to identify and assess specific alterations in auditory behavior which are known to be related to central auditory processing disorders in children with ASD. A complementary study currently underway ranging from childhood to adolescence (120), will complete the validity study of the tool and enrich the knowledge of auditory behaviors in people with ASD.

Keywords: Assessment, Childhood, Neuro-Developmental Disorders

Poster Number : SAT01-06

Improving autism screening in French-speaking countries: Validation of the Autism Discriminative Tool, a teacher-rated questionnaire for clinicians’ use.

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Introduction

ASD screening remains low or inefficient in many French-speaking countries due to specific but well-identified factors. Faced with these issues, our diagnostic team decided to create a more specific screener, with the aim to reduce waiting lists, to fasten assessments, diagnoses and interventions. This presentation describes the validation of the Autism Discriminative Tool (ADT), a behavioural checklist, as a second level screener based on the DSM-5.

Methods

ADT items were tested in normative sample (n= 118) and preschoolers with ASD and other presenting mimicking conditions (n=126). Children in the clinical sample were rated by their teachers via the ADT at the beginning of the diagnostic assessment process within three specialised diagnostic teams. We performed several discriminant function analyses to identify which ADT items were statistically most predictive of an ASD diagnosis. Ranges of cut-off

scores were determined by analysing score distributions among groups, while the discriminant power of our tool was compared to the SCQ’s performance in the same samples.

Results

Results suggested that a 26-item version allows for differential detection, with a sensibility rate estimated at 0.83, specificity of 0.94 and an overall correct identification percentage of 86.5%. As expected, items relating to sensory atypicalities helped differentiating children with ASD from those with intellectual disability. Sharing and reciprocity in social relationships played a similar role. Now widespread in our pediatric hospital, the ADT clearly helps improving the rate of adequate referrals, therefore fastening the diagnostic process.

Discussion

This study is one of the first to compare all three conditions most

at risk of being confounded with ASD whilst using teachers as informants. We paid extra attention to follow strong scientific criteria (e.g. application of gold standard ASD tests by certified professionals during the diagnostic phase, cohort follow-up, presence of a control group or comparison to a reference test) and reduce at its maximum biases identified in the literature. Since the study resumed, the ADT has started to be used by child clinicians, school/

mental health teams and hospitals. Continued work is currently under way with larger data being collected from multiple sites. Validation of an English version is also programmed. The author declares that they have no conflict of interests. Furthermore, this research received no grant or specific funding.

Keywords: Assessment, Diagnostic, Preschool

Poster Number : SAT01-07

Application of the Brief Observation of Social and Communication Change (BOSCC) to ADOS assessments in the Preschool Autism Communication Trial (PACT)

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Introduction

Commonly used outcome measures in autism intervention trials are often insensitive to subtle, yet meaningful, changes in the child's social and communication behaviours. The Brief Observation of Social and Communication Change (BOSCC) has been recently developed with the aim of providing a more sensitive tool. The Preschool Autism Communication Trial (PACT) will be the largest trial to use the BOSCC so far and is among the first to apply retrospectively the adapted BOSCC-for-ADOS scheme. The aim of this study was to explore the psychometric properties of the BOSCC as applied to ADOS assessments in PACT and compare with the ADOS-2.

Methods

152 children (24-59m) with a diagnosis of core autism participated in PACT. 117 children (77%) were ADOS module 1 and 35 children (23%) were module 2. The BOSCC was scored from recordings of the ADOS assessments from the PACT study.

Results

Inter-rater reliability Four coders scored 15 videos. Intra-class correlations demonstrated high reliability: total score 0.93 (95% CI: 0.85-0.97), social and communication subscale 0.93 (0.84-0.97) and RRB subscales 0.82 (0.66-0.92). Correlations The BOSCC social communication subscale strongly positively correlated with the ADOS-2 social affect score ($r=0.71$, $p<.001$). The BOSCC RRB subscale was more moderately positively correlated with the ADOS-2 RRB subscale ($r=0.43$, $p<.001$). Factor analysis A confir-

matory factor analysis using the 13 core items tested the two-factor model (SC and RRB) identified in previous literature. Our model fit was poor with RMSEA of 0.130 and CFI of 0.85. In line with previous literature, RRB items had lower factor loadings. Item response theory and measurement invariance Future analyses will investigate the underlying construct measured by the BOSCC and the extent to which this differs across language levels. Such analysis is novel among observational measures. Treatment effect Preregistered analysis can be found at <https://osf.io/vqgj8/>

Discussion

The BOSCC-for-ADOS provided reliable coding and correlated in the expected directions with the ADOS-2. Possible reasons for poor factor analysis fit will be discussed. We will compare properties of the BOSCC to those of the ADOS-2 and reflect on how our findings inform the discussion on outcome measurement in autism intervention trials. The additional analyses will be presented at the conference.

Keywords: Assessment, Communication, Neuro-Developmental Disorders

Poster Number : SAT01-08

Subjectivity in the assessment of B criteria for autism spectrum disorder (DSM-5)

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Introduction

«DSM-5 diagnostic criteria for autism spectrum disorder (ASD) highlight the importance of assessment of child's interests, routines, stereotyped behaviors and reactions to sensory input to differentiate between autism spectrum disorder (ASD) and intellectual disability, as well as ASD and social (pragmatics) communication disorder. Although diagnostic criteria for ASD require that a clinician should identify, for instance, whether child's interests are „highly restricted, fixated or abnormal in intensity or focus“

Methods

there is a great lack of objective measures for the assessment of all

behaviors that are part of the B criteria in DSM-5 manual. The aim of this study was to examine differences between various expert and non-expert adults in the evaluation of child's interests

Results

sensory and stereotyped behaviors and routines.» Three groups of subjects (N=199) filled the Evaluation of spontaneous behavior in preschool children questionnaire where they

Discussion

on the 5-level scale ranging from „absolutely atypical“ to „absolutely typical“

Poster Number : SAT01-09

The role of lightness in color discrimination among adults with autism

Authors:

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Introduction

There is a growing body of evidence that Autism Spectrum Disorder (ASD) entails diverse vision alterations, which, in turn, may lead to many behavioral symptoms of ASD. A handful of studies have focused on color vision, reporting unanimously atypical color discrimination in this group. Despite its importance in visual perception, very little is known about the role of lightness in color vision in ASD. This study aimed to examine whether color discrimination in varying lightness is atypical among adults with ASD. A computer-based test battery with three test blocks was developed for carrying out this study. The blocks consisted of (1) single static stimuli for estimating lightness discrimination threshold, (2) multiple static stimuli for measuring the effect of the presence of other stimuli with similar lightness, (3) cardinal motion stimuli for measuring the ability to detect motion determined by variation in lightness. Six colors were tested, namely, red, green, blue, yellow, cyan and magenta. 15 adults with Asperger syndrome (AS) and 15 typically developing adults (TD) were recruited and administered the test during fall 2018. Three of the participants in the former group were also diagnosed with ADHD. Mann-Whitney U tests were conducted on number of errors, size of errors, and reaction time. Spearman's rank correlation tests were performed on current and AS diagnosis age. This study found (1) that the AS group per-

formed as well as the TD group in most tested color categories+ (2) significant positive correlation between reaction time, size of errors and age in the red color category in the AS group+ and (3) in the blue color category, individuals with ADHD outperformed the others in the AS group, and in some cases even those in the TD group. While it is common for autism assessment studies to focus on children, our study focused on adults, and a wider than usual age span (22 to 54). Our analysis reveals that autism may lower the ability, as age advances, to discern differences in lightness in the red color category. Also, our study included participants with both AS and ADHD. The data revealed that ADHD may mitigate the otherwise poorer performance in lightness discrimination in the blue color category. This latter finding is interesting in light of previous results (Banaschewski et al., 2006) showing that individuals with ADHD perform poorly in chromatic (as opposed to lightness) discrimination tests in the blue-yellow color axis.

Keywords : ADHD, Adult, Assessment

Poster Number : SAT01-10

Sex/gender modulates the relationship between motor and social skills in autism spectrum disorder

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Introduction

Alongside socio-communicative symptoms, recognizing the motor difficulties frequently associated with autism spectrum disorder (ASD) is of great importance, as they could affect the quality of life and are critical to prospective social development. Despite the reported sex/gender bias in the prevalence of disorder, the impact of sex/gender differences on ASD-related motor abnormalities remains poorly understudied. This study aimed to explore possible differences in the motor profile of boys and girls with ASD using standardized neuropsychological tests and kinematic analysis of a simple upper limb movement.

Methods

Forty children with ASD (20 boys, 20 girls), ages 2 through 11 years, and 40 typically developing (TD) children (20 boys, 20 girls) matched by age participated to the study. We assessed motor proficiency using the Movement Assessment Battery for Children—2 (MABC-2), the Beery-Buktenica Developmental Test of Visual-Motor Integration and an abbreviated battery of tests from NEPSY-II. In addition, 3D kinematic data of a reach-to-drop movement were collected by a motion-capture system. Lastly, parents filled the Developmental Coordination Disorder Questionnaire and the Social Responsiveness Scale (SRS). Data were analyzed using

a 2x2 analysis of covariance (independent factors: sex/gender, diagnosis, covariate: IQ). Moreover, Pearson's correlations were computed between the severity of symptoms and ASD symptom measures, and motor functioning.

Results

As expected, children with ASD (both boys and girls) performed significantly worse than TD group in almost all motor abilities investigated. We observed a trend for the interaction sex/gender by diagnosis for MABC-2 Balance score, with girls with ASD obtaining better scores than boys and with an opposite trend in the TD group. Moreover, a significant positive correlation between motor coordination and socio-communicative abilities was observed for all TD children and in boys with ASD, but not in girls with ASD.

Discussion

Overall, these preliminary findings suggested that ASD-related motor impairment seems to be mainly a sex/gender independent characteristic. However, it is possible that sex/gender plays a significant role for specific motor domain in ASD, such as static and dynamic balance. Additionally, the present study revealed that sex/gender could modulate the relationship between motor and social skills in ASD.

Poster Number : SAT01-11

Differences in autonomous nervous system functioning in autism spectrum disorder measured through pupillometry

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Introduction

Autism spectrum disorder (ASD) is a neurodevelopmental condition, diagnosed based on behavioural observations and parental interviews. Researchers have been looking for measurements of underlying mechanisms of this condition. Pupillometry, the measurement of pupil size and reactivity, has been proposed as an index of autonomous nervous system (ANS) functioning. ANS has been implied to be altered in individuals diagnosed with ASD. In comparison to other measures of ANS, such as heart rate variability and skin conductance, pupillometry is non-invasive and easy to measure. The aim of this study is to evaluate the differences in results of pupillometry in people with and without ASD and thus potential differences in ANS functioning between these groups.

Methods

A systematic literature search was performed using multiple databases. Included articles investigated baseline pupil size and amplitude and latency of pupillary reflex in response to light or complex visual stimuli in individuals with ASD and a typically developing comparison group. Effect size of the difference of these parameters in the ASD group and the comparison group was calculated and compared, taking into account that sample sizes differed.

Results

Empirical evidence is conflicting for all the investigated pupil parameters. Baseline pupil was long considered to be smaller in individuals with ASD, but multiple studies contradict this. Change in pupil amplitude is used as an index for emotional reactivity, sensitivity to social vs. non-social stimuli, mental effort or visual attention and results are varying. Latency to constriction is shorter in infants at risk for ASD, but longer in older children with ASD: an age effect could be present.

Discussion

Evidence on differences in ANS functioning, as measured by pupillometry, in individuals with ASD compared to their typically developing peers is inconsistent. Explanations for these mixed results relate to differences in the objectives, stimuli and experimental design of the studies, and the use of small and heterogeneous samples. Despite these limitations, some studies revealed powerful discriminative models with high sensitivity and specificity. Longitudinal studies could clarify if an age effect is present in pupil parameters. Further research is required to investigate the value of pupillometry as a discriminative tool in ASD.

Poster Number : SAT01-12

A three-dimensional model of Autistic Spectrum

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Introduction

The conceptions of the nature of autism have been the subject of many divergences. Comparative studies often remain unclear in their criteria because they merge the form of autism and the degree of intellectual ability, or do not specify the intensity of the syndrome nor the type of behavioral disorders related. The DSM-5 introduces the severity level of autistic symptoms and the notion of profile. We propose to extend this representation by integrating these dimensions, while differentiating them, by a figurative presentation colored in three dimensions.

Methods

Functional analysis of the syndrome according to a three-dimensional model constituting a triptych composed of :. a central axis: autistic functioning with reference to the DSM-5 (with usual tests:ADI,ADOS,CARS). a lateral axis: the degree of development and intellectual ability (cognitive tests and PEP-3). another lateral axis corresponding to the existence of behavioral disorders, It is the axis of pathology that leads to institutional rejections and demands for care. These three axes will be defined by a graduated scale of intensity (from 1 to 4) to determine dynamic profiles with variable three dimensions.

Results

The research is under way to validate weighting criteria for each axis, behavioral disorders are not currently classified according to a scale but it is known that there are great differences between some behavior problems and serious disorders requiring psychiatric care. The intensity of each axis will be represented by a color

shade illustrating the concept of autistic spectrum in reference to the color spectrum. We will use the three basic colors : blue for autistic functioning, green for intellectual ability and red for behavior disorders. Several representations are possible :. either for a person at different times of development : triptych with three color shades. or for a group of people in an institutional setting : diagram with the three dimensions. Several examples related to our clinical and institutional practice will illustrate this formalization.

Discussion

This visualization will: .favour agreement on representations of autistic disorder and its categorization in the spectrum. better define diagnostic profiles in epidemiological studies and profiles received in institutions. provide clear benchmarks for evaluating the evolution and impact of educational and therapeutic actions. allow to better situate the axes of the objectives of the personalized project of accompanying.

Poster Number : SAT01-13

Five years after DSM-5: How well are DSM-5 diagnostic criteria for ASD represented in standardized diagnostic instruments?

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Introduction

Five years after the publication of DSM-5 in 2013, three widely-used diagnostic instruments have published algorithms designed to assess its (sub)criteria for Autism Spectrum Disorder (ASD) in children and adolescents. This study aimed to: (1) establish the content validity of these three DSM-5-adapted diagnostic assessment instruments, and (2) identify problems with the operationalization of DSM-5 diagnostic criteria in measurable and observable behaviors.

Methods

Algorithm items of the Autism Diagnostic Observation Schedule - Second Edition (ADOS-2), Developmental, Dimensional and Diagnostic Interview (3di) and Diagnostic Interview for Social and Communication Disorders - 11th edition (DISCO-11) were mapped onto DSM-5 subcriteria. The development and decision-making rules integrated in their algorithms were then compared with DSM-5.

Results

Results demonstrated significant variability in the number and nature of subcriteria covered by the ADOS-2, 3di and DISCO-11. In addition to differences in the development of algorithms and cut-off scores, instruments also differed in the extent to which they follow DSM-5 decision-making rules for diagnostic classification.

Discussion

The different classification procedures in the DSM-5 algorithms of diagnostic instruments can lead to different outcomes based on these instruments. This emphasized the need for clinical judgement across available information. We also conclude that the interpretation of ASD symptomatology as described in DSM-5 is sometimes ambiguous and raises concerns about symptom operationalization in relation to concrete behaviors. Based on this study, we hope to guide future improvements in diagnostic instruments and classification systems.

Keywords: Assessment, Diagnostic

Poster Number : SAT01-14

Associations between the subdomains and discriminatory power of ADI-R in Slovak boys with autism spectrum disorder

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Introduction

Autism Diagnostic Interview-Revised (ADI-R) is a widely used tool for the diagnostics of autism spectrum disorders (ASD). It contains several subdomains that characterize the social and communication impairments as well as the restricted and repetitive behavior

of the diagnosed children. However, the classic triad structure of ADI-R as well as the informative value of its components is questioned. The aim of our study was to analyze the associations between the subdomains of ADI-R and to evaluate the subdomains regarding their discriminative power in Slovak boys with ASD.

Methods

ADI-R was used to assess the behavior of 253 boys with suspected ASD, which was confirmed in 183 cases. Principal component analysis, correlation analysis and general linear model were used for the statistical analysis.

Results

The results of the principal component analysis and the correlation matrix revealed that ADI-R subdomains can be divided into two groupings: C1/C2 subdomains clearly differ and do not correlate with all other ADI-R subdomains. In the comparison of cases and controls, the C1/C2 subdomains showed the lowest discriminative power with eta values of 7% and 2%, respectively. In contrast, B4

and A3 subdomains reached eta values of 33% and 30%.

Discussion

The social and communication impairments in boys with ASD are highly interconnected. The restricted and repetitive behavior is only partially associated with other ADI-R subdomains and has a relatively low informative value for the diagnostics of ASD at least in Slovak boys with ASD. Future studies should focus on the evaluation of the two-dimensional approach of DSM-V.

Keywords: Assessment, Diagnostic

Poster Number : SAT01-15

Diagnosics of the level of social failure in children with ASD with immunosignatures method

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Introduction

Expressed heterogeneity of phenotypic profiles of ASD, including by the basic symptom – social failure, cause the need for identification of subgroups, which can help in diagnostics and rehabilitation of children. Aim: to evaluate the efficacy of immunosignatures method for differential diagnostics of the presence/absence of social failure and communication deficit in children with ASD.

Methods

48 children with ASD, 41 boys and 7 girls (aged 3 to 13) were examined. All the children during the prenatal life and/or in the process of birth were to a more or less extent influenced by risk factors (disease history): hypoxia – prenatal or during the childbirth, infection/inflammation of the pregnant mother, chronic placental insufficiency, preterm birth in time (not fully developed foetus). Children with ASD are divided into 2 subgroups: with social contact (SC, 14 persons) and the absence/loss of social contact (WSC, 11, and regression, 23 persons). The repertoire of antibodies (AB) in blood plasma (immunosignatures) was studied for children with ASD using microarrays containing 124,000 peptides with random amino acid sequences. Bioinformatics data analyses in the environment R included: quintile normalization, Welch's one-way ANOVA (for unequal variances), UPGMA clustering method and Pearson's r with plotting of heatmap.

Results

28 AB were selected, the reactivity of which had statistically significant differences between the children in SC and WSC/regression

groups. Following the level of AB reactivity, children with ASD were divided into 2 clusters: the basis of the first one constituted 13 out of 14 children of SC group, 6 children with regression and 2 persons with WSC group, who had high reactivity of 21 of 28 selected AB. 26 children (WSC – 9, regression – 17) and 1 persons with SC, who had 21 AB with low reactivity and 9 with high reactivity were included in the second cluster. The children from regression group were included on both clusters, since they represented a heterogeneous group, including the individuals with lost and absent, or partially restored social contact. Immune signature method allowed differentiation of the children with ASD with the presence (SC)/absence (WSC/regression) of social failure with 93% specificity and 62% sensitivity.

Discussion

We suppose that the research findings reflect the different neuroimmune and metabolic mechanisms of regulation of social behaviour – social failure and communication deficit.

Keywords: Childhood, Diagnostic, New Technologies

Poster Number : SAT01-16

Brief Preschool Theory of Mind Assessment: the development and reliability examination of the new assessment for preschool children's theory of mind

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Introduction

Theory of mind (ToM) is the ability to impute the mental states of others and oneself. Through ToM, people forecast the behaviors of others and accordingly interact with other people. The ToM construct has been confirmed to be developmental and multidimensional. The multidimensionality comprises cognitive and affective dimensions. Furthermore, cognitive ToM is the pre-requisite for affective ToM. However, no extant ToM measures for preschoolers assess ToM capacity from both perspectives. A new computerized ToM measure, the Brief Preschool Theory of Mind Assessment (BP-ToMA), has been developed to measure ToM ability for preschoolers through both developmental and multidimensional ToM construct. The aim of present study is to develop the BP-ToMA and assess its reliability applying multidimensional item response theory models.

Methods

The BP-ToMA was developed in two stages: item construction and item revision. The eight items of BP-ToMA were constructed based on the reviewed multidimensional ToM constructs. The items were subsequently revised based on expert consultations about the measurement structure, item format, and appropriateness for preschoolers. A total of 205 typically developing children aged from 3 to 6 years old were recruited for reliability examination

and assessed with the Wechsler Preschool and Primary Scale of Intelligence-IV (WPPSI-IV) and BP-ToMA for their verbal comprehension and ToM abilities. The WPPSI-IV was assessed to exclude children with poor verbal comprehension ability. A two-factor model of the multidimensional random coefficients multinomial logit model was used to analyze the reliability with person separation reliability (PSR).

Results

With the two-dimensional model, the PSR reliability was 0.575 and 0.579 in cognitive and affective dimensions, indicating a moderate precision. The correlations between cognitive and affective dimensions of the BP-ToMA was 0.98, demonstrating high homogeneity.

Discussion

The BP-ToMA can be viewed as homogeneous regarding both cognitive and affective ToM capacity. The BP-ToMA can be reliably applied by researchers and clinicians to assess the preschoolers' ToM ability from developmental and multidimensional perspectives. Therefore, the impaired dimensions or developmental components of ToM can be identified respectively in preschoolers and corresponding interventions provided.

Keywords: Assessment, Development, Preschool

Poster Number : SAT01-18

Screening assessments in Diagnostic services - a pilot programme of a new clinical model

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Introduction

Improved autism awareness has increased demand for adult autism assessments. Quality standards recommend a maximum 12 week wait time for diagnostic assessment (DA). Extended wait

times have been a campaign issue by national organisations and wait times are monitored. In this diagnostic service, referral rates for DA have increased by 74%, 78% and 147% in the areas we serve. This increase in demand outstrips commissioning for DA and has

led to long wait times (10 months). Despite the increase in referrals, the total number diagnosed with autism has remained steady, only 22.7% receive diagnosis. Referral letters and screening tools have not been found to be effective in predicting diagnostic outcome in clinical populations. We follow gold standard assessment protocols, a time consuming and involved process for both clinicians and patients. Resources currently used for assessing people without autism impedes the provision of specialist support to those with autism. A more efficient method of screening is necessary.

Methods

A 6-month pilot of a clinician-led screening clinic has been developed. Patients are seen by two clinicians for 45 minutes. At the end of the appointment patients are given feedback (DA not indicated, DA indicated or fast track DA). Fast track indicates diagnosis is very likely and clinically needed. Observational and quantitative data has been collected to evaluate predictors for both DA and diagnostic outcome. Feedback has also been collected about patient experience.

Results

Initial results are encouraging. The screening service completes 48

screening appointments a month, reducing waiting times. Currently 40% have not indicated DA. Predictors for no DA are social reciprocity, social communication skills and childhood trauma. Predictors for DA are limited social reciprocity and repetitive language.

Discussion

A clinician-led screening service has reduced waiting time. This has additional benefits for all referred to the service. Those not recommended for DA are signposted to appropriate services. Those likely to have autism with urgent need are able to be seen more quickly. Those recommended for DA with complex presentation are seen by additional professionals. Those not recommended for DA report a more positive experience than those with long wait and DA, perhaps because they are less invested in diagnosis. Additionally, considering factors that predict diagnostic outcome in a clinical service may help in development of more effective screening tools

Keywords: Adult, Diagnostic, Services

Poster Number : SAT01-19

Developmental changes in sensory profiles in autism spectrum disorder and Williams syndrome

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Introduction

Autism spectrum disorder (ASD) and Williams syndrome (WS), a rare genetic neurodevelopmental disorder associated with mild to moderate intellectual disability (ID), can be seen as contrasting disorders in the social interaction domain, with clear deficits present in ASD and hypersociability in WS. The aim of this study was to compare the sensory patterns and modalities of children and adolescents with ASD (with and without additional ID), WS and typically developing (TD) individuals, and explore differences in sensory symptoms across different age groups. That comparison will allow us to explore syndrome-specific characteristics which are crucial to the formulation of theories of sensory processing.

Methods

Parents of 149 children between 3 and 16 years of age of whom 44 were TD, 73 had an ASD diagnosis (37 had additional ID) and 32 had WS, completed the Sensory Profile (SP, Dunn, 1999) to provide information about their children's sensory experiences. Two

multivariate analysis of variance (MANOVA) were conducted with the four sensory processing patterns and five sensory modalities as repeated measures, with diagnostic group and age as between-group factors. To test for specific differences, a two-way ANOVA was conducted separately for each of the sensory symptoms.

Results

Two significant main effects were found: sensory processing pattern by group ($F(9, 51) = 2.76, p = 0.01$) and sensory modality by group ($F(12, 72) = 7.51, p < .001$). The TD group had significantly higher (more typical) scores than the WS, ASD with ID and ASD without ID groups. No significant main effect of age or interaction between group and age was found. A significant interaction was found between sensory modality and age ($F(8, 72) = 2.40, p = .024$), with two significant group by age category interactions— for auditory ($F(6, 134) = 4.04, p = .001$) and visual ($F(6, 134) = 2.48, p = .026$) modalities.

Discussion

Children with ASD and WS have very similar sensory profiles that are distinct from those present in TD children. Similar levels of sensory atypicalities in WS and ASD across both sensory processing patterns and sensory modalities across age groups suggests that sensory difficulties remain a persistent characteristic of both disorders in childhood and adolescence. Further investigation is needed to examine whether a decrease in severity of sensory symptoms takes place in adulthood.

Further investigation is needed to examine whether a decrease in severity of sensory symptoms takes place in adulthood.

Keywords: Assessment, Development, Intellectual disability

Poster Number : SAT01-20

Determinants of timing of diagnosis for Autism Spectrum Disorder among school-aged children: a population-based cohort study

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Introduction

Early identification of children with autism spectrum disorder (ASD) has been a priority, to ensure timely interventions to achieve optimum prognosis. Despite this emphasis, many children are still diagnosed after the first school entry and into their adolescence age. We aimed to identify main determinants of the timing of diagnosis for autism spectrum disorder (ASD) among adolescents, using a population-based prospective cohort study.

Methods

Data from 15,431 children with a valid answer for diagnosis of ASD were analysed.

Explanatory factors were sex of the child, child's cognitive ability, family socioeconomic status, parental awareness of the child's social-behavioural difficulties, teacher-evaluated social development which were all measured when children were 5 year old. The timing of diagnosis for ASD reported by the parents were categorized into three groups: before school entry, during primary school and during secondary school.

Results

By age 14, 581 adolescents were diagnosed with ASD. Near 80% of these children were diagnosed after school entry, and 27% of them were diagnosed during their secondary school age. Near

three-fourth of the children across groups were noticed for their difficulties at age 5 either by their parent or teacher. Compared to the children diagnosed before school entry, being diagnosed during primary/secondary school were predicted by being a girl (adjusted relative risk ratio [aRRR]: during primary=2.44, 95% Confidence Interval [CI] 1.06 to 5.63, during secondary=3.99, 1.67 to 9.53), living in relative poverty (during primary=1.99, 1.07 to 3.71, during secondary=2.17, 1.05 to 4.51) and having less initial parental awareness (during primary=0.36, 0.16 to 0.78, during secondary=0.23, 0.10 to 0.53). Post-estimate prediction showed that not having cognitive delay was also predictive of being diagnosed during secondary school.

Discussion

Girls, those without cognitive delays and from socially disadvantaged backgrounds were at risk of being diagnosed later despite showing apparent difficulties at age 5. In addition to encouraging engagement between schools and affected parents, screening for ASD at school entry age may facilitate earlier identification of ASD in school-aged children.

Keywords: Diagnostic, Policy, Teenage

Poster Number : SAT01-21

CONTRIBUTION OF THE SOCIAL COGNITION EVALUATION BATTERY «CLACOS»

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Introduction

Autism Spectrum Disorder (ASD) is characterized by impairments in social communication and limited interests and repetitive behaviour according to DSM-5 (APA, 2013). Although social communication impairments are probably shared across several psychiatric disorders including autism, schizophrenia, anxiety disorders and ADHD, they are not well characterized, due to a lack of standardized evaluation tools, especially in adult populations. Our multi-centric research group in psychiatry GDR3557 developed a new battery for social cognition evaluation named "ClaCoS", in order to discriminate specific profiles of social cognition disorders that could be common or specific, respectively to autism and schizophrenia. Thus, clinical evaluation of social cognition impairments is still controversial and remains poorly documented. Moreover, we considered social cognition as a multidimensional process (Pinkham et al., 2008, 2014), and examined different components some of which are known to be impaired in ASD. Our aim is to assess the sensibility of the 'ClaCoS' battery in the evaluation of social cognition impairments in autism. This battery examines multiple domains of social cognition, namely: subjective perception of social impairments, empathy, emotional facial expression recognition, theory of mind, attribution style (i.e. the interpretation of other people's behaviour), social perception and knowledge of

social rules.

Methods

We compared the social cognition abilities of 18 autism spectrum disorders adult patients without intellectual disability and 18 neuro-typically developed peers using ClaCoS.

Results

The ASD group showed deficits in facial expression recognition, empathy, theory of mind adjustment as well as social perception and convention knowledge. Furthermore, ASD adults reported subjective complains regarding their social abilities. We also showed correlations between these different components of social cognition, which suggest the relevance of our battery and its interest to discriminate possible ASD sub-group phenotypes.

Discussion

A larger sample would be of great value to discriminate specific profiles that could be common to autism and schizophrenia. Shared social cognition profiles could help us to apply social cognitive remediation programs more adjusted to a "transnosographic" impairment following a clinical neurodevelopmental approach.

Poster Number : SAT01-23

PAGS Profile, Assessment and Goal Setting

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Introduction

PAGS assesses the skills individuals need in order to be able to navigate their way through education, work and life. These skills underpin academic learning and without them, individuals struggle in the classroom, making the attainment of qualifications unnecessarily out of reach of many of our students. PAGS supports users to develop these necessary skills in individuals. Learners may not

show a developmental pattern in the acquisition of skills therefore significant gaps in the attainment of the individual can be missed, assuming that a certain level of performance was automatically credited from early skills. PAGS is developed to work alongside any academic curriculum.

Methods

PAGS® has been trialled in schools and colleges, specialist school for children with autism and also with selected individuals. The PAGS questionnaires were completed by a teacher or by an adult who is familiar with the learner or by the learner. The results from the questionnaires were collated and provided in the form of a table, showing the strengths of the individual as well as their developmental needs. In doing this, the table shows areas that the learner would benefit from targeting in a developmental order. It has been developed to assist teachers in producing coherent, well-documented strategies and plans that consider the developmental stage of the learners. Expected outcome: We expect learners will increase their overall score (four areas) with 10-15% in 12 months trial, depending on diagnosis and additional learning difficulties or/medical conditions.

Results

We are following the learners enrolled on the trial for this academic year 2018-2019. We will measure social progress made by the in-

dividual. We will use Vineland scale- adaptive behaviour scale to measure the level of social adaptive functioning.

Discussion

Early detection of skills deficit enables a more rapid response to identified issues, through personalized and effective interventions, empowers stakeholders to develop functional skills, facilitates changes in social behaviours and academic learning that lead to better outcomes in life.

PAGS incorporates different therapies, cognitive development and learning theories binding them all together for the benefit of stakeholders. It can be used as self-assessment, and others (parent assessment, teacher’s assessment and by different professionals). It can be used in any school and organizations.

Poster Number : SAT01-24

A VERY late diagnosis. The lived experience of receiving a diagnosis over the age of 40 in the UK.

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Introduction

Although being autistic can have a profound effect on individual’s lives, some autistic people can live their entire lives without ever obtaining a formal diagnosis. For adults, a diagnosis of autism can help to explain why they have always found certain things difficult and can help attribute meaning to life events and can be an empowering experience. Historically in the UK, funding for adult diagnostic tests for autism is poor and not a funding priority. It has been reported that that the gatekeepers to diagnostic testing can often be misinformed with regards to the importance of such a late diagnosis. This paper seeks to illustrate the lived experience of a late diagnosis and therefore its fundamental importance to the individuals.

Methods

The data presented was collected as part of a larger qualitative research study exploring factors that affect the wellbeing of older autistic people.. 32 semi structured interviews were conducted with 15 older adults (9 F, 6 M). They were aged 50-73. The interviewees were all diagnosed in late adulthood (42 - 59 yrs). A grounded theory approach was implemented.

Results

The path to gaining a diagnosis for most was not smooth, gatekee-

pers quite often blocked the way. ‘The study provides us with theoretical insight that obtaining a diagnosis was a positive change in their lives. Themes of ‘finally understanding why’ and ‘sense of relief’ illustrate their feelings towards diagnosis. Very little support was offered post diagnosis. There was a reported post diagnosis high and then a slump where mental health suffered. Post diagnosis themes, ‘a process of discovery’, ‘getting to know myself’ and ‘developing new strategies to cope’. A sense of forgiveness to themselves which they reported ‘enhanced their mental health’. Several people talked about how the diagnosis had improved their relationship with their main support. Access an ASC social group to meet people ‘the same as them’ was very comforting. There was agreement that a marked improvement in life post diagnosis was experienced, including regarding their own mental health.

Discussion

It is clear from the results of this study that for this group of autistic older people - a diagnosis at any age is fundamentally important and therefore should be a funding priority. However, it is clear that more needs to be done for late diagnosed adults to help them adjust to their new identity, and appropriate support services should be offered.

Keywords: Adult, Aging, Diagnostic

Poster Number : SAT01-25

Emotional face recognition in Autism and in Cerebral Visual Impairment

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Introduction

Autism Spectrum Disorder (ASD) is a neurodevelopmental condition characterized by deficits in social interaction and communication, and by atypical sensoriality in line with hypo- and hyper-responsiveness observed in all modalities. Individuals with ASD present atypical face perception but also atypical processing of low or high spatial frequencies. Visual disturbances in autistic individuals are similar to those observed in those with Cerebral Visual Impairment (CVI). CVI is a condition due to lesions between the optic chiasm and cortical visual regions implicating visual functioning as well as difficulties in the socio-emotional domain mimicking autistic signs. The similarities between ASD and CVI suggest the importance of comparing ASD to CVI in studies where visual stimuli are presented. Here, to test the hypothesis of a magnocellular deficit in those with ASD, we investigated the recognition of emotional face stimuli filtered in different spatial frequencies and compared the ASD group to two control groups: a group of participants with CVI and a group of neurotypical participants (NT).

Methods

Nineteen individuals with ASD, 24 with CVI and 49 NT were included in the present study (inclusion: 2013-2015). Participants partook in two emotional face categorization tasks where stimuli were low-pass or high-pass filtered or non-filtered. Reaction times

(RTs) and accuracy were compared between groups. All participants also completed a neurovisual assessment and the Autistic Quotient (AQ) to evaluate visual functions and autistic signs respectively.

Results

The ASD and CVI groups presented slower RTs and reduced accuracy compared to NT controls, but did not differ between them. Interestingly, as expected, we found that individuals with ASD presented visual impairments as assessed via the neurovisual battery, while CVI individuals presented higher AQ scores than NT subjects.

Discussion

The results show similar emotional categorization difficulties in individual with ASD and CVI as compared to NT controls. Here, neurovisual disturbances were often found in those with ASD, and symmetrically, autistic symptoms were found in persons with CVI, raising the question of differential diagnosis between CVI and ASD. The present findings suggest that it is crucial to compare ASD participants to both NT and CVI individuals in emotion recognition and/or visual tasks.

Keywords: Assessment, Neurological Disorder, Social

Poster Number : SAT01-26

Objective neuro-visual orthoptic evaluation of nonverbal autistic children : the REACS score

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Introduction

In nonverbal children with autism, the goal of orthoptic examination is an evaluation of neuro-visual skills and limits and to guide the orthoptic treatment. Despite a visual acuity that is usually normal, these patients have disturbed vision and do not correctly perceive

the visual informations that represents 80% of our sensory information. The key of any examination is to be systematic and always performing each element. The purpose of this study was to evaluate the accuracy of a scoring method.

Methods

Results of each various test were defined as able (2pts), partially able (1pts), and unable (0pts). The orthoptic exam was done with many tests classified in 4 areas, leading to the REACS score of 100 points: receptive and sensorial (RE on 32 pts), active motility (A on 18 pts), cognition (C on 30pts) and visuo-social (S on 20pts). The REACS score is not a standard, but a way to compare scores over time and to apply the most suitable therapy .

Results

Fifteen nonverbal childrens with autism were treated during a mean period of 4 years. The mean age at start of care was 4.6 years (2-8) and at end of treatment 9.2 years(6-11). The mean receptive score (32pts) evolved from 6,8 (1-16) at the beginning to 28 (15-31) at the end of treatment, and respectively active score (18pts) from 6,7 (1-8) to 14,7 (12-16) , cognitive score (30pts) from 1,5 (0-2) to 12(10-16) and visuo-social (20pts) from 15(10-

18) . The REACS score (100pts) raised from 14 (3-22) at start to 69(55-84) at end of care. The lowest progression was 25 at start, up to 75 at the end, non verbal and the best one was 7 up to 71, verbal. Four patients remain nonvernal.

Discussion

These results of the orthoptic treatment of vision in autistic children show a clear improvement in the perceptual field in particular and the interest of a quantified evaluation method. Orthoptic examination and treatment, should be more integrated in multidisciplinary care of children with autism, especially when nonverbal. The REACS score is helpful to compare the patient evolution and adapt the treatment. The use of the REACS score must be validated by other studies and teams.

Keywords: Neuro-Developmental Disorders, Non- or minimally-verbal, Treatment

Poster Number : SAT01-27

Retrospective vs prospective reporting of early symptoms of ASD

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Introduction

Early identification of Autism Spectrum Disorders (ASD) may facilitate early intervention that have the potential to significantly improve developmental and behavioral outcomes for infants and toddlers with ASD. Recent advances in the understanding of early developmental trajectories and behavioral features in children with ASD have indicated that most behavioral symptoms become sufficiently detecable during the second year of life to identify children with ASD. The challenge remains on how to identify these symptoms in community settings. In this study we explored the reporting of early symptoms of autism in day-care centers by parents and day-care professionals.

Methods

In this study we compared the rating of six commonly published symptoms associated with ASD in a retrospective sample, children already diagnosed with ASD, and in a prospective sample, compared against ADOS-2. The retrospective sample consisted of 60 children with ASD and 60 typically developing children. In the prospective sample 139 children were included.

Results

The results indicate that there are significant differences in how parents and day-care professionals rate symptoms associated with

ASD retrospectively and prospectively. The results indicate both lower agreement and less precise reporting compared to standardized assessment.

Discussion

These results may indicate prospective identification of symptoms associated with ASD in typical day-care centers may be challenging, and require further exploration. Further the results indicate that general knowledge on ASD and especially on early symptoms associated with ASD may be an important factor in early identification of ASD. The potential effects of programs to increase knowledge among professionals working with young children on identification of symptoms associated with ASD should be explored.

Poster Number : SAT01-28

Creating a Checklist for Girls: supporting the identification of undiagnosed girls in mainstream schools

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Introduction

Our Training and Outreach Autism Advisory Service promotes inclusion for autistic students in mainstream school settings. In 2016, we became particularly aware of girls in our schools whose autism was not obvious and who had received a late diagnosis or who self-diagnosed as teenagers and so struggled with being misunderstood for much of their early life, often experiencing long-term social isolation and mental health difficulties. Our main objective was to improve understanding, creating resources to help schools identify less obviously autistic girls, leading to early referral and early intervention and subsequent improvement in well-being. We aimed to create an identification checklist that would give confidence to schools to make referrals for diagnosis. It would:

- be simple
- include positive characteristics
- be based on research
- endorsed by at least one girl with a diagnosis
- backed up by video of autistic girl and parent

Methods

- Observations and interviews with girls and parents

Training via NAS: conference and online

- Reading research papers and journals

Two draft checklists [simple and detailed] were then drawn up and checked by: local clinicians, local steering group of professionals and an autistic girl, and two videos made. Presented at workshop in Neurodiversity and Emotional

Well-being Conference in 2018* and then shared with local schools at forums and autism training sessions.

Results

Outcomes measured using training evaluations, including before and after questionnaires. Verbal and email responses from schools and health professionals have been noted. Feedback so far has been overwhelmingly positive:

- Conference* workshop feedback: 100% excellent or very good
- before and after training questionnaires all show significant impact on knowledge

The checklist has been used for training of health professionals at local diagnostic clinic. The steering group is working on a practical toolkit to support professionals working with autistic girls which will include the checklist.

Discussion

Professionals appear to appreciate having this information in a simple checklist format. Judith Gould however, recognizes that identification is a subtle thing and that some women's autism only becomes clear through in-depth conversation. Some girls may still remain unidentified. We do not yet have concrete evidence of increased referrals – it would be good to collect this data.

Keywords: Diagnostic, Education, Gender

Poster Number : SAT01-29

Functional evaluation of sensory-psychomotor signs in Autism

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Introduction

Sensory-psychomotor impairments in Autism Spectrum Disorder (ASD) have frequently been described in scientific literature. Previous papers have shown the precocity of these signs, sometimes

before the alteration of the social communication. The Diagnostic and Statistical Manual of Mental Disorders (DSM-5) also confirms their importance in the diagnosis of ASD. We present a new sensory-psychomotor scale aiming at providing extensive characteri-

zation of the sensory-psychomotor signs in ASD: the Sensory-psychomotor Particularities Scale in Autism (SPSA).

Methods

The scale is composed of 160 items (rated on a five-point scale) gathered into 20 variables: touch, nociception, vestibular sensitivity, proprioceptive sensitivity, vision, auditory, multimodality, tone, posture, balance, global coordination, manual dexterity, body schema, bodily self-consciousness, relational adjustment, emotional expression, use of objects, space, time and tonico-emotional regulation. The study included 111 children with autism between 2 and 12 years of age. For each child, a global developmental evaluation was carried out by an expert clinical team, specializing in ASD. Standardized clinical tools were used to assess autistic behaviors, cognitive abilities, motor skills and sensory profile.

Results

Factor analysis identified three clinically relevant factors: F1 (18.9%): “sensory-emotional synchronization”, F2 (18.0%): “multisensory integration” and F3 (16.8%): “motor skills”. The three

factors showed good internal consistency and excellent inter-rater reliability. F1 comprises 6 variables: touch, nociception, proprioceptive sensitivity, vision, emotional expression and tonico-emotional regulation, it is significantly associated with several dimensions of the sensory profile. F2 comprises 5 variables: multimodality, bodily self-consciousness, relational adjustment, use of objects and space, it is mainly linked to the severity of autistic behaviors. F3 comprises 4 variables: tone, posture, global coordination, manual dexterity, it is related to standardized motor evaluation.

Discussion

The three factors of the SPSA have a strong clinical and scientific coherence. The SPSA is a relevant clinical tool to assess the severity of sensory-psychomotor clinical signs in order to describe the individual profiles of children with ASD. It represents a critical step in advancing knowledge of the complex and heterogeneous pattern of psychomotor development in autism.

Keywords: Functional evaluation of sensory-psychomotor signs in Autism

Poster Number : SAT01-30

Autism banner- What is ASD?

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Introduction

The task of communicating a diagnosis within ASD to the person concerned can be challenging. Research has shown that visual supports may improve communication with people with ASD. Autism banner, What is autism spectrum disorder? AIM: The banner and accompanying materials have been developed to support communication with patients and family members. An aim is to make it easier to convey, and understand findings and conclusions from autism assessments - irrespective of language and cultural background. This material is free for everyone to use and can be downloaded from the RRC webpage.

Methods

A project-group was established, including clinicians, a representative from Autism Society Norway and a graphic designer. It was decided that all materials also had to be designed to support communicating ASD diagnoses to individuals with other cultural backgrounds than Norwegian.

Results

The material was completed January 2018, by RRC. A printed ver-

sion was distributed and made available to all relevant clinics in the region. The banner is divided into main areas affected with ASD: Social communication and social interaction- Behaviours, interests and activities. It includes discussion cards that feature the same text and illustrations as the banner. The cards are intended to be placed on a table, providing a starting point for discussion about one area at a time. The materials have been prepared and made available in the following languages: Norwegian, English, Urdu, Polish, Arabic and Somali. The banner has been prepared in accordance with the diagnostic criteria presented in ICD-11 and DSM-5. The material also covers common accompanying difficulties.

Discussion

An ongoing interview survey is carried out among professionals working in hospitals. Users are asked to evaluate the materials and results from this survey will be presented at the poster.

Keywords: Assessment, Communication, Personalised Support

Poster Number : SAT01-31

Psychological features of young adults with autism

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Introduction

The transition from adolescence to adulthood can be particularly challenging for young adults with autism, as difficulties with change is one of autisms core characteristics. Involved stakeholder groups have called out for more research on how to accommodate clinical practise to their needs during this crucial life stage. As a developmental stage, the period between roughly 18 to 25 years old is named emerging adulthood. It is described as a time of identity exploration, many possibilities and experimentation, focus on the self, feeling in-between adolescence and adulthood, and experiencing instability and negativity. The Inventory of Dimensions of Emerging Adulthood (IDEA) quantifies the extent to which these features apply to an individual and has never been used to study young adults with autism before. To further our knowledge on psychological features of young adults with autism, we studied how young adults with autism differed from their typically developing peers.

Methods

A Dutch translation of the IDEA was included in an online questionnaire that was filled out by 469 young adults between 18 and 25 years old, of which 56 had autism. A Belgian adaptation of the subscales (experimentation and possibilities, feeling in-between, negativity and instability, and commitment and responsibility) was used to interpret scores. Welch tests were used to compare means

of the two participant groups for each subscale.

Results

Welch tests showed that, overall, participants with autism reported less experimentation and possibilities ($F_{1,65} = 20.581, p < .000$), as well as less commitments and responsibilities ($F_{1,67} = 9.749, p = 0.003$) than their typically developing peers. They scored significantly higher on negativity and instability ($F_{1,74} = 12.230, p = .001$). Participants, however, did not differ significantly in terms of feeling in-between adulthood and adolescence ($F_{1,68} = .036, p = .849$). More in-depth insights into different demographic profiles are presented.

Discussion

Results indicate that young adults with autism are less inclined to experiment, experience more negativity and instability, and are less likely to have taken on responsibilities and commitments than typically developing participants. These findings can inspire clinical practice by considering these themes, for example by explicitly discussing possibilities and opportunities with young clients with autism.

Keywords: Adult, Development, Transitions

Poster Number : SAT01-33

Which factors influence teacher report of adaptive functioning in children with autism?

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Introduction

Adaptive functioning indicates the ability to meet the demands of the environment and young children with autism often struggle with these everyday life skills. Adaptive functioning is measured using the Vineland Adaptive Behavior Scale (VABS), through parent or

teacher report. Previous research shows that parent VABS scores are influenced by age, cognitive ability, and autism severity of the child. However, no research to date has considered whether these factors influence scores on the teacher VABS. The aim of this paper is to investigate whether child characteristics show the same

relationship with adaptive abilities when using the teacher-report VABS-II.

Methods

PACT-G is a parent-mediated social communication RCT intervention for children, aged 2-11 years, with core autism (Green et al., 2018). The baseline characterisation data for this study includes teacher VABS-II, child nonverbal ability (Mullen Scale of Early Learning nonverbal DQ (NVDQ)), language (Receptive (ROWT) and Expressive One Word Test (EOWT)) autism severity (ADOS-2 CSS, SCQ Total), and Strengths and Difficulties Questionnaire (SDQ). Linear regression enter method was used to investigate the relationship between child factors and T-VABS-II domain scores (Communication, Socialisation, Daily Living Skills (DLS)) and Adaptive Behavior Composite (ABC).

Results

√-transformed T-VABS-II ABC: Child age ($p < .001$), SCQ ($p = .005$) and SDQ ($p = .045$) showed a negative relationship, and NVDQ ($p < .001$) and EOWT ($p = .002$) a positive relationship ($R^2 = .710$).

T-VABS-II Communication: Child age ($p < .001$), SCQ ($p = .042$) and SDQ ($p = .009$) showed a negative relationship, and NVDQ ($p < .001$), ROWT ($p = .007$) and EOWT ($p = .001$) a positive relationship ($R^2 = .773$). T-VABS-II DLS: Child age ($p < .001$), SCQ ($p = .005$), and SDQ ($p = .003$) showed a negative relationship, and NVDQ ($p < .001$) and EOWT ($p < .001$) a positive relationship ($R^2 = .696$). T-VABS-II Socialisation: Child age ($p = .001$), SCQ ($p = .001$), and SDQ ($p < .001$) showed a negative relationship, and NVDQ ($p = .020$) and EOWT ($p < .001$) a positive relationship ($R^2 = .574$).

Discussion

These findings show that, in this sample, the same child factors influence teacher reported adaptive behaviour on the T-VABS-II as reported in parent VABS literature. Future work will use the parent reported VABS-II data collected in this sample to compare parent and teacher report on the VABS-II for similarities and discrepancies, so as to further understand the influences on measurement of adaptive functioning in autistic children.

Keywords: Assessment, Education

Poster Number : SAT01-34

The clinical diagnosis of autism spectrum disorder among individuals with intellectual disabilities. Psychiatrists' perspective on diagnostic dilemmas

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Introduction

Hypothesis: The increasing number of intellectually challenged individuals diagnosed with autism spectrum disorder as the result of difficulties in differentiating the symptoms of autism spectrum disorder from intellectual disability. As the latest findings show, intellectual disability and autism spectrum disorder commonly co-occur, nevertheless little attention has been paid to this problem. The constant increase in the prevalence of autism spectrum disorder diagnoses is observed, including those individuals with intellectual disabilities. The current diagnostic standards of autism spectrum disorder appear to be too general to effectively differentiate the ASD symptoms from those caused by intellectual disability. This results in the identification of autism spectrum disorder among individuals with intellectual disability, whose actual barriers don't stem from the autistic spectrum.

Methods

The aim of this research is to investigate the symptoms that may suggest the autism spectrum, but in fact result from the intellectual disability and often contribute to misdiagnoses of autism

spectrum. The analysis is based on the information acquired from the self-constructed questionnaire, which enabled us to study the perspectives of psychiatrists approach, who are responsible for the diagnostic procedures.

Results

The findings confirm considerable dilemmas concerning the process of differentiating the symptoms of autism spectrum from the analogous ones characteristic for the intellectual disability.

Discussion

The professional ethics urges us to investigate the theme thoroughly, so that the diagnostic procedures of ASD among intellectually challenged individuals could be based on the reliable diagnostic methods, instead of the element of the subjective opinions.

Keywords: Assessment, Diagnostic, Intellectual disability

Poster Number : SAT01-35

Clinical implications of ratings by preschool staff and parents in 36-months-old high-risk-for-ASD children

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Introduction

Autistic symptoms should be present in multiple contexts to meet the DSM-5 criteria for autism spectrum disorder (ASD). In the diagnostic assessment of young children, this condition can be hard to fulfil if the clinician find significant autistic symptoms in the clinical context but parents do not in the home context. In these cases, autistic behaviours could be evaluated in the preschool environment. In a recent high-risk-for-ASD-sibling-study regression analyses showed that preschool staff rated general autistic symptoms in line with both diagnosis and clinical autistic behaviours more accurately than parents. In this follow-up analyses, the clinical utility of the ratings was evaluated by calculating sensitivity and specificity for each informant's report. We expected that preschool ratings would gain higher sensitivity and specificity than parent ratings.

Methods

Participants were part of a sibling project. Results for the high-risk group with and without diagnoses were analysed at 36 months based on 10 participants (five girls) with ASD diagnosis and 32 (18 girls) participants with no diagnosis. The pervasive developmental problem subscale from the Child Behavior Checklist 1,5-5 and the Caregiver Teacher Report Form (Achenbach and Rescorla 2000, 2004) were filled in by parents and preschool staff, blind to the result of the diagnostic assessment. Sensitivity and specificity

were calculated in relation to diagnosis with cut-off at T- score at or above 65.

Results

Sensitivity were 40% and specificity 97% for the preschool ratings and 50% and 91% respectively for the parent ratings. Against our expectations, preschool ratings had not higher sensitivity than parent ratings. Considering report of significant autistic symptoms from either preschool or parent ratings in relation to diagnosis/ no diagnosis, sensitivity was 70% and specificity 91%. Of the ten children with ASD, another two were identified as having significant autistic symptoms when adding information from preschool compared to the parent ratings alone.

Discussion

The results suggest that ratings from both parents and preschool staff should be collected in connection to clinical diagnostic assessment in high-risk sibling samples. In this way the condition of symptoms present in multiple context would be fulfilled in more cases than when merely considering report from one informant only.

Keywords: Diagnostic, Neuro-Developmental Disorders, Preschool

Poster Number : SAT01-37

The Broader Autism Phenotype and gender in toddlers at elevated likelihood of autism

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Introduction

Autism is diagnosed more commonly in males than females, although the basis for this gender disparity is not fully understood. Autism may be underdiagnosed in females due to a perception that it predominantly affects males and the fact that girls and women with autism avoid detection by 'camouflaging' their difficulties.

Methods

223 children (112 boys, 111 girls) at elevated likelihood of autism due to having an older sibling with autism were assessed at 8, 14, 24 and 36 months of age, completing a range of behavioural, experimental and diagnostic assessments. Following the 3-year assessment, children were assigned best estimate diagnostic outcomes of autism (AUT), broader autism phenotype (BAP) or not autism. Non-autistic children were categorised as either developing typically (TD) or atypically (ATYP) – those that scored very low

on cognitive or language assessments, or above autism thresholds on autism diagnostic instruments (Autism Diagnostic Observation Schedule (ADOS) and Autism Diagnostic Interview – Revised (ADI-R).

Results

41 children (18.4 percent, 30 boys, 11 girls) were diagnosed with autism, 28 (12.6 percent, 12 boys, 16 girls) were assigned to the BAP category, 43 (19.3 percent, 23 boys, 20 girls) were categorised as ATYP and the remaining 111 (49.8 percent, 47 boys, 64 girls) were TD. There were significant between-group effects on 36-month ADI-R Toddler Algorithm Total scores ($F(3,202)=99.85$, $p<.001$, partial eta sq=.597) with higher scores in the AUT group than in all other groups, and higher scores in the BAP group than in the ATYP and TD groups. There was no significant effect of gender

($F(1,202)=0.51$, $p=.679$, partial eta sq=.007).

Discussion

Nearly 3 times as many boys as girls were diagnosed with autism following the 36-month assessment, but more girls than boys met the criteria for BAP: of all children categorised with either autism or BAP outcomes 39.1 percent were female. It is likely that many children with sub-clinical profiles at 3 years old will develop more significant difficulties as they get older and may subsequently benefit from diagnosis and support. Investigating these early profiles in a sample of children at elevated likelihood of autism diagnosis provides useful information for parents and professionals, particularly in relation to girls.

Keywords: Development, Diagnostic, Toddlers

Poster Number : SAT01-38

Detection Scale of Autism Spectrum Disorder During Age Stages (DSAAS) According to the Diagnostic and Statistical Manual Criteria (DSM-5)

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Introduction

The growing number of individuals with Autism Spectrum Disorders (ASD) led to advocacy to create tools that diagnose the spectrum during different age stages. Numerous adolescences and adults had been diagnosed as mentally retarded and provided services within the framework who were later diagnosed with ASD. The purposes of this study were to create a tool that detects ASD from early childhood to adulthood based on each age stage’s features and challenges as well as to assess the reliability and validity of the created scale. Without a doubt, an accurate diagnosis would provide the individual with appropriate supports and services.

Methods

The study took a place in Developmental Disorder Clinic at N.sight Center, Saudi Arabia. It was conducted with 105 participants aged from 3 to 35 years old diagnosed with ASD previously who visited the clinic between 2016-2018. All of them were reassessing using the created tool that contained (86) items. The results were analyzed using the following statistical analysis, Cronbach’s alpha coefficients of the scale were calculated to evaluate internal consistency, Pearson correlation coefficients were calculated to determine the construct validity of the scale, and one-way ANOVA to identify the differences between the average scores of participants in different age stages.

Results

Reliability Analyses:Cronbach alpha was 0.724. Item-total score correlation coefficients ranged 0.733-0.744. Validity Analyses: Pearson correlation coefficients was 0.738 ($p<0.01$). During the application and correction of the scale, it was observed by using one-way ANOVA analysis that the same score was recorded between early childhood group and between adulthood group.

Discussion

In this study, the reliability and the validity of the DSAAS were examined, and it was proven to be applicable. It is an 86-item Likert scale developed to diagnosis autism in different age stages from childhood to adulthood. It has been shown to have an internal consistency coefficient of 0.72 and a test-retest correlation coefficient of 0.58. This is accepted as a high correlation and a very high internal consistency. Item-Total score correlation coefficients were determined to be high as well, proving the scale’s construct validity. Considering these findings, it is determined that the scale can be reliably used. the primary limitation of this study is the relatively small number of the sample group formed by 105 participants.

Keywords: Assessment, Complex Autism, Diagnostic

Poster Number : SAT01-39

Atypical ERP responses to audiovisual multisensory integration in infants at-risk for Autism Spectrum Disorder

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Introduction

Advances in the identification of early markers for autism spectrum disorder (ASD) have occurred in the direction of the formulation of specific intervention programs to be applied at very young ages. There is a growing interest in identifying reliable brain-based predictors, which may constitute useful tools for early detection on at-risk cases. Notably, atypical responses to sensory input is included in the DSM-5, becoming part of the ASD diagnostic criteria. In particular, individuals with ASD perform poorly during conditions that require integrating information across auditory and visual modalities (AV integration), a skill that is a key building block upon higher-level skills (language and communication). However, using ERP techniques, AV integration skills have not been assessed in infants at-risk for ASD. The study aims to characterize the ERP correlates of AV speech integration in infants at-risk for ASD (HR-ASD) compared to typically developing infants (TD), to find a potential reliable biomarker for early interception of ASD during a critical period of development.

Methods

At 12 months of age, 26 HR-ASD and 17 TD took part in the study. ERPs were recorded during an AV integration task measuring the McGurk effect. AV match and mismatch videos of 2 female faces pronouncing /pa/ and /ka/ syllables were presented in a block design: two congruent AV pairs (visual /pa/ audio /pa/, visual /ka/ au-

dio /ka/) and two incongruent AV pairs (audio /pa/ onto a visual /ka/ 'fusion condition' and audio /ka/ onto a visual /pa/ 'mismatch condition'). Mean amplitude was calculated in successive 100-ms time windows (200 to 600 ms from the sound onset) for AV stimuli in frontal, central and temporal and occipital areas.

Results

In frontal areas (time window 300-400 ms) the results showed significant condition by group interaction ($F=5.559$, $p=.026$). Post hoc analyses showed that mean amplitude for mismatch condition was smaller in HR-ASD group compared to TD ($t=-2.129$, $p=.042$). Analyses are ongoing, including the effect of ERP measures on ASD-related outcomes at 18 months of age.

Discussion

Differential brain responses related to AV integration emerge at 12 months between TD and HR-ASD, specifically when auditory and visual stimuli cannot be integrated into a fused percept (i.e. mismatch condition). Given the crucial role of AV integration in later socio-communicative skills, an early identification of AV deficits may contribute to delineate pathophysiological mechanisms in ASD.

Keywords: Brain development, Communication, Infant

Poster Number : SAT01-40

Marking Twelve Seasons of The Big Bang Theory: Sheldon Cooper, the DSM-5, and the Lost Asperger's Syndrome Label

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Introduction

With the start of the television comedy show The Big Bang Theory in 2007, audiences were introduced to the character Sheldon Cooper, a capable theoretical physicist with a number of unique character traits: a lack of social skills, an inability to understand

sarcasm, idiosyncratic behavior, and an apparent lack of empathy. Some viewers would assert that the behavior of the brilliant yet socially inept (though funny) Sheldon was consistent with the behavior displayed by those diagnosed with Asperger's syndrome (AS), an autism spectrum disorder (ASD). Although show co-creator Bill

Prady has stated that the Sheldon character was neither conceived nor developed with AS in mind, Sheldon was likely the first opportunity for many viewers to see what the symptoms of AS and some ASDs are like, even if they were presented in a comedic context. With the conclusion of the series in 2019 after a dozen seasons, it may be speculated that the popularity of the socially maladroitness Sheldon and The Big Bang Theory has increased general interest in – or at least raised awareness of – AS and other ASDs. However, halfway through the show's run the fifth and most recent edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), released by the American Psychiatric Association, removed AS's classification as a distinct disorder, instead placing its collection of symptoms under the more general ASD umbrella. The import of this move is that currently AS as its own unique condition no longer exists, at least as far as the DSM-5 is concerned. With the label "Asperger's syndrome" officially carrying no clinical meaning, some of those previously labelled with AS – and those who found the label useful, including the diagnosed and their caregivers – no longer have a label that succinctly describes them and the symptoms they experience.

Methods

An examination of scenes from the show were sought and analyzed.

Results

The character Sheldon displays some decidedly Asperger-type behavior.

Discussion

The proposed presentation aims to argue for the restoration of the label by examining The Big Bang Theory's Sheldon Cooper. It shall be argued that, in light of previous AS symptom explanations and the presenter's own AS tendencies, Sheldon most likely has AS. Consequently, it shall be asserted that should the label be restored, a diagnosed Sheldon (and others with AS) would be in a better position to get the appropriate understanding, compassion, and assistance they require to live fuller, richer lives.

Keywords: Behaviour, Conditions, Diagnostic

Poster Number : SAT01-41

The Development of Theory of Mind (ToM) in Children and Adolescents in Hong Kong

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Introduction

Research conducted in the Western context has demonstrated consistent age- and gender- differences in the development of theory of mind (ToM). This study sets out to examine if similar patterns of ToM development can be identified in Hong Kong, a predominantly Chinese context.

Methods

One hundred and eight primary and secondary mainstream and special school students were recruited to complete the ToM scale, a quantitative ToM assessment tool for children with autism developed specifically for the context of Hong Kong. A mean comparison following up by a two-way analysis of variance (ANOVA) were performed in the data analysis session. Regression model was adopted for identifying the potential predictor(s).

Results

A comparison analysis using t-test has carried out, and no significant ToM score difference found in gender difference, while age-related differences were found in ToM scores in ANOVA test.

Using the regression analysis, the age factor was also found to be the predictor of ToM performance in children and adolescents with autism.

Discussion

These preliminary results suggested a cultural difference in the development of ToM. Further research directions were suggested, i.e., longitudinal studies.

Keywords: Assessment, Education, Learning

Poster Number : SAT01-42

How sensory processing differs in young children with ASD compared to typically developing children

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Introduction

Cognitive and social behavior is associated with our perceptual experience of the world. Significant research suggests that differences in sensory function may explain higher-level difficulties in children with Autism Spectrum Disorder (ASD). Alterations in sensory processing are highly prevalent (80-90%) in ASD individuals as already described by Kanner in the 40's. These symptoms significantly interfere with daily functioning. They are now well recognized in the clinics and have lately been added as diagnostic criteria in the DSM-5 (APA, 2013). As of today, research in the field of sensory processing remains a challenge as clinic and fundamental research tend to advance independently. Few studies translate fundamental findings into daily clinics. In this project, we aim to assess different levels of sensory processing in ASD and typically developing children to better comprehend the relationship between neural processes and sensory symptoms.

Methods

So far, 23 children aged 2-8 years carrying an ASD diagnosis and typically developing children have been included in the study. Participants are matched on age and gender. Different methods are used to assess sensory processing: clinical (psychometric tests, questionnaires), and electrophysiological (EEG) measures along with neuroimaging (structural and functional MRI).

Results

As expected, preliminary results show differences between the typically developing children (n=9) and ASD children (n=14), the latter presenting increased rate of sensory particularities in auditory, visual and tactile modalities both clinically and electrophysiologically. Preliminary results also suggest correlation between clinical and electrophysiological findings.

Discussion

The preliminary findings confirm the high prevalence of sensory particularities in auditory, visual and tactile processing in ASD population. More importantly, the results shed light on the relationship between clinical symptoms and endophenotypes on sensory treatment in different modalities. The study is ongoing and a larger cohort will soon be analyzed. Better understanding of the underlying mechanisms of sensory processing is essential to improve intervention either by adapting the environment and/or ideally normalize the sensory experience to alleviate downstream effect on higher order cognition. Specific abnormal sensory processing might become an early diagnostic marker of ASD.

Poster Number : SAT01-43

Alexithymia and broader autism phenotype in parents of children with autism spectrum disorders

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Introduction

Alexithymia is a personality trait characterized by difficulties in emotional processing and awareness (Vermeulen et al., 2006), with subsequent impairments in subjective emotion regulation (Connelly and Doney, 2007) and perspective-taking. Repeated findings demonstrated a significant association between alexithymia and Autism Spectrum Disorder (ASD) as well as the presence of the Broader Autism Phenotype (BAP) in relatives of individuals with ASD (Berthoz, et al., 2013, Szatmari et al., 2008). The aim of this study was to explore alexithymia traits in parents of children with ASD using a multimethod measurement approach based on a self-report and a structured interview assessment to decrease specific measurement method bias.

Methods

A total of n=109 parents (n=57 mothers and n=52 fathers) of children with ASD and n=92 parents (n=46 mothers and n=46 fathers) of typically developing children have been assessed using both a self-report questionnaire - the Toronto Alexithymia Scale (TAS, 20) (Taylor & Parker 2003) and a structured interview - the Toronto Structured Interview for Alexithymia (TSIA)

Results

At the TAS-20, parents of children with ASD reported slightly hi-

gher scores than parents of TD children (ASD mothers: mean (SD) = 39.8 (12.6), ASD fathers: mean (SD) = 42.3 (11), TD mothers: mean (SD) = 38.7 (9.6), TD fathers: mean (SD) = 41 (10.1), but no statistically significant group differences were found ($t(98)=0.48$, $p=0.6$ and $t(93)=0.6$, $p=0.5$ for mothers and fathers respectively). However scores at the TSIA were significantly higher in the ASD parents' group (ASD mothers: mean (SD) = 10.6 (4.4), ASD fathers: mean (SD) = 14 (8.8), TD mothers: mean (SD) = 7.2 (4.6), TD fathers: mean (SD) = 6.4 (3.9), compared to TD parents ($t(74)=3.2$, $p=0.002$ and $t(73)=4.5$, $p<0.001$ for mothers and fathers respectively).

Discussion

The results suggest that alexithymic traits are characteristic features of the broader autism phenotype in parents of children with ASD and that structured interview assessments are crucial to decrease specific measurement method bias. We found a significant difference in the scores obtained by ASD parents through self-report versus structured interview assessment. Future studies should aim to understand if those differences related to the measurement methods extend to other traits and if they can interfere with the reporting of behaviours and characteristics of their children during diagnostic assessment.

Poster Number : SAT01-44

How to measure parent-child interaction in infants at risk for autism spectrum disorder: development and validation of the PInTCI.

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Introduction

Parent-child interaction (PCI) plays a major role in the development of children, especially in the first years of life. Measuring PCI is however complicated, and existing coding schemes are often time consuming and/or require extensive training. The aim of the current study was therefore to develop and validate a time- and cost-effective coding scheme for measuring PCI in infants at increased likelihood for ASD, within the context of a European research consortium.

Methods

Based on extensive literature review and piloting, 5 child scales, 5 parent scales, and 1 dyadic scale were included in the coding scheme (PInTCI = Parent-Infant/Toddler Coding of Interaction), and rated from 1 to 7. Seven coders from 4 European countries were successfully trained. Together they coded 120 PCI clips from infants without and 156 clips from infants with increased likelihood of ASD (with an older sibling with ASD) and their mothers at 5 or 10 months of age. 26 clips were coded by all trainers in order to evaluate interrater reliability. Construct validity was evaluated by comparing PInTCI scores with conceptually similar scores from the CIB (Feldman, 1998), available for 80 infants.

Results

For the majority of scales the full range of scores was used, indi-

cating that the scales were suitable for this age range. There was insufficient variation in the codes of 'child initiatives' at 5 months (94% of infants scored very low) and 'parental negative affect' at 5 months (96% of parents showed no negative affect). For the remaining scales, interrater reliability was good (ICC .67 to .95). For the scales that were conceptually similar to the scales of the CIB, significant positive correlations were found between the two coding schemes (e.g., $r=.585$, $p<.001$ for 'parental sensitive responsiveness'). For scales with less conceptual correspondence, lower correlations were found (e.g., $r=.210$, $p=.170$ for child attentiveness with CIB child involvement).

Discussion

Time- and cost-effective training of the PInTCI seems to be feasible, and the majority of scales can reliably be coded in young infants. Validity of the coding scheme is promising. Two new coders are currently being trained to expand the sample for which also CIB information is available and to broaden the age range. More elaborate results and practical implications will be presented at the meeting.

Keywords: Assessment, Environment, Infant

Poster Number : SAT01-45

Validity of actigraphy compared to polysomnography for the measurement of sleep in children with autism spectrum disorder

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Introduction

Actigraphy (ACT) is a non-invasive objective assessment tool for the study of sleep-wake rhythms. It is of particular interest in young children with Autism Spectrum Disorder (ASD) for multiple reasons. Sleep disorders are highly prevalent and have a probable impact on both cognitive and behavioral functioning. As polysomnography (PSG), the gold standard for the measurement of sleep, is difficult to perform in children with ASD, ACT has become a tool of choice. The objective was to assess validity of ACT compared to PSG for the first time in this population.

Methods

During the same night of hospitalization, PSG and ACT were conducted in 26 children (6 girls and 20 boys, mean age 5.4 years \pm 1.6) diagnosed with ASD according to DSM-5 criteria and standardized diagnostic scales (ADI-R and ADOS). Sleep parameters were total sleep time (TST), sleep latency (SL), wake after sleep onset (WASO) and sleep efficiency (SE). To compare PSG and ACT, we conducted sleep parameters agreement analyses including: Intraclass Correlation Coefficient (ICC), Bland-Altman plots and equivalence tests. The comparison of both techniques also included an epoch by epoch agreement analysis to determine sensitivity (ability to detect sleep) and specificity (ability to detect wake).

Results

According to equivalence tests (significant p-values indicate equivalence), the difference between ACT and PSG measures was clinically acceptable for: TST (<30 min, $p < 0.01$), SL (<15 min, $p < 0.001$) and SE (10%, $p < 0.01$), but not for WASO (<15min, $p = 0.13$). There was a good agreement between methods for SL (ICC=0.79) and TST (ICC=0.85) and a moderate agreement for WASO (ICC=0.73) and SE (ICC=0.68). The EPE agreement analysis revealed a high sensitivity (0.94 ± 0.06) and moderate specificity (0.5 ± 0.2).

Discussion

Since sleep disorders are one of the most common comorbidities within the ASD population and are highly prevalent, it is essential to validate objective tools of assessment for both clinical and research purposes. To our knowledge, our study is the first to validate actigraphy compared to polysomnography, using a state-of-the-art methodology, in a young population of children with ASD. The results suggest actigraphy to be a valid method to evaluate sleep within this population, with a good reliability for most sleep parameters. Multiple validation studies for each developmental age and clinical samples would further improve the assessment of sleep using ACT.

Keywords: Assessment, Childhood, Sleep issues

Poster Number : SAT01-46

American-English spoken by Children with Autism Spectrum Disorder within Maltese-speaking families.

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Introduction

Many Maltese children with ASD speak in English, often American-English, and refuse to speak in Maltese although their caregivers and peers are primarily Maltese-speaking. These children live in a Maltese environment and attend schools where Maltese is the main language spoken. Established theories of language acquisition (Skinner, 1957, Vygotsky, 1934) state that a child's mother tongue would be that spoken by his or her primary caregiver. Instead, some Maltese children with ASD speak in English or American-English. This study investigates the language use of Maltese children with ASD in Maltese-speaking families.

Methods

25 Maltese children with ASD aged 3 to 9 from Maltese-speaking families were audio-recorded during a play interaction with their main caregiver. The participants were also administered a naming task consisting of picture referents for which lexical labels differed between English and American-English. The caregivers filled in a questionnaire about their child's language use with family members and significant others, also the time their child spent using technology and watching television. Audio-recorded data was analysed by the researcher and a colleague using a 3-point scale to judge if the child used a Maltese-English, English or American-English accent. The child's speech was also compared to the caregiver's

speech to verify whether the pronunciations were the same. Picture naming productions were analysed as a percentage of English vs American-English words named.

Results

A preliminary analysis with 7 participants showed that the children spoke with an American-English accent that differed from their caregiver's. This poster will present the full results and will discuss trends related to the type of accent, its strength, and its similarity or difference with the accent of the main caregiver.

Discussion

Preliminary results show that the children developed their American-English accent by imitating the accent used in technology and on television. Therefore, although immersed in a Maltese-speaking environment, they acquired their language through technology rather than natural intervention with their caregivers, siblings and peers, who spoke mainly Maltese or Maltese-English. This also implies that the children rejected their home language, Maltese. The final results of this study may influence speech-language intervention with these children and possibly also educational decisions regarding their communication.

Keywords: Language

Poster Number : SAT01-47

Helpicto, a translator from oral language to images

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Introduction

"Please get dressed and brush your teeth" may seem like a straightforward request from a parent to a child, but if the child has language difficulties or is nonverbal, this simple communication can become a complex problem. For a person with autism, not being able to understand a question or suggestion can lead to anxiety or frustration and can result in behavioral disorders. Can tools dedicated to daily communication help to improve the autonomy and/or understanding of the ASD person?

Methods

Carine Mantoulan is the founder of Inpacts. She is doctor of psychology and specialist in Autism. She had the idea that by using new technologies, it was possible to improve communication, reduce the risk of loss of attention and causality through better understanding, and reduce behavioural disorders. In 2016, Carine met Anthony Allebee, from Equadex an IT company, they decided to build a prototype. Carine's team tried to demonstrate that better communication and understanding can contribute to enhance quality of life. Experimentation began in 2017. Carine has developed a

protocol based on interviews with parents and caregivers. The TSA persons were selected according to their level of understanding at Reynell and their understanding of the photos and/or images thanks to the EVALO baby.

Results

Helpicto is an application for smartphones and tablets. It provides support for people with language disorders, comprehension and attention deficits. It does this through artificial intelligence, speech recognition and images. When someone speaks a command into the app, the Speech to Text Translator converts it into a sentence in real time, then the Language Understanding analyses the command to determine its intent.

Discussion

In conclusion, participants made significant progress in the area of understanding, attention and autonomy. Indeed, at the level of autonomy, participants can now perform personal tasks (such as dressing for example) independently. The quality of life of families also improved significantly. Our hypothesis is therefore validated. We have only three children in school in our sample and therefore cannot make a statistical comparison. Nevertheless, parents and teachers recognized the usefulness of using Helpicto in the classroom. This use provides a better understanding of the instructions. We did not find any significant differences in the reduction of behavioural disorders, although there is a positive trend.

Poster Number : SAT01-50

Comprehension of figurative language in school-age Cantonese-speaking children with and without autism spectrum disorders

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Introduction

Previous studies suggest that whether first- and second-order theory of mind (ToM) are necessary for individuals with autism spectrum disorders (ASD) to comprehend metaphor and irony is subject to cross-cultural variation (Happé, 1993, Huang, Oi, & Taguchi, 2015). The present study investigated (i) whether school-age Cantonese-speaking children with ASD differ from TD children matched on both chronological age and language ability in comprehending metaphor, irony, indirect request, and indirect reproach, and (ii) the role of ToM, semantic knowledge, and language ability in comprehension of these types of figurative language, and (iii) whether children with ASD show deficits in comprehending these types of figurative language relative to TD children.

Methods

45 Cantonese-speaking children with ASD ($M = 8.73$, $SD = 1.36$) and 79 TD children ($M = 8.69$, $SD = 1.42$) participated. Understanding of the four types of figurative language was evaluated based on children's ability to choose the response that captured the figurative meaning of the given figurative utterance, which was presented at the end of a short story. ToM skills were assessed using first- and second-order false-belief tasks. Semantic knowledge and language ability were assessed by standardized language tests (T'sou et al., 2006).

Results

Results showed that children with ASD performed significantly worse than their TD peers in comprehending all four types of figurative language. For children with ASD, those with no ToM performed worse than first- and second-order ToM achievers in comprehending metaphor and irony, whereas ToM did not influence the comprehension of any type of figurative language in TD children. Moreover, both semantic knowledge and language ability significantly correlated with comprehension of the four types of figurative language in both ASD and TD children. After controlling for the effects of age, ToM, semantic knowledge, and language ability, the group difference in comprehension of the four types of figurative language still existed.

Discussion

The findings suggested that semantic knowledge and language ability played more important roles in comprehension of these four types of figurative language than ToM in Cantonese-speaking children with ASD. We also found that Cantonese-speaking children with ASD showed deficits in comprehending these four types of figurative language relative to their TD peers.

Keywords: Childhood, Language

Poster Number : SAT01-51

Charting the Impact of Bilingualism on Executive Functions in Autistic Children

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Introduction

There is a dearth of empirical literature addressing how bilingualism might impact upon those with autism. What limited literature exists can be summarised as follows: bilingual exposure is unlikely to lead to poorer development and could provide cognitive advantages. However, many parents are concerned about the potentially harmful effects of bilingualism. The aim of this research is to explore how bilingualism impacts on cognitive and language development for autistic children and their families. Here, we focus on the relationship between bilingual language exposure and executive functions.

Methods

We are collecting data from autistic and neurotypical children aged 5-12 who are being raised in a bilingual environment. We have enrolled 55 children, of which 23 have an autism diagnosis. With a visit rate of 20 children per month, we will have complete and processed data for 60 autistic and 60 neurotypical children by June 2019. These will be analysed for presentation at Autism Europe. Children complete a battery of executive functions, a standardised IQ assessment and language measures. Additionally, parents complete a number of reports including the Theory of Mind Inventory and a Bilingual Language Experience Calculator.

Results

We anticipate that directly-observed and parent-report measures of executive functions will be highly correlated, and we will run a principal components analysis to identify latent variables representing distinct executive functions. Executive function abilities will then be analysed as follows: 1) Mean differences between groups based on diagnostic status, bilingual exposure (high versus low) and the interaction term for these. We predict that autistic vs neurotypical group differences will be reduced when bilingual exposure is high. 2) Continuous relationship between bilingual exposure and executive function abilities, taking account of IQ, language and diagnostic group. Two-way ANCOVA's will be used to assess interaction contrasts, followed by pairwise post hoc comparisons.

Discussion

This study will elucidate the effects of bilingual exposure on executive functions in childhood. This study takes a critical step towards exploring the question of whether bilingualism can provide a naturalistic opportunity to further develop executive function skills. The work has implications for future clinical practice and will contribute to an evidence base for parents to make an informed choice about bilingualism for their child.

Keywords: Childhood, Cognition, Language

Poster Number : SAT01-52

Voice training: a new educational perspective for ASD children ?

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Introduction

In Autism Spectrum Disorders (DSM 5), children's language profiles are heterogeneous, ranging from a total absence of vocal gestures to a preserved structural language with abnormal intonation, rhythm, or speech rate. But, prosody and intonation are components that stimulate joint attention, which is a fundamental condition in the process of language appropriation.

Studies on vocal production (Fusaroli et al., 2016) in ASD lead us to believe that there would be no prosodic markers specific to autism but different ways of using prosodic elements, from the total absence of their use (flat prosody) to an inappropriate (pragmatic deficit). As learning to speak and sing requires the coordination of more than 100 muscles, we suppose that ASD children would not use correctly this coordination.

A first study (De Martino et al., 2018) showed the child's ability to imitate a vocal model (the adult). This present study is to test our vocal training on 3 children.

Methods

Three children, without intellectual deficit, were diagnosed with Autism Spectrum Disorders with an important atypical intonation. We developed a "vocal training program» (Rey & al, 2017). This procedure was been proposed during 4 months, three half-an-hour sessions per week. The experimenter showed breathing gestures, laryngeal gestures and articulated sounds. The children had to imitate the adult vocal model. Different measures of each child are observed repeatedly (duration of vowels, music notes imitation and sentences imitation).

Results

We used a single case experimental design. The SCED is a methodology in which the subject serves as his own control. The pre-

liminary results confirm the ritualization of a vocal training's impact. The three children increase their vowels and sounds durations, showing so that the breathing gestures are best controlled. One child imitate the five notes after 4 months training, and two children imitate only four notes. They adjust also the vocal range and the sentences prosody on the vocal model adult.

Discussion

The results of this study confirm that the voice of ASD children can be educated. Repeated vocal training allows children to expand their prosodic skills, to increase the breathing activity and to better manage the stress. This training allowed too an increasing of shared attention. This ritualization of an educational vocal process could be used in an ordinary classroom with one ASD child to work on their joint attention and on their prosodic and pragmatic skills.

Keywords: Complex Autism

Poster Number : SAT01-54

A Competence-Based Approach to Augmentative-Alternative Communication Intervention

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Introduction

Augmentative-alternative communication (AAC) intervention for people on the autism spectrum often focuses on language goals such as growing vocabulary and combining words into sentences. Yet, these skills alone do not result in successful use of AAC in daily life.

Methods

Light & McNaughton (2014) define the five areas of competence (linguistic, operational, social, strategic, and psychosocial) necessary for success with AAC which are supported as beneficial by experts and users of AAC. The linguistic competence revolves around vocabulary, sentence structure, and grammar. Operational skills include the physical act of navigating, caring for, and operating AAC. The social competency focuses on communicating in a variety of settings and for a variety of purposes while strategic relates to repairing communication breakdown. The psychosocial competence involves the perseverance and drive to continue to use AAC.

Results

Knowledge of what these competencies are is one thing but using them as part of AAC assessment and intervention is another. With

that in mind, free tools have been developed to assist clinicians and family members to evaluate and address these areas of competency.

Discussion

Expanded use of a competency-based approach to AAC with people with autism can lead to greater communicative success and better-quality assessment/intervention.

Keywords: Alternative Communications, Communication, Intervention

Poster Number : SAT01-55

The effect of bilingualism on visual perspective abilities in autistic adults

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Introduction

Although language difficulties are part of autism, some autistic people can demonstrate linguistic skills that surpass neurotypical standards (such as hyperlexia). Research in neurotypical people has described a positive influence of bilingualism on the development of specific social cognitive skills such as visual perspective taking. However, an understanding of the cognitive influence of bilingualism in autism is lacking. This study aims to describe the influence of bilingualism on visual perspective taking skills in autistic adults.

Methods

We are recruiting autistic adults living in the U.K., aged between 16 and 65, who know more than one language. At the time of submission (recruitment and data collection ongoing), 41 participants have been recruited, and data has been collected for 31 of them. The estimated final sample size is 50. Participants complete a language history and demographics questionnaire, a computerised visual perspective taking task measuring several types of visual perspective taking processes, an executive function task, and a standardised non-verbal IQ test.

Results

The current sample includes 31 participants (39% female), aged

between 16 and 61 ($M=33.6$ years, $SD=12.9$ years), with a Perceptual Reasoning Index between 101 and 145 ($M=120.7$, $SD=11.3$). Eight participants listed 2 languages, 11 listed 3 languages, 12 listed 4 languages or more, with a wide range of ages of acquisition (for example, ages of acquisition for the second language ranged from 0 to 58 years) and a wide range of proficiencies in all their languages. We will analyse the continuous relationship between the bilingualism metrics (i.e. number of languages, age of acquisition, proficiency) and the visual perspective taking scores (error rate and response time) using a multiple linear regression analysis.

Discussion

This study is the first to measure the influence of various bilingualism features on the visual perspective skills of autistic adults. This deepens our understanding of the ability of the autistic mind to approach and respond to language learning, in terms of non-linguistic social processes. This will contribute to an evidence base for families and practitioners to support autistic people in their language learning journey and autistic people in a bilingual setting.

Keywords: Adult, Cognition, Language

Poster Number : SAT01-56

Sensitivity to conversational turn-taking in young adults with autism spectrum disorder and neurotypical young adults

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Introduction

In conversations, a system of turn-taking organises opportunities to speak. Research on eye movements has shown that neurotypical (NT) children and adults are sensitive to the turn-taking system: when observing conversations, they track who is speaking at a gi-

ven time and shift their gaze to the next speaker often before the next speaker has started to speak, suggesting that NT individuals are able to predict possible turn completion. However, children with autism spectrum disorder (ASD) have been found to look less at speakers than NT children and not being able to predict turn-taking.

Yet little is currently known about such predictive eye movements in older individuals with ASD. Further, previous research has mostly examined scripted conversations that tend to have simple turn structures. In contrast, spontaneous conversations often include multiple turn-transition cues signalling possible turn completion before the actual completion of the turn. The purpose of this on-going study is to investigate whether young adults with ASD are sensitive to conversational turn-taking by specifically examining the effect of turn-transition cues to participants' gaze.

Methods

30 high-functioning young adults with ASD and 33 NT young adults were presented with a 45 s videoed naturalistic unscripted conversation between two women about a course one of them had participated. The videoed conversation was annotated for turn-transition cues that signal possible turn completion (e.g. falling prosody), and the combinations of these. Participants' eye movements were recorded using a Tobii TX300 eye tracking system (Tobii Technology AB, Sweden). The sample rate was 300 Hz, and the spatial resolution was 0.25 degrees. Data from 16 participants with ASD (me-

dian 22.5 years) and 16 NT participants (median 22.6 years) were considered valid and included in the analysis. The frequency and latency of participants' eye movements toward current speakers and next speakers in the video are analysed with respect to the turn-transition cues.

Results

We expect the ASD group to fixate less on current speakers, to have less predictive gaze shifts to next speakers, and to shift their gaze to next speakers later than the NT group. The detailed results will be discussed.

Discussion

This on-going study makes a novel contribution by mapping the level of sensitivity individuals with ASD show to turn-transition cues, and thus, increases our current understanding of social attention in ASD.

Keywords: Cognition, Communication, Social

Poster Number : SAT01-57

Training Requesting Skills of Children with Autism Spectrum Disorders: Potential Impacts on in situ Communication.

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Introduction

Children with Autism Spectrum Disorders (ASD) often face strong limitations in their communication, resulting in challenging behaviors and social exclusion (DSM-V, APA 2013). The most documented intervention to develop basic requesting abilities among children with ASD is the Picture Exchange Communication System (PECS, Bondy & Frost, 2009). Whether paper-based or technology-based (i.e. mobile applications), PECS presents good results in developing communication and especially requesting skills (Morin et al., 2018). However, recent meta-analyses suggest these results have very limited impacts in daily-life in terms of generalization, maintenance or social validity (Logan, Iacono, & Trembath, 2017, Hong et al., 2018).

Methods

Two children with ASD and their families participated in a single-case experiment with a changing criterion, based on PECS procedure. The experiment was conducted during 4 months by trained speech-therapists both in a medico-educative institute and at home, it was based on a communication application named Tiwouh, which relies on pictograms coupled with speech-genera-

tion. Participants received 10 sessions of training for each of the 4 phases of the PECS procedure. Pre-post measures were added to account for potential variations in verbal and non-verbal communication, as well as challenging behaviors. Additionally, parents' communication style (i.e. sensitivity and receptivity) has also been evaluated before and after the intervention, as well as their involvement throughout the intervention.

Results

Both participants completed all four phases of this intervention: they learned to make requests through the tablet-based communication application. Most importantly, they exhibited dramatic increase in verbal communication (+70% and +36,6%) at the end of intervention in a 10-minutes long activity with their parents, along with a decrease in non-verbal communication (-55% and -33,4%) and challenging behaviors (-13% and -13,4%). Additionally, parents exhibited an improved communication style at the end of intervention (+3,5%).

Discussion

This study provides new in-depth insights on potential impacts

of training requesting skills of children with ASD on in situ communication, and especially regarding verbal and non-verbal communication, as well as challenging behaviors. Clinical profiles of participants are discussed, regarding their previous experience on

clinical speech-language therapy or even paper-based and technology-based assistive communication.

Poster Number : SAT01-59

MASSEMBLAGE tm: an Innovative Alternative Communication Solution

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Introduction

Sensory sensitivity disturbances are a common symptom in autism spectrum disorders (ASDs) and frequently lead to tactile defensiveness. MASSEMBLAGE is an innovative tool currently used for people with tactile defensiveness. The protocol consists in a tactile and structured sensory experience with specific material and communication tools. The method is fast, structuring, respectful and responsive to the feelings and only requires a 2-day initial vocational training. This study assesses users' expectations and the contribution of MASSEMBLAGE to people with ASDs as an additional tool to promote autonomy, tactile and social interaction as well as communication.

Methods

MASSEMBLAGE has been taught to professionals working in the sector of special education and health since 01/2016. MASSEMBLAGE is applied in adults and children over four years of age suffering from ASDs. Between 05/2018 and 12/2018, each trainee was interviewed during the training session: Do you think that MASSEMBLAGE meets basic human needs, as defined by Max Neef, for the people with ASDs hosted in your center? Regarding MASSEMBLAGE contribution to people with ASDs, the changes in daily life activities autonomy, social anxiety, tactile and social interaction and communication were collected from qualified professionals trained to this tool from 01/2016 to 01/2019.

Results

MASSEMBLAGE is identified by trainees (n=29) as a response

to meet the needs of people with ASDs relative to leisure (79%), identity (74%), understanding (68%), participation (63%), freedom (63%), and protection (63%). Some basic improvements in personal care such as bathing and dressing, or in mobility have been observed. The most relevant results were obtained in people with ASDs having great learning difficulties and no capacity for tactile and social interaction or for verbal communication (e.g. let someone hold their hands to cross the road, apply sunscreen or treat wounds).

Discussion

MASSEMBLAGE obtained a significant global satisfaction rate from psychomotor therapists, educators, nurses and masseurs as a comprehensive tool in the management of ASDs. Henceforth, some patients receiving such care are available and able to respond to some preventive and secure solicitations, which was previously impossible. These results have been attributed to a significant reduction of anxiety thanks to MASSEMBLAGE which facilitates care receivers' learning and contributes to the overall support of people with tactile defensiveness including people with ASDs.

Keywords: Alternative Communications, Challenging Behaviour, Vocational Training

Poster Number : SAT01-60

Implicit and explicit theory of mind in school-aged children with Autism Spectrum Disorder

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Introduction

There are two dimensions of the theory of mind (ToM): explicit ToM, which is measured by a standard false belief test through verbal instruction and question, and implicit ToM, which measures spontaneous false belief attribution using an eye-tracking system with no consideration of verbal comprehension. This study explored implicit and explicit ToM in school-aged children with Autism Spectrum Disorder (ASD) compared with neuro-typical (NT) children.

Methods

The participants were 17 children with high-functioning ASD (mean chronological age 9 years 5 months) and 18 NT children (mean chronological age 8 years 1 months). Verbal mental age and non-verbal intelligence were matched in both groups. Two types of false belief test were employed. The eye-tracking version of the False Belief Test (ET-FB) was employed using the procedure described by Senju et al. (2010), and a Tobii Eye Tracker was used to present stimuli and record eye movements. A differential looking score (DLS) was calculated along a range between -1 and 1, such that a higher score indicated that the participant spent more time looking at the correct location. In addition, an animation version of the ToM test was presented on a PC monitor to administer three types of standard false-belief tasks (S-FB): change of location, unexpected contents and second order. The total passing number

was scored (range 0–3).

Results

Scores of NT children were higher than for children with ASD on both the ET-FB test (mean scores: .40 and -.20, respectively, $t(33) = 2.95$, $p < 0.01$, Cohen's $d = 1.00$) and the S-FB (mean scores 2.28 and 1.29, respectively, $t(28.04) = 2.79$, $p < 0.01$, Cohen's $d = 0.96$). A positive and significant correlation ($r = 0.80$, $p < 0.001$) was found between S-FB scores and verbal mental ages only in the ASD group. The results of logistic regression analysis identified the ET-FB score as a significant predictor of ASD ($\chi^2(1) = 7.83$, $p < 0.01$, $B = -1.64$, Wald = 6.22, $p < 0.05$, odds ratio = 0.20) with a predictive value of 69%.

Discussion

Although NT children responded more accurately in both implicit and explicit conditions than children with ASD, the differences were greater for tests measuring implicit condition. Language ability strongly contributed to performance for explicit conditions. Performance on implicit false belief tests could directly reflect non-verbal ToM abilities.

Keywords: Cognition, Development, Language

Poster Number : SAT01-62

Mapping Speech and Language Therapy provision for Bilingual Children with Autism Spectrum Disorders on the International Classification of Functioning, Disability and Health Framework

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Introduction

Improving communication is identified as a research priority by the autistic community. Speech and Language Therapy (SLT) services show promising potential in this area. This has been evidenced

in services for monolingual children but practice appears to crumble in face of bilingualism. Limitations are found at all stages of the care journey: referrals reflect inequitable access to services, professionals report being under-equipped during the assessment

phase and disclose the struggle to integrate more than one language in intervention programmes. In addition, beliefs amongst clinicians and parents that bilingualism is detrimental to the child with communication difficulties have been documented. In the age of globalisation there is an urgent need to investigate adaptations for SLT services to best support the bilingual autistic community and foster inclusion.

Methods

This theoretical paper aims to (1) critically analyse the literature on bilingualism and autism using the lens of the International Classification of Functioning, Disability and Health (ICF(-CY), WHO), (2) review SLT evidence-based guidelines and actual practice according to the components of ICF(-CY), (3) identify research priorities to foster more inclusive SLT services.

Results

Our analysis shows that the ICF(-CY) model is a powerful tool to elucidate the complex dynamics of functioning in autism in the context of bilingualism. Methodical consideration of the literature highlighted that advantages associated with bilingualism mirror

specific social communication difficulties in autism, but non-evidenced beliefs that bilingualism is detrimental to autistic child engages in harmful cyclical effects. Furthermore, comparison of SLT clinical guidelines and actual practice highlighted significant discrepancies: SLT guidelines systematically consider all ICF components during all stages of care, but actual practice is hindered by limited resources and reduced capacity to integrate relevant contextual factors.

Discussion

Future research should investigate innovative implementation of evidence-based practice for bilingual children to foster a new dynamic for change and inclusion. This should consider outreach to culturally and linguistically diverse communities, and concrete tools for SLTs to adopt a linguistically and culturally sensitive approach in rapport-building, assessment and intervention approaches. Participatory research is encouraged to further optimise SLT services for bilingual autistic individuals.

Keywords: Childhood, Inclusion, Speech Therapy

Poster Number : SAT01-63

An Exploratory Study of Teaching Students with Autism Spectrum Disorder the Recognition of Emotions in Hong Kong

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Introduction

Research indicates that impairments in the recognition of emotions lie at the core performance of intellectual disability (ID) and autism spectrum disorders (ASD). Individuals with ID can have comorbid ASD. This study investigates whether individuals with ID alone would differ from individuals with combined ID and ASD in recognition of emotions. Training students to react appropriately to their own emotions as well as to those of others is a key factor in developing effective social interaction skills. The differences of the performance in the reaction tasks between the two target groups of students are examined.

Methods

A total of 20 primary 6 students with ID with ASD and another 20 primary 6 students with ID without ASD from four Hong Kong special schools for students with mild ID were selected to participate in this study. The materials for the pretest, posttest, and training programs were adapted from a teaching package, which regarded the use of video stories to teach emotions in different environments to students. The effects of treatment on both groups of students

were analyzed using three-way analysis of variance (ANOVA) with Group (with ASD and without ASD) as between factor, and Test (pretest, posttest) and Emotion (happiness, sadness, fear, and anger) as repeated-measure factors.

Results

Results showed that students with ID, with and without ASD, generally benefited from the training program. Emotion recognition tasks significantly improved. Notably, both groups exhibited similar performance patterns in recognition tasks. Students without ASD exhibited greater improvement than students with ASD in recognizing emotions. However, the two groups performed differently in reaction tasks involving complex emotions. Students with comorbid ASD exhibited inferior performance in tasks requiring reactions to complex emotions.

Discussion

Both groups significantly improved their recognition to various emotions after the training. The training program in which stories were analyzed through mind mapping and the program that pre-

sented common life stories using cartoons could enhance the skills of students with and without ASD in interpreting and in responding to emotions. However, this study is limited such that the performance of students in different environments was not reported.

Keywords: Education, Intervention

Poster Number : SAT01-64

The school experiences of bilingual children on the autism spectrum: a multi-informant study

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Introduction

The interaction between bilingualism and autism in mainstream education is an under-researched yet increasingly common experience. Despite the growing consensus that bilingualism is not detrimental to the social and linguistic development of children with autism, multilingual families are frequently advised to adopt a monolingual approach. This multi-informant study aimed to understand the educational experiences of bilingual children on the autism spectrum along with their parents and educators.

Methods

Using interpretative phenomenological analysis (IPA) as a methodological framework, semi-structured interviews were conducted with 12 children aged 7 to 14, 16 parents and 13 educators. Computer-assisted interviewing was employed with children to alleviate the social pressure of a face-to-face interview by giving the child and interviewer a shared external focus. Data were analysed using IPA, an idiographic, inductive approach which elicits the lived experience of participants, and is gaining momentum as a qualitative method in autism research. Member-checks took place with all three groups of participants to increase the trustworthiness of the findings.

Results

Three themes were extracted from the interview data from children, their parents and their educators: (1) Perceptions of bilingualism in autism, (2) Barriers to pursuing bilingualism, (3) Strategies to support children at home and in school. Results indicated that while the parental group had the most positive views of raising their child bilingually and cited communication with extended family as central to their rationale, the educator group were more concerned about the possible barriers that bilingualism may pose to the child's development, particularly their proficiency in the dominant language. The children themselves tended to report more positive attitudes towards bilingualism when they attended schools with a higher proportion of bilinguals.

Discussion

This research provides qualitative insights into the lived experience of bilingual children on the autism spectrum and is the first study of its kind to draw out the perspectives of this group. The multi-informant nature of this study sheds light on the varying perspectives of how bilingualism and autism may interact in both the school and familial environments.

Keywords: Education, Language

Poster Number : SAT01-65

Do table top role-playing games promote social interactions and conversations of teenagers with autism spectrum disorder?

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Introduction

Our study focused on small-group activities using a table top role-playing games (TRPGs) as a method for promoting social interaction among children with high-functioning autism spectrum disorder (ASD). TRPGs is an interactive game played using pencil, paper and dice, instead of a computer. The aim is to create fictional stories through dialogues. This study investigated the efficacy of TRPGs activities to promote social interaction of children with ASD.

Methods

The participants were 23 teenagers (19 male and 4 female) with ASD (average chronological age: 14.5 years old, average FIQ score: 99.7). The participants were divided into groups of 3 to 6 people, and each group conducted a total of 5 sessions of TRPGs. Transcripts were made from audio and video recordings of the 1st and 5th sessions. Based on the definition and method of conversation analysis by Adams and Bishop (1989), the utterances of participants was coded and counted as «follow-up» and «extended response». The amount of change in the number of each coded utterance in the 1st and the 5th session was statistically compared using t-test. (This study was supported by JSPS KAKENHI Grant Number 18K13213. There are no conflicts of interest to declare.)

Results

Regarding «follow-ups», the number of utterances increased significantly in the 5th session (average score: 25.09) compared to the 1st session (average score: 9.09) ($t(22) = 6.56, p < .01$). In addition, Wilcoxon test compared the occurrence rate of «follow-up» utterances to the total number of utterances during the TRPG's sessions, which resulted in a significant increase ($p < .01$). Concerning «extended responses» as well as «follow-ups», comparisons were made between the first session and the fifth session. In the fifth session (average number of utterances 9.91), the number of utterances significantly increased ($t(22) = 7.81, p < .01$), and the occurrence rate similarly increased significantly ($p < .01$).

Discussion

The results suggest that the interaction of children with ASD increased through TRPG activities. Furthermore, activities based on voluntary participation of teenagers with ASD based on hobbies (such as TRPGs) not only increase the number of utterances but also maintain and develop topics and stories.

Keywords: Communication, Learning, Teenage

Poster Number : SAT01-66

Language development of French-speaking children with ASD : a study using a parental report on lexicon, morphosyntax and pragmatic.

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Introduction

Psycholinguistic studies on the development of expressive language in young French-speaking children with Autism Spectrum Disorders are still too few. However, lexical, morphosyntactic and pragmatic language features have been highlighted in their productions (Lavielle, Bassano, Adrien and Barthelemy, 2003, Lavielle-Guida, 2007, Foudon, 2008, Lavielle-Guida, 2016). The present study, which is transversal and descriptive, seeks to characterize finely the lexical, morphosyntactic and pragmatic characteristics using the parental report DLPF (Development of the

French Production Language, Bassano et al, 2005), in its new version named «DLPF-A Synthesis Version, 18 to 42 months».

Methods

This study analyzes the productions of eight autistics children aged 21 to 37 months of verbal development. These children were all diagnosed in one of the Resource Center Hospital of Paris. We proposed the paper survey to parents and then compared the results to the baseline study.

Results

The results are as follows: an over-representation of paralexical items, an equivalent proportion of content words and an under-representation of grammatical words in lexicon. We also observed an under-representation of regular verbal forms, as well as complex structures and sentences in morphosyntax. All these results correspond to the literature. In the pragmatic field, we chose to study three main areas of the «communication and language use» part: language exchanges, message organization and language use. The results show that children with autism do indeed have particularities in their pragmatic development compared to children of their age. Nevertheless, the differences are not as marked as expected.

Discussion

These results need, and are going to be completed with more parental reports, but beyond the research, they open remedial perspectives allowing speech language pathologists to concretely target the lexical, morphosyntactic and pragmatic domains to be strengthened. This study also highlights how, a strong collaboration between professionals and parents, is a solid way to improve the work on language and communication especially in the ASD.

Keywords: Development, Language, Speech Therapy

Poster Number : SAT01-67

Evidence for the emergence of significant associations between autistic traits in parents and child outcomes at 6 months of age

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Introduction

Several studies exploring relationships between the Broader Autism Phenotype (BAP) in parents and communication in their offspring have reported that core autism traits in parents are related to offspring communication difficulties and autism severity. However, past research has focused on studying difficulties in children and we know very little about difficulties in infants. With accumulating evidence that early interventions administered during infancy may be most effective in reducing Autism Spectrum Disorder (ASD) symptoms, it is imperative to examine whether relationships between parent BAP and child communication appear even earlier during this critical period of life.

Methods

This longitudinal study collected data from 32 infant siblings of children with ASD and 45 infant siblings with no family history of ASD to explore how parent BAP is related to child outcomes during infancy. The main measures of parents' communication difficulties and BAP traits were the Autism-Spectrum Quotient and the Communication Checklist-Adult, and the measure of child outcome assessing social-emotional behaviour was the Ages and Stages Questionnaire: Social-Emotional.

Results

Fathers' communication difficulties, and mothers' communication difficulties and BAP traits were associated with more pronounced difficulties in children's social-emotional behaviour at 6 months of age.

Discussion

These findings inform understanding of early communication development in children and the potential for heritability of ASD traits and may have important implications for the monitoring of child development. With significant associations found between autistic traits in parents and child social-emotional behaviour as early as 6 months of age, interventions may need to target the very early developmental period. Research has recognised that parent-child interaction is one of the main factors of the early environment that affects ASD outcomes. Future research may consider examining how parent-child interaction may mediate the relationship between parent BAP and communication difficulties and child outcomes. In examining the relationship between parental traits such as BAP, parent-child interaction, and child outcomes, future research may inform clinical practice on how to best tailor very early interventions to suit both the needs of the children and their parents.

Keywords: Communication, Family, Infant

Poster Number : SAT01-68

Understanding of nonlinguistic expressions by young adults with autism spectrum disorder and their neurotypical controls and its connection to empathizing skills and the understanding of faux pas

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Introduction

Communicating in changing situations requires mental flexibility. In communication, intentions are conveyed through linguistic and nonlinguistic (e.g. gestures and facial expressions) means. Although it is known that understanding nonverbal means cause difficulties to individuals with ASD, there is only a few studies focusing on this topic. This study examines 1) how young adults with ASD, when compared to their neurotypical controls, interpret contextually challenging situations where intentions are conveyed using nonlinguistic expressions. It also examines 2) how the participants understand faux pas and how they assess their own empathizing skills, and 3) whether the understanding of nonlinguistic expressions, of faux pas and empathizing skills are related.

Methods

Thirty-three young adults with ASD (26 males, 8 females) and 37 neurotypical controls (26 males, 11 females), whose IQ's were within normal limits, participated in this study. Comprehension of nonlinguistic expressions was measured using a selection of items of the Assessment Battery of Communication (ABaCo). Participants also took part in the Faux Pas Recognition Test and in the Empathy Quotient (EQ) self-report questionnaire. The data was analyzed using t-test and Pearson Correlation Coefficient.

Results

As compared to the controls, young adults with ASD performed significantly weaker on the nonlinguistic comprehension tasks and the EQ questionnaire. They also had poorer performance in the Faux Pas Test but the difference did not reach significance. There was considerable variability in the performance within the ASD group in all the tasks. In both groups there was a moderate correlation between the Faux Pas test and the EQ Questionnaire but only a small correlation between the ABaCo and the Faux Pas Test, and the ABaCo and the EQ Questionnaire. In the EQ Questionnaire, in both groups females tended to assess themselves higher than males but in the ABaCo and the Faux Pas Test there were no differences between the genders.

Discussion

Young adults with ASD may still have difficulties in utilizing context when understanding non-linguistically expressed meanings. These difficulties are not strongly connected with their scores in the Faux Pas Test or in the EQ Questionnaire. Contextual comprehension demands a variety of social cognitive and neuropsychological skills. More research of the interaction of these skills is needed.

Keywords: Adult, Communication, Social

Poster Number : SAT01-70

Sound likeability in ASD: interaction between social information and noise level**Authors:****Lisa Michel**, UMR 1253, iBrain, Université de Tours, Inserm, Tours, France**Emmanuelle Houy-Durand**, UMR 1253, iBrain, Université de Tours, Inserm, Tours, France**Cindy Le Menn-Tripi**, Centre universitaire de pédopsychiatrie, Centre Ressources Autisme Région Centre-Val de Loire, CHRU de Tours, Tours, France**Emmanuel Roul**, Centre universitaire de pédopsychiatrie, Centre Ressources Autisme Région Centre-Val de Loire, CHRU de Tours, Tours, France**Romuald Blanc**, Centre universitaire de pédopsychiatrie, Centre Ressources Autisme Région Centre-Val de Loire, CHRU de Tours, Tours, France**Frédérique Bonnet-Brilhault**, Université de Tours, France**Marianne Latinus**, UMR1253, iBrain, Université de Tours, Inserm, Tours, France**Introduction**

Clinical observations of people with Autism Spectrum Disorder (ASD) often describe a lack of interest for voices and a keen interest for music. Vocal and musical sounds differ on their noise level, as measured by the Harmonic-to-noise ratio – HNR: musical sounds present a higher HNR than vocal sounds. An atypical interest for musical and vocal sounds could be attributable to these different noise level, linked to the neural noise model of ASD. The aim of this work was to investigate potential interaction between the social nature of auditory information and noise level in ASD using an auditory likeability judgment task.

Methods

We measured behavior in a sound likeability judgement task in 9 ASD adults (mean age: 30.7 years old) and 9 typically developed (TD) adults (26.1 years old). Vocal and non-vocal sounds (two categories), with different average HNR values (three noise levels per category) were used: sung voices, spoken voices, whispered voices, and musical, animal and environmental sounds. There was 15 stimuli for each of the six conditions. Participants rated likeability on a visual analog scale from 0 not likeable at all to 1 very likeable.

Results

Spearman correlations showed stronger positive correlations within the TD group (mean rho = 0.354) than within the ASD group

(mean rho = 0.239). A mixed design repeated measures ANOVA showed a significant category by noise level interaction ($F(2,32) = 5.50, p < .01$), but no interaction with group: likeability ratings were greater for musical sounds than sung voices. Correlational analysis between HNR and likeability performed at the individual level revealed that 7 TD subjects, but only 3 ASD subjects showed significant positive correlation for vocal sounds. However, 7 TD subjects and 6 ASD subjects showed significant positive correlation for non-vocal sounds.

Discussion

The large heterogeneity in the ASD group, in line with previous reports, could mask potential effects and suggest to resort on individual analyses when studying ASD. Correlational analyses at the individual level suggest an interaction between noise level and likeability ratings, showing that, while a majority of TD adults used HNR to rate likeability in both vocal and non-vocal sounds, this was not the case for individuals with ASD. People with ASD appears sensitive to noise level, and find less noisy signal to be more likeable. Yet, this doesn't seem to apply to vocal sounds suggesting that participants with ASD are differently sensitive to noise in vocal sounds.

Keywords: Adult, Behaviour, Cognition

Poster Number : SAT01-71

Turning Behavior and Anxiety into Communication for Social Problem-Solving

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Introduction

The ability to use language to think is critical for flexible behavior and cognition, and is the foundation for effective self-regulation. This internalized linguistic thinking has been labeled inner speech. Individuals with autism have diminished tendencies to employ inner speech (Fernyhough (1996). This study presents an intervention using interpersonal conversation between therapist and the child to develop the child's private speech, the precursor to inner speech. As in typical child development, interpersonal speech becomes intrapersonal speech, and the child is able to regulate his/her behavior by talking oneself through the situation alone. (Barkley, 1997).

Methods

Participants were five children ages 5-7 years diagnosed with autism. Each child was randomly paired with a clinician for eight therapy sessions. Parent ratings of children seen by two clinicians, both graduate students, trained by the first author to help children develop inner speech were contrasted with parent ratings of children seen by two certified SLPs with experience working with children autism who served as our controls. The fifth clinician was the first author. Clinicians were instructed to help the child learn to ask for help. Asking for help is an especially complex problem-solving strategy, which requires both inner speech and Theory of Mind. Our dependent variable was parent ratings of their child's pragma-

tics skills in natural settings obtained after three weeks and seven weeks of therapy.

Results

Pragmatics ratings were clustered into those requiring perspectives of others (dialogic interactions), and those reflecting talking about one's own interests or needs (monologic interactions). Children receiving the inner speech intervention received higher ratings on (1) dialogic interactions generally, (2) Asking for Help, and (3) Staying Regulated in Stressful Situations. In contrast, children working with the control condition therapists were rated higher by parents on monologic interactions.

Discussion

We believe this is the first study to focus on developing inner speech in children with autism. We found that even after a short time, parents of children receiving the inner speech intervention had improved their ability to ask for help and remain emotionally self-regulated in stressful situations. The intervention appears to provide a generalizable problem-solving strategy that children can use when faced with challenges in their daily home and school environments.

Keywords: Challenging Behaviour, Communication, Intervention

Poster Number : SAT01-72

Peer-mediated intervention with autistic children who are minimally verbal

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Introduction

In peer-mediated intervention (PMI), peers take an active role in intervention. Conclusions from recent reviews indicate that PMI results in increased social interaction for verbal autistic children. Little is known about its use and effectiveness with those who are minimally verbal. The current review sought to address this gap.

Methods

Preferred Reporting Items for Systematic Reviews and Meta-Ana-

lyses (PRISMA) methodology was utilised. Systematic searches of the following databases were conducted: Scopus, Web of Science, Embase, ERIC, PsychInfo and PubMed, with no restrictions on publication date or language. Included studies incorporated PMI in their method, had participants who were children diagnosed with autism and were minimally verbal, were single-case or group-design, and were original pieces of research. Potential mechanisms of action in PMI were considered in light of theories of language acquisition, including language as skill learning and a neuroconstruc-

tivist approach.

Results

Twenty-five studies using PMI to increase communication in minimally verbal participants were reviewed. Study settings included preschools, elementary schools, and high schools. The dosage of both training and interaction components of PMI and the focus on enhancing participation varied, with either an emphasis on developing social networks, or on developing specific skills. Social communication was targeted across studies, with spoken language, and alternative and augmentative communication (AAC) measured in a portion of these (n=7). The application of theories of language acquisition support the proposition that PMI may support language development and AAC use: by creating more opportunities for

children to practice using language and altering the environment.

Discussion

Review findings indicate that building communication skills in minimally verbal autistic children's peers enhances social communication and AAC use. The evidence is less clear as to whether it can enhance verbal communication. Little consideration of the mechanisms of action is offered in these studies, but the application of PMI to theories of language acquisition generates hypotheses for why this might be a useful intervention approach to support both language development and social interaction. These hypotheses will be used to make suggestions for future research in this area.

Keywords: Alternative Communications, Intervention, Language

Poster Number : SAT01-73

Autistic permissiveness of collocation errors made by individuals with autism spectrum disorders

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Introduction

Collocation errors often occur in the speech of preschool children with autism spectrum disorders (ASD). In addition, idiosyncratic language in autistic speakers, such as "wave their things", which is meant to be interpreted as "leave their things", can also be regarded as a collocation error. This means that individuals with ASD may make more collocation errors than typically developing (TD) individuals. Moreover, in regard to autistic empathy, collocation errors made by speakers with ASD could be seen as less irrelevant by other individuals with ASD compared with TD individuals. Therefore, the purpose of the present study was to investigate whether individuals with ASD 1) make collocation errors more frequently than TD individuals (study 1), and 2) rate collocation errors produced by other individuals with ASD differently from TD individuals (study 2).

Methods

First, in study 1, data from 30-min conversations by 12 adults with ASD and 12 TD individuals matched for age, sex, and intelligence quotient (IQ) were analyzed and compared in terms of the production of collocation errors. Then, in study 2, another 20 adults with ASD and 20 TD adults matched for IQ and receptive vocabulary were asked to rate 25 collocation errors made by the 12 adults with ASD on a 5-point scale and 25 correct collocations from the 12 TD adults. Both studies were conducted in Japan from 2016 to 2018.

Results

Adults with ASD produced an average of 2.08 collocation errors (standard deviation: 2.19), while TD adults produced no collocation errors, revealing a significant difference. In addition, adults with ASD rated the collocation errors as significantly less irrelevant than the TD adults. No group differences were seen in the ratings of the correct collocations. The collocation errors were rated as being less relevant than the correct collocations by both groups.

Discussion

In terms of the production of collocation errors, a significant difference was seen between adults with ASD and TD adults. This finding supports that of a previous study that the frequency of idiosyncratic language increases with language complexity. The reason why adults with ASD are more permissive of collocation errors made by other adults with ASD compared with TD adults should be investigated in consideration of autistic empathy as well as permissiveness toward semantic violations

Keywords: Adult, Communication, Language

Poster Number : SAT01-74

We're all in This Together: Family System Theory and Communication

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Introduction

Family Systems Theory, nested in a bioecological systems model (Bronfenbrenner, 1979) emphasises the existence of sub-systems within the family. The functions of the systems are considered to involve support, regulation, nurturance and socialisation. Family interactions are the processes in the conceptual framework that include the marital subsystem (interaction between spouses), parental subsystem (interaction between parents and children), the sibling subsystem (interaction among siblings), and the extended family subsystem (interaction between the nuclear and extended family). Families of young children with autism experience higher levels of stress that present challenges to the interdependency of the family system. This paper presents the findings from three Irish research projects including Project Iris (Rose, Shevlin, Winters & O'Raw 2015).

Methods

A social constructionist paradigm provides the theoretical perspectives guiding the exploration of the phenomenon of language and communication for pupils with autism. Constructionism provides 'multiple realities' by engaging in conscious construction of meaning. In a social-constructionists view, the realities of communication are dependent on the knowledge of, engagement with and interpretation of communication by people involved within the social

environment of the child and the influence our culture has on us.

Results

The findings from these research projects add significantly to the research on family life and the emotional, financial and relationship hardships which impact on the processes and communication practices of families especially in the early years and primary. Urgent intervention and supports are needed to enable families to maintain an intergenerational framework to family support and education.

Discussion

This paper will provide a discussion platform for parents, siblings, and other family members, educators and policy makers from an international perspective. In particular it calls for and invites more intense research on language and communication for families with members identified as being on the autism spectrum. The emerging finding provides evidence to support learning and language development through a 'whole' child perspective and argues for a substantial improvement in supporting parents as leaders of learning. Attention is drawn to the seriousness of horizontal and vertical stresses that families experience and how these stresses impact on their functional relationships.

Poster Number : SAT01-75

Speaker accuracy but not speaker reliability influences word learning in ASD

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Introduction

The purpose of this study was to explore how social understanding may impact access to lexical meaning in young children with Autism Spectrum Disorder (ASD) as compared to children with Developmental Language Disorder (DLD) and typically developing (TD) children. We investigated how children with ASD, with DLD and TD children processed the novel word-mappings of speakers differing on previously demonstrated accuracy and reliability.

Methods

In addition to analyzing children's individual preferences in these two tasks, we also examined how children attended to speakers' testimony by tracking children's eye movements and comparing their gaze distribution towards speakers' faces and objects of their choice. Data was collected during novel word mappings demonstrated by previously accurate and previously inaccurate speakers in task 1, and by more reliable and less reliable speakers in task 2.

Results

Results of this study show that inference-based strategies in eva-

luating trustworthiness of speakers are likely to appear through the development of social-cognitive skills. First, this strategy is not available to children with ASD as demonstrated by their poor performance in task 2. Moreover, another group of children displaying deficits in pragmatics and in drawing inferences – children with DLD - also failed to build speakers' epistemic models in this task. Nevertheless, children in all groups displayed preference for information provided by previously accurate speaker in task 1. This conclusion is supported by analyses of gaze distribution in scenes in which children observed mapping provided by previously accurate and inaccurate speaker: children in all groups directly avoided information provided by previously inaccurate speaker.

Discussion

Another key finding of Task 2 is the increased proportion of attention allocated to objects by children in ASD group, as compared to both DLD and TD groups. Whereas almost the entirety of the visual attention span of children with ASD was captured by the objects, attention of children in TD and DLD groups were also attracted by the face of the active speaker. The question of whether reduced interest to faces affects ability to trust and distrust selectively in ASD is another topic that clearly merits further investigation.

Keywords: Cognition, Language, Social

Poster Number : SAT01-76

The influence of mood on politeness in autistic and neurotypical individuals

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Introduction

Introduction Individuals with an autism spectrum disorder (ASD) are known to have difficulties understanding and following implicit social norms, for example being polite when phrasing a request in a dialogue. Anecdotal evidence indeed suggests that ASD individuals are less able to adequately follow politeness strategies, possibly contributing to the stereotype of the 'rude autistic'. However, scientific literature shows mixed results on this topic. Forgas (1999) found that when asked how they would phrase a hypothetical, difficult request, neurotypical (NT) individuals in a negative mood tended to be more polite than those in a positive mood. Given that ASD individuals are known to have difficulties regulating their emotions, we hypothesize that mood might have a moderating effect on politeness for ASD individuals, compared to their NT peers.

Methods

Methods We replicate and extend Forgas' (1999) study by creating a more naturalistic setting, studying the effect of mood on politeness in a face-to-face dialogue with both NT and ASD dyads. Our experiment has a 2 (dyad: ASD/ASD or NT/NT) by 3 (mood: positive, neutral or negative) multifactor between-subjects design. At the start of the experiment, participants are seated behind a computer, and subjected to a mood induction procedure. Next, participants report their mood on Likert scales. Subsequently, par-

ticipants pair up to engage in a short dialogue, requesting each other to share their experiences on sensitive topics, e.g. debt. To measure politeness, we record the dialogues, studying the verbal content of the requests. Politeness is scored according to Brown & Levinson's (1987) politeness strategies (e.g. apologizing). Our study is preregistered at OSF.

Results

Results Data collection of NT individuals has completed, and data collection of ASD participants is ongoing. Preliminary exploration of data suggest that mood induction was effective for both participants groups, but mood did not seem to effect the use of different politeness strategies. Interestingly, this appears to be the case for both groups of participants.

Discussion

Discussion The contribution of our study is two-fold: it contributes to a better understanding of the unique speech characteristics of individuals with ASD, but simultaneously, it also highlights the similarities between NT and ASD individuals, possibly paving the way for a debunking of harmful ASD stereotypes.

Keywords: Emotional Life, Language, Speech

Poster Number : SAT01-77

Single case research: level of coordination between environments on ASD intervention

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Introduction

Autistic Spectrum Disorder is characterized by persistent alterations in communication and social interaction, such as the presence of restrictive and repetitive behaviors, interests or activities (DSM-V). Because of this, a correct intervention is essential, in all the environments of the person. The objective of this investigation was to discover the degree of coordination on the intervention that was being carried out in the three main environments of a person with Autism Spectrum Disorder, at the same time to know the speech therapy and educational intervention of people with Autistic Spectrum Disorder in ages from 16 to 21 years.

Methods

For this study qualitative methodology was used through an interview that gathered the most important aspects of the intervention (structure of work, oral language and written language), made to the Speech therapist, classroom tutor and mother, as a means of

knowledge of the environment, of the person with ASD.

Results

The result obtained after conducting this experimental research was that the degree of coordination among the participants is low in almost all the areas evaluated.

Discussion

The results may be understandable in some specific aspects, which due to the variety of the environment in which the person is located, but does not justify the high level of disagreement and disinformation between professionals and family, which could be affected on the achievements that the patient gets.

Keywords: Communication, Environment, Intervention

Poster Number : SAT01-78

Does phonemic repertoire in minimally verbal preschoolers with autism predict the severity of later expressive language impairment?

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Introduction

Trajectories of expressive language development are highly heterogeneous in autism (Boucher, 2012), and show greatest variability prior to age 6 (Pickles et al., 2014). Development of functional speech by age 5 is one of the strongest predictors of positive outcome (Howlin, 2005), so identifying early risk and protective factors for expressive language difficulties is important. Yoder et al. (2015) found that parental responsiveness, child response to joint attention, child communicative intent and consonant inventory were unique predictors of expressive language growth in minimally verbal preschoolers 16 months later (n=87).

Methods

This study applied Yoder et al.'s unique predictors to an independent sample, over a 12-month period (n=27). In addition, a broader measure of phonemic repertoire, including reported, eli-

cited and observed speech sounds, was included to further understand the contribution of speech production skills. Linear mixed models were used to evaluate the predictors and to test the hypothesis that phonemic repertoire would be a stronger predictor of expressive language than consonant inventory.

Results

Expressive language growth was highly variable across the sample: 65% remained minimally verbal (less than 23 words) at mean age 5,2, with 27% still using no words at all by parent report. Contrary to expectations, communicative intent, parent responsiveness and response to joint attention were not found to predict expressive language growth or outcome. In contrast, both consonant inventory and a composite measure of phonemic repertoire were significant predictors ($r^2=.27$ and $.43$).

Discussion

Results underscore the contribution of speech production abilities to expressive language development in this population, which may reflect an additional deficit rather than relate to core autism symptoms. Ways in which speech production could be supported in this group should thus be evaluated. The sample was older than those in Yoder et al. (2015) (aged 3,0 to 5,0), which could indicate more severe speech-motor impairment and partly explain the different

study findings. More extensive longitudinal studies of minimally verbal autistic participants' language development are needed, as is an effort to include those who are the most impaired, so that findings can be generalised and additional barriers to communication identified and addressed.

Keywords: Communication, Non- or minimally-verbal, Speech

Poster Number : SAT01-79

Music and animation to facilitate language acquisition

Authors:

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Introduction

My project is an assistive technology for the iPad which uses music and animation to facilitate the acquisition of language for children with autism. The goal is to provide a path for non-verbal children to become capable of independent speech. Our research indicates music and language are acquired in different parts of the brain. Many children with autism sing what they cannot say. We bridge music centers to language centers in a touch screen environment. As a musician and composer I understand enhanced connections between music and the brain. Also, since 2001, I have created interactive content for iconic children's brands and understand the intricacies of interactive content for children. Can short songs with engaging animations enhance expressive language communication? The purpose is to facilitate learning language with music.

Methods

3 research methodologies 2014-2019. Phase One: Research on neurology and the effect of music on learning language. Phase Two: Prototype Development. Focus group testing with Speech Language Pathologists, ABA Therapists and Educators. Endorsed the use of music, principles of ABA and tracking and customization. User testing with children, parents and their primary educators in six schools. Literature Review 2019. Phase Three: Testing and Qualitative Assessments (Ongoing) Testing with children and their

parents and educators. Qualitative feedback and structured surveys. 3 cities in North America.

Results

Phase One: Built a prototype using music to bridge the language centers. Phase Two: Receptive and Expressive learning were accomplished based on the prototype. Highly engaging, children loved the music, average engagement 30 minutes. Navigation easy and intuitive. Phase Three: Children, parents and teachers provided valuable insights to inform improvements. Results extremely positive, engagement levels high and successful across a range of autism levels. Validated premise: Encouraging children to sing what they cannot say leads to positive outcomes for language acquisition. Yes, results as expected and anticipate similar results with larger pool. Tested 10 families with 11 children, 5 clinicians and 4 educators.

Discussion

Implies that this innovative method of learning language for children with autism is possible. We are creating a vocabulary and music is the teacher. Our application builds on the best practices of current language and communication systems but expanded by adding music and animation. Implement recommendations from current phase.

Poster Number : SAT01-80

Teaching language skills with learning pre-vocational readiness activities to adults with intellectual developmental disabilities and autism: the visit the local military museum

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Introduction

The aim of this study is to investigate the level of social and emotional skills in adults in terms of functional adaptive behavior in the community. Especially examines the factors of teaching the language skills with learning pre-vocational readiness activities to adults with intellectual developmental disabilities and autism in order to visit the local Military Museum of Kalamata (Greece, Peloponnesse) .In addition, we examine the learning with emphasis the relation to the rationalization of their needs at the local and community channels.

Methods

The methodology of observation utilized the Informal Pedagogical Assessment (IPA) with the basic control checklists (BCCL) in social skills, emotional skills and pre-vocational readiness according the philosophy of to the Greek Curriculum and the Framework Curriculum for Special Education (FCSE, 1995).Also, we use the study of bibliographic texts and teaching data from twelve cases studies with intellectual and developmental disabilities, 8 are women aged 20-42 and four men aged 27- 45 years old. The survey

was conducted at the Physical and Medical Rehabilitation Center of Kalamata, Peloponnesse, Greece.

Results

The results recorded the positive responsiveness of their participation in the program of readiness of visit in the local military museum. So, we underline two key themes emerged regarding use from the teaching data. First the difficulty of adaptive behavior as apparent due to the inability to understand linguistic concepts and second the difficulty to understand the rules formulated in linguistic terms for the social integration as well as the impossibility of accessibility to the city's living spaces.

Discussion

The implications from the methodologies of the observation and teaching interventions of special education and training to social and emotional and pre-vocational readiness skills were useful for the visit the museum.

Keywords: Adult, Community based, Vocational Training

Poster Number : SAT01-81

School-university partnerships to support students with ASD: Using Board Games to combine social skill training programme

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Introduction

Play-based learning provides a natural communication environment which can promote social interaction for children with autism spectrum disorder (ASD) to utilize the skills in real context. A combined Board Games and direct teaching social skill training programme was conducted to explore whether a natural play environment could enhance students with ASD in utilizing the social and communicative skills that they learned in the training programme.

Methods

An 8-session training programme aimed at enhancing the social and communicative skill of students with ASD was conducted in an ordinary primary school in Hong Kong. 10 students with ASD / with social and emotional problem (aged 6-8) were recruited in a Hong Kong ordinary school to join this weekly after-school training programme. Each session lasted about 1.5 hours and was divided into two parts: 30-minutes direct social skills teaching conducted by a teacher, followed by 60-minutes Board Games play time facilitated

by 20 undergraduate students who were attending a social service learning course in a Hong Kong University. The students were separated into 5 groups. Each group included 4 undergraduate facilitators and 2 students with ASD. The facilitators were required to assist in designing the training materials and board games in the 60mins play sessions, play with the students with ASD, observe their behavior and to evaluate the effectiveness of the instructional methods. Observation forms were filled by the teacher and facilitators in each session. After 8-sessions training, feedbacks from school teachers and parents were collected, focus group interview and individual self-reflection on the field experience were also done by the facilitators in order to evaluate their understanding of students with ASD and perspectives in social inclusion.

Results

Most students with ASD were found engaging in playing board games and can apply the social and communicative skills that they learned in the training programmes. Increase in understanding of students with ASD was also reported by the facilitators.

Discussion

Further studies in play-based learning can be done in order to enhance children with ASD to utilize social skills in a real context. The model of School-university partnerships can be promoted widely to increase undergraduates' sense of social inclusion through serving children with ASD.

Poster Number : SAT01-82

Broadening the Lens: Environmental Influences on the Peer Interactions of Students on the Autism Spectrum

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Introduction

Social challenges are noted as a core feature of autism (APA, 2013, Robertson, 2010). Since professionals often attribute social challenges to the impairments of autistic individuals, most interventions based on behaviorist principles to shape individual skills. However, the bioecological model (Bronfenbrenner & Morrison, 1998) has emphasized the role of broader contextual factors on such phenomenon as bullying, resilience, and to a lesser extent, disability (Hong & Espelage, 2012, Sontag 1996, Stokols et al., 2013). Contextual factors within the bioecological model are divided into microsystem (e.g., classroom dynamics, home dynamics), mesosystem (e.g., interaction between microsystems), exosystem (e.g., educational system), and exosystem (e.g., societal attitudes). Limited generalization of skills-based interventions for students on the spectrum could be due in part to limited consideration of these contextual influences. The current proposal draws on the bioecological model and data from a mixed method study to illustrate broader contextual factors on the peer interactions of two children on the autism spectrum in the classroom.

Methods

Data collection focused on two minimally verbal children on the autism spectrum (5 and 9 years-old, respectively) during mainstreamed classroom interactions. Additional participants included peers, parents, classroom teachers, and paraprofessionals. Ethnographic data included 24 semi-structured interviews, 38 classroom video-observations, and examiner memos to gather information about peer interactions. Data-driven exemplars of micro-, meso-

, and exosystem influences on peer interaction were selected to illustrate the application of this conceptual framework.

Results

Results illustrate examples of contextual influences on the proximal process of peer interaction, specifically peer attitudes, activity constraints and resources, societal views toward disability, and institutional practices. In addition, we highlight how the proximal process of peer interaction was shaped over time at the micro-level.

Discussion

This study illustrates the environmental complexities associated with the development of peer interactions for students on the spectrum, and the need to address more than individual skill development. Suggestions include supporting participation in preferred activities, maximizing multimodal flexibility, and utilizing behavioral interpretation.

Keywords: Education, Non- or minimally-verbal, Social

Poster Number : SAT01-83

Sebastiano home: a new vision of the autism

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Introduction

Our No Profit Foundation was born in 2010 thanks to a group of parents and friends which they were looking for a concrete help for their Autistic children: today the Foundation counts of almost 100 partners and it represents the centre of a bodies' network that works in order to take care of the families during the different steps of life: childhood, adult life and elderly.

Methods

The Foundation is supported by a Scientific Committee represented by 10 of the major experts of our country, has credit to train the sanitary personnel and collaborates with universities. We organise conferences and public meetings to inform and raise awareness. Our structure, inaugurated in 2017, is a residential centre with a 7.000 cubic meters footprint. It was built with the highest green sustainability and environment certifications. Every teen benefit from personalized multidisciplinary rehabilitation project: the guests of the house learn to taking care of themselves, to communicate their necessities and, together with the staff, they cook and make small housework, they take care of the garden and other activities. The technology of the Center is innovative too. Digital medical records are always available to parents and doctors for the verification of rehabilitation processes and an objective evaluation. The video surveillance system, for the study of cases and for the

safety and control of internal protocols, guarantees a further monitoring. We have the first Multi-sensory Interactive Room in Europe for rehabilitation and a university research study is underway for its scientific validation. This room is an efficient therapeutic instrument, ready to be useful for the difficulties of autistic people: social interactions, communication, creativity. The projections on the floor and walls create an immersive environment, virtual realities to explore and interactive games in which the user interacts directly with images, colours and sounds going to stimulate the physical and cognitive activity of different skills.

Results

So, guests grow up and can develop a better quality of life and collaborate with the country resources to promote social inclusion. It is an innovative approach that places the person at the centre with its characteristics and abilities, focusing on the possibilities instead of the shortcomings.

Discussion

After us is the hard question when people with autism will be deprived of the support of the family: we are working with public institutions to have adequate protected homes.

Keywords: New Technologies, Old age, Quality of life

Poster Number : SAT01-84

The use of Pratical Functional Assessment and Skill-based Treatment to reduce severe problem behaviors

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Introduction

In the literature there are several research that demonstrate efficacy in the reduction of severe problem behaviors through the teaching of functional communication in replacemant a problem behavior.

Methods

The purpose of this study was to verify whether, following the identification of environmental conditions that maintained problem behaviors, teaching of functional communication, tolerance response to delay and denial access to reinforcement and appropriate contextual behaviors, led to a significant reduction in the frequency of severe problem behaviors emitted by a child diagnosed ASD. Pratical Functional Assessment (PFA) and the Skill-based Treat-

ment (SBT) described by G. Hanley et al. (2014) were used. An interview with open questions was conducted identify the type of contingencies that may influence problem behavior. The interview results were then used to design individualized and intimately matched test-control analyses that differed only in that the test condition included the putative reinforcement contingency and the control condition did not (PFA). The SBT treatment provided to teaching: a communication response (FCR), introducing delays and denials from an adult and teaching a specific response to cues of reinforcement denial and delay, teaching appropriate contextual behaviors of concatenated responses during denial- and delay-tolerance training.

Results

Experimental designs were used to demonstrate the effectiveness

of the intervention: including multielement design for the PFA, Multiple baseline design across behavior for the responses taught and changing-criterion design to establish the number of sessions needed to achieve criteria for each teaching phase.

Discussion

Treatment resulted in meaningful reductions in problem behavior, improvements in functional communication and tolerance response, sustained improvements in compliance with instructions in training sessions.

Keywords: Assessment, Challenging Behaviour, Training

Poster Number : SAT01-85

Treatment of Problem Behavioral through Practical Functional Assessment and the Skill-Based Treatment

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Introduction

In this study we investigated a case of a child with ASD which presented a variety of serious SEP (aggressive behavior and destructive behavior) with various behavioral topographies. Previous treatments that provided punishment strategies had not yielded relevant results. For this reason we introduced the Practical Functional Assessment (PFA) and Skill-Based Treatment (SBT) (Hanley, 2014).

Methods

All procedure was given in home-treatment, two hours in three days for week. The PFA provided an interview to parents for the creation of the test condition that was based on synthesized reinforcement contingencies. The analysis followed by the interview provided for the alternation of control and test conditions (C, T, C, T, T) in blocks of 5 min each. Thereafter, the treatment was implemented by teaching child simple and complex functional responses (sFCR and cFCR) and tolerance response (TR) performed through the signs, as well as contextually appropriate behavior of an easy and difficult type (eCAB and hCAB). Data receptacle was constructed to detect both correctness and independence of responses and the occurrence of CPs. Data were processed in a multielement design for the PFA and in a multiple baseline across behavior for the SBT.

Results

The open interview led to the formulation of the hypothesis regarding the probable functions of SEP and gave necessary information to the creation of the individualized functional analysis which in turn allowed to intercept the functions of SEP so as to start treatment. The treatment allowed to drastically reduce SEP in session and to reinforce longer and longer adequate responses, thus increasing tolerance to the delay in the delivery of the reinforcement and increasing both functional communication and the contextually appropriate behaviors.

Discussion

The PFA required a very short time investment and was conducted in a totally safe way for therapist and child. The SBT is still in the implementation phase but has already proved to be significantly effective in reducing serious PB, in line with the data reported in the international literature. Results, therefore, reflect a consistent experimental control in support of the PFA and the SKB.

Keywords: Assessment, Behaviour, Complex Autism

Poster Number : SAT01-89

Ageing people with severe ASD: how to prevent loss of ageing and offer a life of dignity

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Introduction

we want to heighten awareness about the long term needs of elderly people with ADS and for a life of dignity and worth. Eight years ago we set up a residential service mostly welcoming dependant and highly disabled 50 and over year-old people. The degree of their dependence and the loss of ageing parents force them to live in a residential service. Our goal was to provide them with an innovative solution of living and care till the end of their lives

Methods

This life project adapted to ageing people has been based on an accurate knowledge regarding their needs. We focused this residential service in order to prevent loss of ageing, to cater special needs and promote well-being for these elderly with cognitive impairments and severe disabilities. Before entering the service, a lot of people have been staying for a very long time in hospital or have been living in their family or in institutions since youth. After entering this suitable service, their lives have really improved. All has been done to decrease ASD troubles and quieten down each one thanks to a secure structural framework. Now they can also stay healthy and avoid worsening health by preventive cure. Along with a good physical setting they can have a pleasant social life. they

obviously maintain relationship with their parents and relatives. In the end we allow a protocol to handle death at the service

Results

After running this residential service for elderly people for almost ten years, we have a positive feedback from both residents and families. This residential service has brought relief to the parents and siblings especially when the parents are no longer alive. We can make out a list of special requirements, advices and good practices fully compliant with the last national French recommendations and so doing share our experience.

Discussion

Ageing and autism are issues of real concern. We all deplore the shortage of studies about ageing people with ASD. Our experience can arouse interest for researchers and raise commitment for qualified staff. The growing demand for suitable residential services is frequently unanticipated by federal, state and local agencies. Then, in the coming years, the parents will have to face the current lack of national policies whereas persons with ASD live longer.

Keywords: Care, Old age, Personalised Support

Poster Number : SAT02-02

Effects of mainstream school context on ADS students' socialization

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Introduction

There is a trend schooling different disabilities into the mainstream setting, a key factor is the opportunity to interact with non-disabled peers, as they can develop their social skill. Nevertheless, the research has show a poor result of this setting for ADS students: have fewer friends, have more limited social networks and experience more rejection from their peers than other children (Humphrey & Symes, 2011). This negative outcome may be due to teachers' lack of necessary training and peers sensibility with ADS. The Perez Carcel center in Murcia (Spain) is a mainstream school attending diverse students, with the peculiarity of having 80 students with ADS (15% out of the students). In this school all teachers (Primary, Secondary and Pre-school) have been trained to work with ADS. Furthermore, their peers have been together since kindergarten. The aim of this work is To study the effects of mainstream school in the Perez Carcel centre on Students with ADS across their spectrum (from Asperger's Syndrome to those with intellectual disability and classic autism). A school well known for its integration of students with ADS. The school has the protocol of collecting students skills and abilities each year.

Methods

Thus to assess whether this schooling is actually effective, a sample of 12 students (from NEEDS and ordinary classroom) were selected to analyze their evolution during 5 years on the

areas of social skills, communication and personal autonomy. With the consentement of family and the collaboration of the head-mistress the academic expedient of students were consulted and the data were transported to and SPSS file for their analysis. A questionnaire in line with local normative framework for Education was used. This questionnaires gather information about social skills, communication and personal autonomy through 29 items about behaviour and communication which are answered from "never", "sometimes" and "always".

Results

The results show that these students do benefit from mainstream schooling depending on level of cognitive skills. In social interaction and communication people Asperger's Syndrome show a better improvement that peers with intellectual disabilities or classic autism. Regarding personal autonomy there were.

Discussion

The results are discussed in terms of benefits and viability of training all personal at the school in understanding ADS in order to achieve quality of live for this people and their families and make the inclusion works.

Keywords: Communication, Inclusion, Social

Poster Number : SAT02-03

Supported Living services for adults with Autism and Associated Mental Health Conditions

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Introduction

We have designed this service for people with autism and associated mental health conditions who are taking their first steps towards independent living with support. We are taking personalisation one step further by offering individualised accommodation and support that is driven by the abilities of each person whilst enabling their inclusion in the community

Methods

People are provided with housing management support to further their life skills and maintain their accommodation. Many people living in traditional supported living arrangements suffer from isolation and depression in the absence of their support worker or other company for long periods of the day. Again, many people, particularly those with high complexity of needs, remain in institu-

tionalised settings away from normal community life. In this type of service, both sets of needs benefit from 24 hour shared care and support in a domestic setting in the heart of a vibrant urban community. All transitions for this level of complexity are carefully planned and often implemented over a substantial period of time. Levels of personal development, previously unthought of, are demonstrable through engagement in various new life experiences. Strong patterns were avoided throughout and the flooring was designed to facilitate visual identification of different areas within the house. Activities rooms were also designed to provide calmer and quieter areas for the residents. Ongoing bespoke training on Autism is provided alongside training focusing on any specific mental health conditions people may present with

Results

A staff team committed to support people with autism and mental

health illnesses to engage positively with the community. Levels of challenging behaviour have decreased and people who use this service are pushing back their boundaries and limitations and living a more varied and rich life as fully-fledged citizens of their community. All users lead an empowered and fuller life, with supported opportunities to explore the world and break down invisible barriers - a priority for our motivated staff group

Discussion

The knowledge and understanding of autism spectrum disorders and associated mental health conditions consistently informs the organisation, resources and management of the service and the individual assessment and planning as well as all aspects of practice

Keywords: Adult, Inclusion, Mental health

Poster Number : SAT02-04

The Artist behind the Autism-Stimulating the vocational areas of the person with ASD, a starting point for real social integration

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Introduction

The concept of the association-Everyone can be valued-has been the basis for any action and the results have been made known to fight the old rigid public image of autism in a constantly changing world. Thus, ANCAAR promoted Vocational Testing, in parallel with the therapeutic intervention. Vocational test programs are intertwined with standard programs and the therapeutic approach is adjusted to the child's natural interests and inclinations. Even if the results were not spectacular, the programs are continued to build potential skills. This was possible by recruiting artists in the therapeutic intervention team and preparing some therapists in various professions and vocational crafting. We started to include small tasks specific to vocational jobs into the standard therapy protocol.

Methods

ANCAAR organizes annually, since 2011 the cultural event «The Artist Behind Autism». This event was held only in Bucharest, in partnership with the ICR, at the first edition, with the City Hall at the Eliad House, at the second edition, and with the BCU Carol I at the third to the seventh edition. The project aims to promote the results of people with autism who have benefited from therapeutic programs, vocational testing and are developing skills and talents. ANCAAR participates in the thematic exhibitions organized for various social events, providing with the handmade products, information about the approach and the obtained results. Exhibitions are

held with the products created in the workshops.

Results

GREAT OBJECTIVES ARE ACHIEVED WITH SMALL DETERMINED STEPS. Z. holds piano concerts solo and with vocal singer, A.N. exhibits paintings on canvas, using various techniques, creates the graphic design for some of the publications of the association, A.M. performs complex floral arrangements, under fine guidance, C. M. has over 500 painted glass objects, D.R. has more than 100 glass objects, M.S. creates decorations of quilting. 80% of ANCAAR beneficiaries are now integrated in school, special workshops or other structures. The old standard therapy programs became great sessions of creations and opportunities for learning. Due to the cultural events organized by the association, the unique approach was made public. After a few years many Romanian organisations started implementing our technique.

Discussion

After 28 years of searching the best therapy for our children, the results are unexpected! We can say that this kind of therapeutic approach permits every individual to show its uniqueness. Each member of the society is valuable.

Keywords: Complex Autism, Culture, Vocational Training

Poster Number : SAT02-05

I Belong - Promoting innovation: from paradigms to practices

Authors:

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Introduction

Most of the children and young people with autism still live on the margins of society. Almost all institutions that work in this area, develop specific activities directed only to children with autism, in segregated groups, accompanied by therapists. This reproduces paths of exclusion, stigmatization, discrimination and early institutionalization. In view of this diagnosis, the Portuguese association "Innovate Autism", designed the Project "I Belong". The Project aims to promote the participation of children / young people with autism in activities developed by community structures, on equal terms with their pairs.

Methods

Through an innovative methodology, the project includes: i) personalized support to the child/young person with autism, ii) training and coaching of the regular contexts of the community to include persons with autism, iii) resources adaptation and iv) articulation and support to the families. The project had 3 evaluation moments: before, during and after its implementation. Interviews were conducted with people with autism or their families. On the other

hand, evaluation questionnaires were applied to several participating community organizations, such as: schools, sports clubs, municipalities, theater groups and leisure activities centres.

Results

A wide range of partnerships have already been established with public and private partners in the fields of culture, sports, education and leisure, etc. The results confirm the suitability of the methodology. The project is being a success. All the child/young people with autism participants, even the most severe cases, have participated equally in activities with their peers without disabilities. The personalized support to the child/young people with autism was very important for the success of the Project.

Discussion

Our methodology proves that inclusion is possible even in the most severe cases. To do this we must continue to train the various community structures and work with families, because families often do not believe that inclusion is possible.

Poster Number : SAT02-06

Designing and Building an inclusion platform for young adults with severe autism

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Introduction

Despite the several and successive Autism Plans by the French Government since 2008, inclusion is still a challenge for individuals with autism, especially those diagnosed with severe autism. At IME ÉCLAIR (Institut Médico-Educatif ÉCLAIR), our philosophy is that inclusion should be for every individual with autism, no matter the degree or severity of the disability. We believe that a real inclusion comes from employment, participation in community living and leisure. This is why our project is to plan and build a cross-functional platform to promote these activities. Our efforts are now turned to promoting a model of education in different areas, with the objective of improving the quality of life of our residents during lifespan: internships in small shops or restaurants, development of leisure skills through access to physical activities and daily living skills training (with the use of new technologies of information) are the three

pillars of our program.

Methods

16 students are involved in our program. Using an ABA methodology, our objective is to increase (a) the time per week spent in outside community without staff, (b) the time spent in internship without staff, and (c) the time spent in peer groups with a reduced staff. But since time spent is not a guarantee of quality, we will submit a survey measuring the satisfaction of the client, or, if she is not able to respond due to cognitive deficit, satisfaction of parents or caregivers. So, in accordance with the ethical practice of ABA, social validity will be our primary measure. The intervention will consist in (a) redesigning the framework through reduction of staff ratio (1:1 to an average of 1:3), (b) redesigning leadership and organization, (c) redesigning the teaching environment and plan-

ning. These three independent variables will be treated as a single treatment package.

Results

First, we expect that the majority of our students will increase their time in the community, with a decreasing presence of staff. Second, we expect that the satisfaction of the parents and caregiver will increase as the inclusion time increases.

Discussion

One bias of our study would reside in taking time in inclusion as a dependent variable. We know that it's relatively easy to make residents go out in the community, but it doesn't mean that it's "real" inclusion. Which raises the question of what is "real inclusion"? We need to define operationally what it is to be in inclusion and how to measure the quality of this inclusion.

Keywords: Community based, Inclusion, Quality of life

Poster Number : SAT02-07

Working on inclusion in the cultural area: when the world of theatre and the world of autism meet

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Introduction

People with an autism spectrum disorder face a lot of challenges when trying to participate in society, not only in the area of employment but also in the life domains of free time and culture. Inclusion in the field of culture is often overlooked, since employment and living environment are more often seen as a priority. However, inclusion in culture is not only a need of many people with autism, but also an essential aspect of full citizenship. Based on earlier activities we had organised for adults with autism in the area of theatre, film and television, we noticed an interest in theatre and film in many of them. But we also noticed a lot of barriers to participate in local theatre events and companies. We involved a well-known Flemish actor, and a theatre company and set up with them a theatre project within an existing mainstream theatre programme, resulting in a theatre play, developed and performed by autistic adults.

Methods

The objectives were:

- To demonstrate that adults with autism can successfully participate and engage in socio-cultural activities, when they are supported in autism friendly way.
- Challenging and supporting the adults with autism to overcome the stress involved in standing for a public, communicating and working together in a group and empowering them in these skills who are often seen as impairments in autism rather than challenges that can be overcome
- Stimulating the adults with autism to transfer the skills

acquired during the project towards participation in the cultural network in their environment in the general and – where possible and desired – a theatre company in their neighbourhood / city

- To demonstrate that inclusion in the cultural domain is not limited to being a consumer of culture and that adults with autism can also be producers of culture.

- To show that breaking in into existing cultural projects can be a win-win: the actress learned about autism friendly teaching and the autistic adults learned about culture, theatre and acting.

Results

The project started in September 2017 and ended with public performances of the play in April 2018, during Autism Awareness Week. 20 adults started in the project and 12 performed in the theatre play. After the performances, the participating adults evaluated the whole project in short self-recorded video testimonials. Long term effects are currently being measured with an online survey and will be available for presentation at the Autism Europe conference.

Keywords: Community based, Culture, Inclusion

Poster Number : SAT02-08

Practical forms of developing social awareness and social involvement in an institution with national coverage specialized for autism

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Introduction

The opportunity to take part in the life of a community is a basic human right. However this is often means a difficulty for people with atypical neurodevelopment (such as people with ASD). One way of facilitating this process is to make society more open to neurodiverse people by providing more information while developing social awareness. Besides presenting some of the events our Foundation organised or took part in during the past few years, we were looking for ways in which those could have an effect on social awareness.

Methods

In the past four years we have been reaching out to different age groups, in different scenes using different techniques and were collaborating with various professional and non-professional organizations – we operated a social awareness booth in one of the most visited and prestigious European music festivals, organised trainings for professionals to be able to inform students (in the ages of 10-18) in the classroom about autism, with the help of an outside initiative, we organised a charity concert by which, apart from the basic goal, we involved people working in other fields into

getting familiar with the lives of people with autism. The persons concerned were also involved during these events. We were also asking for follow-up feedback about the mentioned events in the form of questionnaires. Additionally we acquired further information via personal accounts, content and contribution on social media and other platforms.

Results

Based on the descriptive feedback received, we assume that the following goals have been reached- to a varying degree, given the type of event: the participants receive information about autism, they become able to give out information on autism, in organising the events, people living with autism are not only directly get involved in different stages of the process but often spontaneously participate as well, as a side effect of the „promotional phase

Discussion

we can reach out to a wider audience

Keywords: Community based, Culture, Inclusion

Poster Number : SAT02-09

Summer day camp ‘Rose Planet’

Authors:

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Introduction

We hereby would like to apply for a possibility to share our experience in creating open community space for people with autism and their families in Klaipėda, Lithuania. We believe that the theme of the 12th Autism-Europe International Congress ‘A New Dynamic for Change and Inclusion’ precisely reflects our mission at the ‘Vilties miestas’ (City of Hope).

Methods

Since 2017 a small group of parents of children with ASD started

liaising with fr. Benediktas Jurcys at the Franciscan convent church to create an inclusive space where people with autism, their families and local community could find support, occupation, work and opportunities for learning and being together. The long term vision of this project is to design a life-time sustainable education and work system where people with autism could learn, live independently, work at the forthcoming rose oil workshop, cafe and guest house. Moreover, the team is currently raising funds for an educational and vocational training centre where children of all ages would be able to access holistic, person-centered learning.

Results

So far the project is at its first steps of development: over the year 2018 the team of brothers, volunteers, parents and specialists was running a regular weekend and summer day camp «Rose Planet» for children with autism and of typical development of various ages, as well as organised a number of training workshops for parents, specialists and the local community. An outside space in the nearby woodland area was adapted to fit the needs of the children, e.g. sensory equipment such as swings, hammocks, climbing frames, etc. were fitted, a hut for indoor activities was build, children had an outside kitchen where they learned to cook their own meals, worked and played together. Children also were able to take advantage of the nearby infrastructure, e.g. guest house, playground, tennis courts, etc.

Discussion

The Franciscan Convent together with other members of this community continue to work towards the big goal of expanding the infrastructure and improving it for people with ASD. The 2000 rose garden and lavender garden will be expanded to a Sensory garden which is being designed with the help from Klaipeda University OT specialists. Also, we continue to prepare for the opening of the rose oil workshop and a cafe where people with ASD will be able to further improve their social and vocational skills. This will contribute to the community inclusion.

Keywords: Community based, Inclusion

Poster Number : SAT02-10

A Training Model for Law Enforcement to Enhance Inclusion**Authors:**

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Angela Fielder, The Chicago School, Chicago, Il, United States / **Frank Lawson**, The Chicago School, Chicago, Il, United States

Introduction

There are many cases of individuals with mental health conditions being misunderstood and subsequently arrested, traumatized or killed due to inaccurate judgments made by law enforcement officers. In addition, individuals with autism may unknowingly incriminate themselves due to naiveté, misinterpreting social situations, misunderstanding questions or not being able to verbalize their thoughts clearly. In recent years there is an increase of cases of individuals with autism who are interacting with the legal system. It is the duty of law enforcement to secure and assure safety to community members and police are placed in situations where quick decisions have to be made in order to provide this service. Inaccurate decision making has led to people with autism being involved in the criminal justice system as a result of being misunderstood about their condition. Police training appears to be limited and vary with regard to mental health training in general especially with behaviors associated with autism spectrum disorders. With the rise of ASD diagnoses, deliberate training is becoming even more necessary for accurate quick assessments so that individuals with this condition are safely included in the community, to preserve their dignity, and to avoid unnecessary involvement in the legal system.

Methods

After a review of the literature and conversations with law enforcement in several regions, this presentation is a proposed two-hour workshop that can be used and adapted worldwide. Each

country can analyze already existing training and then adapt this workshop accordingly. The training will include awareness of what autism is, review ASD symptoms that lead to misunderstandings, and teach law enforcement officers the spectrum of behaviors associated with autism so that more accurate assessments of safety are made. Specific cases will be provided along with strategies to promote more accurate on-to-spot assessments. Police need practical information that will help them assess ASD compared to authentic threatening behaviors and this training aims to fulfill this need in a training that is less than one day.

Results

With improved training opportunities, police will make more accurate decisions with regard to autism identification that will lead to maintaining the dignity of people with autism.

Discussion

A major implication is that there can and will be increased community trust of policing and with this individuals with ASD are better included in the community.

Keywords: Inclusion, Services, Training

Poster Number : SAT02-11

Friendship and Sociality in Autism Services: Using practitioner research to promote critical discussion

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Introduction

This action research project sought to identify ways to nurture and support friendships in autism services. The project was undertaken by practitioner researchers within a service-providing organisation after a number of supported autistic people expressed anxiety around forming friendships as well as the desire for more social opportunities. The practitioner research team worked as a 'community of practice' facilitating critical discussion around friendship and sociality in services.

Methods

The project worked across supported living services, day placements and social groups for autistic people. Practitioner researchers undertook a combination of participant observation, semi-structured interviews, and focus groups to gain the perspectives of both supported autistic people and support practitioners on friendship and meaningful relationships within services.

Results

While some support staff identified problems that supported people experienced in forming friendships, others were able to identify diverse forms of social attachment among the people they supported. These interactions might differ from normative definitions of friendship but nonetheless constituted meaningful relationships.

Supported autistic people shared a diverse range of preferences

and experiences relating to friendship, underlining the need for personalized and flexible approaches to support.

Support staff and autistic attendees at two adult social groups were able to identify factors that provided a positive environment for friendships and social experience within those groups.

Both supported autistic people and practitioners reported ambiguity and anxieties about the relationships and social attachments between them, in particular whether staff could be considered 'friends' of those autistic people they support.

At the end of the project the research team conducted a workshop for 45 staff to share findings and discuss the implications for practice. This broadened the critical discussion and shared the concepts explored across the organization.

Discussion

An emerging field of research focuses on normative definitions of friendship in order to establish where autistic people face challenges. Taking account of more ethnographically informed literature the team moved from normative understandings of friendship to recognizing and nurturing diverse forms of sociality in services. The research has also led to further work investigating the relational nature of support.

Poster Number : SAT02-12

The lived experiences of autistic adults as novice Aikido martial artists: An interpretative

Authors:

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Introduction

I am an autism professional teaching the Japanese martial art of Aikido to autistic youths. My observations show that it resonates on physical and psychological levels but I wondered about subjective experiences. No qualitative studies emerged that linked martial arts with autism. Only quantitative studies appeared and

none on adults. Thus, I wanted to give voice to a broadly silent population. My research question is: On a phenomenological level, what is it to be and autistic novice martial artist?

Methods

The research was conducted in Dublin using interpretative Pheno-

menological Analysis (IPA). IPA was selected because it combined hermeneutics, idiography and phenomenology. I argue in favour of viewing autism within a more contextualised, bio-psychosocial, value-based model, while highlighting the danger of the current bio-medical model as veering toward reductionism. A homogenous sample engaged in an adapted Aikido course, which was taught by qualified black belt instructors within a formal dojo setting. Video and photo elicitation were used to maximise the enticement to speak at the semi-structured interviews. The participants were requested to log their experiences in a journal. Two phases of interviewing took place on completion of the course. Phase One asked the same ten questions of each participant. Phase Two took place at a minimum of three months after the first interviews in order to position a longitudinal gaze across the two phases.

Results

Thematic outcomes from transcripts revealed concerns with fear, bullying and need for protection. Other outcomes included:
Fear and anxiety

Structuring influence on daily life
Finding safety
Peace of mind
Satisfaction with developed attitude to health and fitness.

Quotations illustrate some of these deliberations:

‘Martial art classes have had a lingering influence on structuring my photography course’

‘I carried peace of mind with me up to now from the course.’

‘I overcame some of my fears y falling backwards. I trust better now.’

Discussion

are consistent difficulties with social communication and the presence of restrictive patterns of behaviour interests

Keywords: Quality of life

Poster Number : SAT02-13

Culture is for everyone!

Authors:

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Introduction

Only too often, people with autism feel they simply cannot go to the cinema, the theatre, or to a concert. One unpleasant remark or a nasty look following some unusual behavior (laughter, cry, movement) are sufficient to chase those families brave enough to have come to a show. We offer a concrete solution to fight this form of exclusion and to make shared cultural experiences possible.

Methods

The scheme, which we created in 2005, relies first and foremost on human adjustments. At the core of our offer is clear and friendly information of all concerned: general public, artists, staff. Another feature is the presence of trained staff and / or volunteers in all parts of the venue and throughout the show, which enables everyone to relax. As to technical adjustments, they include reduced sound levels, gradual fading of house lights, absence of commercials or trailers before films, visual stories and access guides available to the audience in advance. In order to facilitate family outings, shows take place at week-ends.

Results

Since 2005, we have been able to demonstrate that it is indeed possible for people with and without autism to share cultural events together, and that all benefit from it in strikingly convincing ways

and degrees. Most people with autism who attended a show had never been to a concert hall, theatre or even a cinema before. Or if they had, they hadn't been able to stay. Our scheme allows them to gradually get comfortable with the codes and rules of a cultural venue. Our shows are pleasant for everyone and contribute to changing ordinary people's attitudes towards people with autism. So far, we have put on 2,150 shows in 63 venues throughout the country. They have been attended by 146,000 people, among whom 60% were general public.

Discussion

For the scheme to work and to last, venues must not only organize adequate staff training, but also receive expert help and accompaniment. Last but not least, it is essential to stress that promoting and developing cultural inclusion on a wide scale will require both an increase in general public awareness and strong public and political commitment.

Keywords: Culture, Family, Inclusion

Poster Number : SAT02-14

Effects of peer groups for people with autism spectrum disorder on social outcomes after adolescence : a follow-up study

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Introduction

Children with autism spectrum disorder (ASD) have difficulties with social relationships at all ages and functioning levels. Some studies suggest that children with high-functioning ASD may be able to form social relationships at earlier grades, but troubles associated with these relationships increase later, therefore by high-school age, most adolescents with ASD experience feelings of loneliness, and failure social inclusion. This epidemiological study investigates the peer relationships during school age in high-functioning individuals with ASD and how these relationships affect leisure and work.

Methods

The participants were 12 participants (seven males and five females), born within a certain time period in a part of X city equipped with a community care system for developmental disorders and had been diagnosed with ASD at a medical centre in their preschool years. Their mean IQ at the age of 5 years was 99. We investigate whether there is any comments about peer relationships every three years based on medical records of all participants from their elementary school years through 21 years old.

Results

By high-school age, seven participants (58%) had formed friendships with peers, in which both parties were able to freely invite the other out, most of these participants found employment in their adult lives. All five participants who attended special needs schools formed friendships. In contrast, only two of the seven participants who attended regular high school formed such relationships, both participated in leisure groups for people with developmental disorders from their early years in elementary school.

Discussion

These results suggest that long-term affiliation to peer groups for developmental disorders, either in special needs education classes or in leisure groups, has the potential to positively affect the formation of friendships in adolescence and thus for good social outcomes. Based on our findings, we hypothesized that high-functioning individuals with ASD show a considerably different pattern of peer relationship formation, and respecting the unique styles of their relationship formation might facilitate social inclusion in adulthood.

Keywords: Community based, Inclusion, Quality of life

Poster Number : SAT02-15

SPECTRUM - An inclusive musical experience

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Introduction

Our Project main objectives were: to promote a more inclusive community through music to develop a methodology to teach music to people with autism

Methods

Spectrum is a training course for Musical Animators under the Education Program from a Portuguese Concert Hall. It has been ran since 2006 by a group of professional musicians from the Resident Classical Symphony Orchestra. Its main objective is to prepare

musical animators for initiatives in a community context. In 2018, under the Spectrum Program, an inclusive partnership was created between our Autism Association and the Classical Symphony Orchestra. As part of this partnership, our music teacher joined the Concert Hall's teaching team. A training course was run from January until April 2018 for musical animators recruited among music teachers from various Portuguese schools. Altogether we developed a methodology to teach music to people with autism. The course's main musical objective was to allow sounds produced by people with autism without verbal language to be heard. These

sounds were later used as “musical notes” in a group of themes to compose a musical piece.

Results

An “Inclusive Orchestra” was created through the collaboration between three professional musicians, twenty five music teachers and nine people with autism. Two shows were produced and integrated the Musical Program from the Concert Hall, generating great interest from the public. The musical piece created all along the course was part of these performances. The final result was a huge success creating a bridge of musical communication between all participants.

Discussion

«From an emotional point of view, this partnership under the Spec-

trum project provided moments of great sensitivity among the participants who showed great enthusiasm and happiness. We were impressed by the comments we heard at the end of the shows. The mother of a person with autism told us “this is my daughter’s music!” recognizing the sounds she heard during the performance. Another mother proudly said “my son’s name appears in the show leaflet with the Orchestra’s professional musicians. There are similar studies that address the importance of music acting on the level of human beings’ emotions. This is true for people both with or without autism. In the future

Keywords: Culture, Inclusion, Intervention

Poster Number : SAT02-16

Social Activities for Youths

Authors:

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Introduction

Foundational to autism spectrum disorders, are consistent difficulties with social communication and the presence of restrictive patterns of behaviour interests, or activities (Kiss et al, 2017). Youths with ASD tend to spend time alone on a computer browsing. While this can have a positive impact in the youths’ knowledge, excessive time at home in front of the screen can be detrimental to the development of social skills. In fact, in a study carried out by Wesby C (2018), it was concluded that youths on the spectrum tend to have a very high rate of use of solitary screen-based media such as video games and television with a markedly lower rate of use of social interactive media. In view of this situation the Autism Parents Association Malta embarked on a project by organising a youth group to break this barrier. This project provided participants a gateway to integrate into the community and an opportunity to practice social interaction in a safe environment.

Methods

A questionnaire was distributed to parents to evaluate the efficacy of the group. Questionnaires were also given to parents of adolescents on the spectrum not attending the social group.

Results

Preliminary results have given positive feedback.

Discussion

This group helped prepare youths to engage meaningfully in their communities. The group has shown to support these youngsters given the disappointing outcomes for youths under the special education label of autism

Keywords: Emotional Life, Family, Inclusion

Poster Number : SAT02-17

The characteristics and understanding of friendship in men and women on the autism spectrum

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Introduction

In a recent decade, friendship in children and adolescents with autism spectrum disorders (ASD) gained significant attention as an important source of their social support. Although having friends predicts less loneliness and anxiety also in adults with ASD, there is a lack of research both on basic characteristics of friends and understanding of friendship in this group. The aim of the present study was to bridge this gap.

Methods

Participants were 46 young adults (aged 18-35, 50% were women) with ASD and 50 matched typically developing individuals, matched for sex, age, education and other demographic variables. Both groups took part in a comprehensive survey that focused on friendship, peer and romantic relationships. Participants could fill out the survey online or via local service providers. The survey consisted of both closed and open-ended questions on different aspects of the actual relationships of participants and their understanding of friendship.

Results

Young adults with ASD had statistically significantly less both regular and best friends than their typically developing peers. More than

one-third of autistic participants had no friends at all and about 40% didn't have a best friend. About a half of young adults with ASD wanted to have more friends. Interestingly, this was not correlated to their actual number of friends. However, existing friendships of young adults with ASD appeared to be similar to relationships in a comparison group in terms of duration, age and gender composition of friend dyads and satisfaction. Moreover, understanding of friendship as an intimate, reciprocal relationship based on unconditional responsiveness was also similar across the groups. Nevertheless, autistic and typically developing men and women had distinct profiles of their activities with friends.

Discussion

The results provide preliminary data on adult friendships in ASD. There is significant diversity both in having friends and motivation to have them in this group. Therefore, the support of friendship development in adults with ASD should be need-based. Finally, despite some differences, the overall characteristics and understanding of friendship appear to be quite similar among autistic and typically developing individuals.

Keywords: Adult, Gender, Social

Poster Number : SAT02-18

Accessibility project of a public library for the residents of a specialized reception center

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Introduction

The Accessibility Project for the Multimedia Library is the result of a meeting between several elected members of the City and the management of the MAS, with the aim of developing an inclusive city for people living with autism and a major disability.

Methods

For this purpose, several actions have been set up since June 2017 :- Awareness-raising and training: MAS professionals have been seconded to train professionals in the disability media library and alternative communication tools. Thus, we were able to transmit

the basic knowledge on the reinforcers of interest and the accompaniment of the behaviors problems.- Environnement improving actions : an initiative has been carried to make the library more intuitive. A traffic plan as well as signages (writing and pictogram) on each sector were installed to ensure that the traffic and exploration of the media library are done independent. A structured and accessible environment is a reassuring environment. It is also important to think of «relaxation» spaces «, cocoon» with few visual stimulations in order to produce a calmi and full awareness of the chosen activity.- Structuring integration times : a better knowledge of the host residents combined with a reassuring and adapted envi-

ronment will favor the implementation of adapted activities. A work on the objectives pursued was initiated, and on the choice of the proposed activities, ...

Results

The integration of people with autism was facilitated and we have been able to measure a clear improvement of autonomy with the aid of the Reference System of Social Skills (ROCS in french). Unexpectedly, all the library employees, even the most refractory, have invested in the project. This project has federated around the issue of disability.

Discussion

The partnership between accompanied people with autism and caregivers, the MAS, the media library and public authorities promotes accessibility and recognition of people with a difference. This joint action has enabled to change the perspective on disability and to open avenues of work for an inclusive society.

Keywords: Inclusion, Participation, Social

Poster Number : SAT02-19

Who are your friend's friends?

Social network perception accuracy in a school-aged boy with autism

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Introduction

Friends play a decisive role in social, cognitive, and emotional development during childhood and adolescence. Compared with their typically developing peers, children with autism usually are situated on the periphery of their social networks, score lower in their perception of friendship quality and have fewer reciprocal friendships. Reciprocity and network centrality have been examined, mainly through peer nominations designs or social cognitive maps. These procedures do not allow to determine the extent to which children with autism and their peers perceive the social network structure differently. Behavioral patterns may be related to accuracy in social network perception, so we were interested in comparing friendship network perception between the child with autism and his peers.

Methods

A student with autism, aged 10 years and his 14 classmates (eight males) from a third-grade elementary-education classroom, were participants. Cognitive social structures were used to assess the children's perceptions of their friendships networks. In contrast to peer nominations, respondents report on the presence of ties between each of the components of all possible dyads in the group. This method allows the triangulation of information obtained through self-reports and peer reports. It and can be used to compare a child's individual perception with that of his classmates.

Results

Quadratic assignment procedure revealed that the child with autism exhibited lower levels of agreement with the consensus than the more peripheral actors did. For the classmates, identifying the friendship relations of the child with autism was more difficult than identifying the other children's friendships in the group, including newcomers. Differences in the processing of social information and interpersonal perceptions affected the child with autism as both a judge and a target in a two-way process that could lead children with autism and their peers to under-report the number of potential friends.

Discussion

Studying friendship perception can help to improve the knowledge of the processes that could contribute to the development of significant relationships among children with autism and their peers in ordinary school settings. Future studies should control for factors such as the directionality of friendship ties and the extent to which it affects the behavior of both children with autism and their peers.

Keywords: Development, Inclusion, Social

Poster Number : SAT02-20

P.C.C.A., a model of AAC assessment and intervention for social communication in the natural environments

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Introduction

Our project aims to maximize the positive impact of the AAC intervention for people with ASD, measured on meaningful social and relational opportunities for autistic people and their families in the community. We have built and applied a model of assessment and intervention we have called P.C.C.A. ("Collaborative project on communication for autistic people"), based on our experience, literature and some virtuous theoretical frameworks (ICF, Person and Family Centered Medicine, Collaborative Problem Solving Model, Participation Model).

Methods

Distinguishing features of this model are: personalization, dynamic assessment, centrality of natural environments, empowerment of communication partners' skills and expectations, relevance of opportunities of participation, multimodal approach, respect of the "Communication Bill of Rights" (NJC, 1992, 2016). Each PCCA project aims to involve the person, family, school, clinicians and other communication partners as members of a collaborative team, coordinated by a speech therapist expert on AAC, and follows this procedure: 1) Data collection on opportunities/patterns of participation, communication needs, resources and expectations, 2) Observation of communication performance of the person and his interlocutors in natural environments, 3) Formal and infor-

mal assessment: communicative profile of person and partners, 4) Assessment of AAC systems, 5) Team identification of objectives, according to significance, priority and feasibility, 6) Codesign of the Communication Project: identification of agents, contexts, tools and strategies, 7) Implementation: presentation of the whole project, construction/modification of tools, training and tutoring of person and communication partners, 8) Outcomes measurement: observation and data collection, 9) Follow-up.

Results

The first experimentation on a sample of 30 people allowed us to identify barriers and facilitators for the success of AAC systems, groupable in the following domains: related to autistic person, related to family and communication partners, related to AAC systems, related to intervention services.

Discussion

The experimentation had positive results and the project is still active. We are trying to correct our procedure especially in order to enhance the timeliness and quality of each project, and to integrate our criteria for measuring outcomes.

Keywords: Alternative Communications, Environment, Speech Therapy

Poster Number : SAT02-21

The King of the Market - A project for changing perceptions and encouraging acceptance

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Introduction

The goal of the project "The King of the Market" is to provide teachers of the Canton Ticino (Switzerland), in primary and secondary schools, with a tool that allows: - to inform and raise awareness, among children, on Autistic Spectrum Disorders (ASD) and more generally on «diversity», regardless of whether there are children with disabilities in the classroom or not- to provide a trai-

ning section for teachers through interviews held with internationally renowned experts. The above aiming at facilitating an inclusive process that is one of the main principles of our public school.

Methods

Starting from the story "The King of the Market" written by Gionata Bernasconi, in 2017-2018 we first developed a publishing project

containing a short film based on the same story. The film was produced in four languages (IT-EN-FR-DE) and the published DVD also contains a training section on ASD for teachers and parents, some special contents that lead to a discussion on diversity within teacher and children, and 4 Books, one for each language, telling the story and explaining with a delicate and accessible language what autism is. In September 2018 together with the public schools department of Canton Ticino, we started introducing and distributing this awareness-raising tool, free of charge, in all primary and secondary schools of our Region. We met, up to today, over 300 teachers.

Results

The impact of this project has not been evaluated yet. We will collect teachers' feedback starting from September 2020 after almost two years since distribution. What we would like to achieve with this project is:

- Enable teachers and children to talk about ASD and diversity
- Provide teachers with basic information on ASD
- Raise awareness and get traction from school institutions and provide them with tools and support

Discussion

If we talk to children about diversity starting from their early age and teach them how to respect and value each individual, we will help school environment and society to improve inclusivity. In Canton Ticino the publication "The King of the Market" has also been included in a "Special kit" addressed to schools developed by the public authorities and by special education teachers. The Kit suggests many activities that help teachers on how to discuss diversity with their pupils.

Poster Number : SAT02-22

HAPPY (Habitat Autisme PYrénées)

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Introduction

HAPPY was born from the excerpts from the report on the future of people with autism by Josef SCHOVANEC (February 2017):

"There is no real work or inclusion in general without a real answer to the question of housing»

Methods

Generally speaking, for all neuro-development disorders, «paths» are still poorly structured and actions too limited.

Access to rights and aids to ease these pathways (allowances, orientations, even school accompaniments, etc.) depends on evaluations of the MDPH, whose procedures and regular renewal coming in addition to an already unaccompanied and chaotic path. Parents of children with autism are surprised that they are asked so often to prove that their child with autism is still so, as if not a definitive handicap.

In this respect, HAPPY® wants to be force of proposal with an innovative solution meeting the expectations of all the stakeholders interacting around autism in 2018.

This solution will bring together an inclusive shared habitat (Habitat Autisme PYrénées (HAPPY®)), a Mutual Aid Group (GME), a job and social coaching structure, a respite House and a health home.

Results

Our study pointed out the achievement of the HAPPY® structure is fully in line with the national strategy «Let's change the game» and

the 4th autism plan such as:

- a) Commitment N° 4: Support the full citizenship of adults
 - Accompany adults' autonomy by offering them an adapted housing
 - Diversify inclusive housing solutions
 - Insert people in a professional environment
 - Support the empowerment of people with autism
- b) Commitment N°5: Support families and recognize their expertise
 - Develop respite solutions for families
 - Increase the training of "carers"/ "helpers" throughout the country
 - Set up new support and support systems specifically after diagnosis
 - Recognize the expertise of families towards institutions and professionals

Discussion

Such an achievement as an HAPPY® structure (as well as duplicates – for we aim to build a social and economic model to be duplicated in other cities and departments) matters for It is estimated that they are 2,000 autistic children and adults in the department of Hautes-Pyrénées.

There is a huge need to be filled with such adapted and inclusive structure as HAPPY® and we're sure our autists will be happy in there!

Keywords: Autonomy, Empowerment, Self determination

Poster Number : SAT02-23

Project «The Richness of Diversity»

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Introduction

Different studies have shown that specific approaches, like educational inclusion of students with disabilities, can have a positive impact on neurotypical students' attitudes and acceptance of their peers with disabilities. However, full educational inclusion is not always possible. Project "The Richness of Diversity" was developed in order to bring inclusion in the curriculum of two schools in the same neighbourhood, one mainstream and one special school. The focus of this presentation will be the results of the evaluation of impact of the project on neurotypical peers' acceptance and understanding of children with ASD.

Methods

«Project „The Richness of Diversity“ took place during four school years

Results

starting from 2015. and is still ongoing. Different activities were designed and conducted in this period in order to increase interaction between neurotypical students and students with ASD

Discussion

both during the class and relaxing time. The aim of one part of evaluation was to compare differences in attitudes toward peers with ASD between 8th grade (N=64) and 7th grade students (N=51) in one mainstream school. 8th grade students attended educational workshop about autism and had immediate experience of classwork and learning together with students with autism (N=9) while 7th grade students did not have this experience. Both

Keywords: Education, Inclusion, Peer support

Poster Number : SAT02-24

Practical strategy to cope with sensorial difficulties in adulthood

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Introduction

Sensory disorders related to ASD are increasingly being considered. The latest versions of the classification of mental disorders focus on these difficulties by including them in the diagnostic process (APA, 2015). Those are still relatively unknown and are therefore not considered in the support offered to people with ASD. However, sensory difficulties are often an obstacle to social inclusion. By means of a questionnaire, this study highlighted the sensory difficulties encountered by adults with Asperger syndrome and the practical strategies used to deal with them on a daily basis.

Methods

A questionnaire was developed by a person with autism during her training in the ASD-Observatory in Lausanne in 2018. The objective was to highlight the sensory difficulties experienced by people with Asperger syndrome in different places and situations. It informs about the profile of participants, the situation at home, in public places, at work, daily stress management, the impact of

sensoriality on clothing, the sensorial products and the fields of sexuality, sleep and food. It was completed online by 26 adults with Asperger syndrome (16 women and 10 men).

Results

The results indicate that sensory problems affect almost all participants (n=25) and, most of the time, several senses are disturbed (the hearing and the sight are the most often impacted senses). These difficulties can occur at home, at work or in the various public places frequented. Unpleasant physical sensations are felt and sound like a more or less intense state of stress, and lead to withdrawal or avoidance reactions. However, more than half of the participants feel able to settle down, to regain a state of calm by mobilizing strategies.

Discussion

The study showed that the impact of sensory disorders is broad. It affects both professional and personal life and thus affects quality

of life and social integration. Therefore it is a key element to be taken into account in the support provided to people with Asperger disorder. The data collected highlighted the effectiveness of the strategies and accommodations used by these people to cope with

the difficulties and could constitute interesting resources to share to improve daily life and inclusion in community.

Keywords: Adult, Environment, Quality of life

Poster Number : SAT02-25

Facilitated Social Space for adults with autism. Experience of low level psychosocial support

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Introduction

Adults with autism report poor quality of life and high levels of social isolation (Bishop-Fitzpatrick et al., 2016, National Autistic Society, 2018). National health and social care guidelines (NICE CG142) recommend the provision of low-level post-diagnostic support to improve the wellbeing of adults with autism. Research into current provision is limited, though this is crucial in developing effective post-diagnostic services. A Facilitated Social Space (FSS) is a weekly session run as part of the Post-diagnostic Advice Service offered an Adult Autism Service, a regional NHS service commissioned to provide diagnostic assessments and follow-up support. FSS is held in a community centre and is open to adults with autism and their families on an ad-hoc basis. FSS is staffed by a multidisciplinary team (MDT) and provide opportunities to practice interpersonal skills, discuss social difficulties and develop social networks in a contained environment. To explore impact on wellbeing and develop more effective post-diagnostic services, interviews about experiences were developed and conducted with participants.

Methods

Adults with autism who regularly attend the FFS (n = 10) were recruited using maximum variation sampling. Participants (f=2,

m=8, 21-56 years (M=42)) completed face-to-face semi-structured interviews about their experiences of attending the FFS. Interviews were recorded and transcribed verbatim. Thematic analysis was used in analysis (Braun & Clarke, 2006). Two members of the research team independently coded transcripts. These were repeatedly refined in an iterative process.

Results

Thematic analysis of the data generated three themes about FSS. These were (1) the value of autism-specific service design, (2) opportunity to develop shared identity (3) opportunity for self-development specific to autism. In addition, sub-themes emerged (1a) specialist staffing and (2b) expanding social opportunities.

Discussion

FSS was described as a positive and highly valued experience. Participants report benefits of social access, structured support and the importance of developing social skills in adulthood. This model may reduce the need for support from statutory services and provide an effective alternative to social skills programmes.

Keywords: Inclusion, Quality of life, Social

Poster Number : SAT02-26

Project «Open museums» - Improving inclusion, education, social justice and accessibility in museums

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Introduction

Museums are vital public institutions that should be open and committed to physical and cultural access to everyone. The inclusion of children / adults with autism and their families in cultural and educational activities in Macedonia is at a very low level. This presentation reports upon a one-year project focused upon improving access by developing materials, undertaking a workshop with children with autism and providing training for museum workers.

Methods

The project was funded by the European Union as part of the activities of the European Year of Cultural Heritage 2018. Its aim was to promote the cultural heritage in the existing museum collections by enhancing accessibility, and to initiate future development of museum programs for improving inclusive education, social justice and accessibility in museums. Evaluation of all activities was made using quantitative methods (pre- and post-training questionnaires and analytics).

Results

The museum project was devoted to bringing the cultural heritage closer to people with autism. During its lifetime, visual and sensory

materials were developed and tested in practice with children with autism. For the first time in Macedonia, workshops on autism for museum workers were held and a guide for museum workers was published in Macedonian, Albanian and English. A quiet area was established, for working with materials and to prepare children and young people with autism to visit the museum. Post-training questionnaires identified that autism awareness had increased within the museum staff team.

Discussion

During the lifespan of this project, the knowledge and practical experience of specialists in the fields of special education and rehabilitation and museology were combined to ensure the museum's accessibility through the provision of sensory-rich activities based upon good autism practice. Knowledge was effectively exchanged between complementary professionals. This will continue to provide opportunities for the active involvement of individuals with autism in cultural activities, with the museum playing a key role in developing social interaction and communication skills.

Keywords: Culture, Education, Inclusion

Poster Number : SAT02-28

Cultural Inclusion- Drama experience of pupils with autism

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Introduction

Cultural institutions are extensions of schools and the wider community. What constitutes good practice in terms of inclusion varies depending on location, institution and the needs of individuals. However, it should always place the young person at the centre of the experience. College Park School (CPS) is a school for pupils with autism between ages of 4 and 19 based in central London. Along with three other special schools and two cultural partners, CPS worked on delivering a high-quality cultural event with inclusive practice at its core. During the spring and summer terms

2018, the art department worked on preparing pupils for the theatre production at the Lyric Theatre Hammersmith. The present study looks at pupils' response to teacher's directions during school rehearsals, their understanding of the characters in the play states and their own reflections on the drama experience.

Methods

The data for the study was collected by video recordings that were taken during the school rehearsals with six pupils from both, primary and secondary school. Pupils' response to teacher's directions

and peer interaction were analysed through video recording observations. Additional data was collected using semi structured interviews with pupils focusing on their experience of drama lessons, rehearsals and the theatre performance.

Results

Results show that some common features were observed for all pupils including their ability to follow teacher's directions during rehearsals. The level of instructions given by the drama teacher during rehearsals significantly decreased from the first week to the last few weeks of rehearsals. Primary pupils had a good understanding about the play they performed but talking about personal experiences was more challenging. Similarly, secondary school pupils were able to engage in a lively conversation about the play and characters but again struggled to reflect on their own experiences.

Discussion

This study showed a positive impact that drama has on social cognition in autistic pupils but this area still remains under-researched, especially with pupils with autism and complex needs. One of the significant findings is that autistic students collaborated during drama rehearsals and performances as they positively responded to each other and were aware of the benefits of working together. Drama is a powerful tool for fostering social, emotional and moral development of pupils with autism and autistic pupils benefit hugely from cultural inclusion.

Keywords: Culture, Inclusion

Poster Number : SAT02-29

A Cross-Cultural Investigation of Friendship in Individuals With Autism Spectrum Disorder: Differences Between Western and Asian Samples

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Introduction

Friendship has an important role in the social life of adults. This study investigated the relationship between friendship and having a diagnosis of Autism Spectrum Disorder (ASD) in two cultural groups: White Western and East Asian.

Methods

Participants (N = 182) aged 18 to 30 years completed five online questionnaires to assess their perception of friendship (the quality of friendship, the importance given to friendship, and the feelings one has for a specific friend), their autism traits, and to collect demographic information. A principal component analysis revealed a single factor structure thus the three friendship questionnaires (Bukowski, FQ, and McGill) were computed into one variable. A 2 x 2 between-groups ANOVA was performed to investigate differences in composite friendship scores between the cultural groups and the ASD diagnosis groups. A Mann-Whitney U test was used to assess if there was a difference in AQ scores between the ASD diagnosis groups in order to validate the diagnoses.

Results

There was not a significant interaction between cultural group, ASD diagnosis, and friendship scores. There were, however, significant differences in the friendship scores between the cultural groups and the ASD diagnosis groups. The highest scores were obtained by the non-ASD White Western group, followed by the non-ASD East Asian sample. The ASD East Asian participants had the lowest friendship scores.

Discussion

Although there was not a significant interaction between the three variables, the results suggest that perceptions of friendship vary between White Western and East Asian cultural groups as well as between those with and without ASD diagnoses.

Keywords: Adult, Culture, Emotional Life

Poster Number : SAT02-30

Sensory condition and individual emotional codes of people on the autism spectrum

Authors:

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Introduction

Researches on the autistic spectrum, very often report a lack of experiencing emotions by people on autism spectrum, or/and lack of the ability to recognize emotions. This knowledge contradicts my experience. As a person from the autism spectrum, as well as a researcher and specialist, PhD of social sciences - I have many years of completely different observations. At the same time - psychology and neurophysiology provide important information about the direct connection of perception with the feeling and coding of emotions. People on autism spectrum are characterized by a specific condition and sensory needs, which allowed to hypothesize that they develop specific and very individual emotional codes, compatible with the sensory experience of the world.

Methods

The long-term observation of people on the autism spectrum allowed me and my team to develop a series of guidelines. We gave this for people around autistic persons, and that helped identify the actual emotional states behind seemingly irrelevant sensory behaviors. This showed us, that the essence of sensory behaviors is not just self-stimulation, but to a large extent - coding their own emotions.

Results

Thanks to the individual recognition of emotional codes associated with sensory behaviors of autistic people, we have achieved a significant increase in self-awareness of autistic people. It also allowed them to better understand other people. But what is probably the most important - this providing people around, the key to individual emotional codes. This opened bilateral empathy and allowed for a better understanding of the needs of people with autism and reducing frustration and the amount of misunderstanding.

Discussion

The approach based on decoding individual manifestations of emotions and giving them real meanings is of great importance for the personal development and self-development of people in the spectrum. This is very important for disabled people on spectrum too. In my experience, disabled people on spectrum very often he falls victim to violent therapeutic and training strategies, whose task is to force them to give up natural behaviors resulting from sensory preferences. Meanwhile, recognition of individual emotional codes in them, allows to reduce the risk of depression, mental and emotional disorders, as well as helplessness, aggression and self-aggression of autistic people. It also fits into the deeply humanistic idea of support, not the therapy, of people in the autism spectrum, practiced by my team.

Poster Number : SAT02-32

A double-edged sword? Factors associated with increased perceptual capacity in autistic and non-autistic individuals

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Introduction

Recent studies show that, for autistic people, perceptual capacity (PC, the amount of sensory information processed at any one time) is increased in the auditory and visual domains (Remington et al., 2012, 2016). This increase in PC may be responsible for both positive (superior auditory perception skills) and negative (increased distractibility) aspects of the condition. Understanding the driving difference is vital in order to establish how to capitalize on the additional PC and support the challenges associated with it.

The current study examined whether altered PC is associated with sensory sensitivities or anxiety levels, rather than general autistic traits. Both sensory experiences (e.g. Baron-Cohen et al., 2009) and anxiety levels (Croen et al., 2015) have been shown to be altered for those on the autistic spectrum compared to their neurotypical peers. Increased PC has also been found in other groups with higher anxiety (e.g. Sadeh & Bredemeier, 2011). It is possible, therefore, that increased PC is not a characteristic of autism specifically, but rather is associated with sensory sensitivities or anxiety.

Methods

73 adults (24 autistic and 49 neurotypical) 18-54 years, matched in age and cognitive ability took part in an auditory test of PC (developed by Fairnie et al., 2016). The task, a dual-task paradigm, involved performing an auditory search task in the presence of varying numbers of distractors, while also performing a secondary detection task. Participants also completed three self-report questionnaires: 1) The Sensory Perception Quotient (Tavassoli et al., 2014) to quantify overall sensory symptoms in daily life 2) The Spielberger State-Trait Anxiety Inventory- T (STAI-T, Spielberger, et al., 1983) and 3) The Social Responsiveness Scale (Constantino, 2002).

Results

Data collection is ongoing, preliminary results suggest that there

is a strong correlation between sensory sensitivity and PC ($r_s = .44$, $p = .002$) and between level of autistic traits and PC ($r_s = .35$, $p = .015$), but no such association with anxiety levels. Pre-registered planned regression analyses will explore the relative contributions of each of these factors.

Discussion

The findings indicate that an increased PC is associated with higher levels of autistic traits and sensory responsiveness in everyday life. This offers a target for autism-specific interventions, education and therapy and could assist in the development of improved sensory environments which are adapted to autistic people's increased PC.

Keywords: Adult, Cognition, Mental health

Poster Number : SAT02-33

Social Anxiety in children and adolescents with Autism Spectrum Disorders may contribute to deficit in social communication and motivation

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Introduction

Although anxiety is not considered a core feature of ASD, anxiety disorders are the most common comorbid conditions in these patients. The overlapping symptomatology and altered presentations of symptoms of anxiety contribute to challenges in assessment and treatment of this condition. Because of the great impact on the course of the disorder, recognizing anxiety and treating it properly is particularly important for the wellbeing of these patients. Moreover, while untreated comorbid anxiety has been associated with the development of depression, aggression, and self-injury in ASD, an early recognition and treatment may convey better prognosis for these patients.

Methods

79 children and adolescents with ASD (with and without intellectual disability) and 28 matched control were recruited in two Expert Centers on ASD. Psychiatric comorbidities, anxiety disorders, depression were screened with standard tools (Liebowitz social anxiety scale) and correlated to autistic features and social competencies assessed with the social responsiveness scale 2 (SRS-2) and the repetitive behavior scale (RBS-R). Adaptive behaviors were assessed with the Vineland Adaptive Behavior Scale II. We performed bivariate analysis between the level of social anxiety of the participants and the various scores of the different clinical scales. Finally, we adjusted the observed relationships on the alterations of social reciprocity (SRS-2) and restricted interests and repetitive behaviors (RBS-R).

Results

The level of social anxiety was significantly associated with alterations in social reciprocity but not with RBS-R score. Indeed, after adjustment it appears that social anxiety was significantly associated with the SRS-2 total score and more specifically to 2 sub scores: social communication and social motivation sub-scores. We didn't find correlation with adaptive behaviors in our sample.

Discussion

Symptoms of social anxiety are not easy to recognize in patients with ASD, because of overlapping symptomatology and altered presentations of symptoms. High level in two subscores of the SRS-2 that focus on social motivation and social communication seem to be relevant and reflect coexisting impairments : social anxiety disorder and ASD. Further research are needed in particular longitudinal research in order to define impact of social anxiety on social competencies and socio-adaptive behaviors with ages and the link with social motivation that could be specifically describe in the field of ASD.

Keywords: Anxiety, Childhood, Social

Poster Number : SAT02-34

Secondary transition experiences of autistic young people and their impact on psychological well-being.

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Introduction

Autistic people are highly likely to experience mental health difficulties during their lifetime (Hallet and Crompton, 2018, Lever and Geurts, 2016, Simonoff et al, 2008). A period of their lives that may be linked to increased mental health difficulties is that of the transition from primary to secondary school. The National Autistic Society (2017) has identified this transition as challenging for autistic children and their families, however research on the matter is scarce. We therefore have a limited understanding of children's experiences of transition, of the different factors and outcomes of transition, or of potential avenues for support and intervention. We sought to answer the following questions: 1) How do autistic children experience the secondary transition? 2) What factors of positive and negative transition/mental health outcomes do participants identify? and 3) Do participants' experiences differ from what has been identified in the literature?

Methods

Semi-structured interviews with autistic children between February and April 2019 will be carried out in person or via the internet/phone calls. Topics include participants' experiences of the secondary transition, support available, difficulties with stress and mood experienced, mechanisms contributing to these difficulties and those which support mood and well-being. This will be followed by a na-

tionwide survey revisiting the same topics with a wider sample.

Results

At the time of submission, no results have been acquired. We will report on the challenges that autistic children face related to the secondary transition and their mental health. We will identify practical, social, psychological and sensory/environmental factors associated with positive and negative outcomes.

Discussion

This study has implications for our understanding of transitions and mental health in autistic children, an area currently understudied. Based on these results, future researchers will be able to explore potential avenues for interventions to alleviate mental health difficulties in autistic children. This study will also contribute to the growing body of participatory autism research by providing avenues for future research identified by autistic children. This is important as autistic people have often voiced concerns about autism research not addressing those issues which profoundly affect their daily lives. It ensures that future research will investigate that which impacts them most, and therefore enact change where it is most needed.

Keywords: Education, Mental health, Transitions

Poster Number : SAT02-36

Autistic spectrum disorder and its relationship with mental health and quality of life of the caregiver

Authors:

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Introduction

Caring for a child with Autism Spectrum Disorder (ASD) is a challenging task that requires financial resources, energy, time, and a family restructuring, which can cause a drastic change in routine and impairment in various aspects of family members involved in care. The aim of the study is to investigate anxiety, depression and quality of life in caregivers and relatives of children

and adolescents with ASD and the relationship with the severity of symptoms in the affected child and adolescent.

Methods

A cross-sectional study was carried out with 76 caregivers and relatives of children with ASD under treatment in a specialized center. Caregivers and family members with at least 18 years of age

and who have the cognitive capacity to answer the questionnaires were included. The following questionnaires were used: Hospital Anxiety and Depression Scale (HAD) to assess anxiety and depression, Autism Behavior Checklist (ABC) to assess TEA severity, WHOQOL-BREF scale to assess the quality of life of caregivers and a questionnaire to assess sociodemographic features. Correlations were made to determine possible relationships between ASD, anxiety, depression and quality of life of the caregiver, and comparisons between the variables (t student test) to assess the caregiver's mental health, the severity of the disorder in the child and to identify risk factors for the appearance of psychopathologies in caregivers.

Results

As a result, 80% of caregivers and family members reported symptoms of probable anxiety or depression. Caregivers of children with severe ASD have a poor quality of life.

Discussion

Providing programs to support caregivers can improve access to effective therapeutic options and contribute to the child's development by reducing the risk of psychopathologies in caregivers.

Keywords: Care, Mental health, Quality of life

Poster Number : SAT02-37

Stress from within

Authors:

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Introduction

I was told that by keeping my stress low, at all cost, as my top priority, I would be able to significantly reduce the depressions I had been suffering from almost all my life (in spite of medication) I decided to give it a try over the course of some months, found that it worked and have been living depression-free ever since.

Methods

The trial period was during winter 2013 (my depressions were worse during winter time) But I have been living this way, with keeping stress low as my first priority, ever since. The evaluation came gradually, when I experienced my first depression-free winter, and in the years since, where I have lead a happier life with higher priority for quality of life, than for "acting normal."

Results

The results exceeded my expectations. I myself did not believe I would be able to reduce my depressions, anxiety and my eating

disorder as much as I did, simply by keeping my stress as low as possible! My results are (in my case) conclusive: by giving more attention to the constantly elevated stress level, by finding ways of reducing this, even at what seems a high cost, one can dramatically improve the quality of life for people with autism.

Discussion

More attention to stress and keeping it low is fairly easy once a part of ones daily life. If my personal experiences are not unique, by having low stress level as a primary goal, we could help the many people with autism, who are suffering from depression, anxiety, OCD, eating disorders etc. But maybe by early intervention, we could keep future generations of autistic people from even getting these conditions. What if, in the future, people with autism ONLY have autism!

Keywords: Comorbidities, Quality of life, Stress

Poster Number : SAT02-38

MYmind-DK. Continuous registration of well-being and individually specified goals.

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Introduction

High levels of distress and comorbid health difficulties have been reported for persons with autism spectrum disorder (ASD) and their parents. The development and investigation of interventions for persons with ASD is increasing, but there is still a need to expand the access to relevant interventions, and to increase the evidence base of these interventions. There is an emerging evidence suggesting beneficial effects of mindfulness-based programs for children and adolescents with ASD and their parents. MYmind is a group training for adolescents combined with parallel mindfulness training for their parents that has been developed with the cognitive characteristics of ASD in mind. The objectives of the study were to investigate the feasibility of the MYmind program for adolescents with ASD and their parents in a Danish context and to investigate the effect of the program for the adolescents and their parents.

Methods

A total of six mindfulness groups were run at two different sites including 38 adolescents with ASD and 47 parents from 37 families. Information on adolescent and parental behaviour and well-being were collected using questionnaires, at baseline, pre- and post-training, and at 2- and 6-months follow-up. Further, continuous registrations were collected on individually specified areas of interest and general well-being. Moreover, interviews were made with

adolescents and parents focusing on their experience with the training. In this presentation analyses of the continuous registrations will be presented.

Results

Of the enrolled participants 24 adolescents (63%) and 26 parents stayed in the program while 14 adolescents and 21 parents dropped out of the program. Four families dropped out before the first session and seven dropped out after taking part in only one or two sessions. The trajectories of the individually specified goals and well-being as registered by adolescents and parents are currently being analysed and these will be presented at the conference. Connections between the change in these measures, participation in the program and home practice will be explored.

Discussion

The trajectories of change may help our understanding of how mindfulness training may benefit adolescents with ASD and their parents and the potential mechanisms of this change. This is important in order to provide multiple support and treatment options that may help prevent or alleviate mental health difficulties.

Keywords: Intervention, Mental health, Stress

Poster Number : SAT02-39

Neurodiversity - attitude towards autism as a buffer protecting mental health. Study of dyads: adolescents with Autism Spectrum Condition and mothers

Authors:

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Introduction

Psychological well-being of people with autism spectrum condition (ASC) is understudied area. 70-80% of people with ASC have mental health issues and we do not know neither the causes or effective therapy options. Studies show that attitude to own disability is an important factor influencing disabled people's quality of life and mental health. Also positive attitude toward child's diagnosis influence parents quality of life. The purpose of our study was to test association of different attitudes towards autism- from neurodiversity to medical attitude- with psychological well-being of adolescents with autism and their mothers.

Methods

The sample consisted of dyads: 20 adolescents with ASC diagnosis and 20 mothers. Participants took part in two sessions in research laboratory to complete the study. To evaluate attitude toward autism we designed self-reported Attitude Towards Autism Scale. Depression level and self-esteem in adolescents was measured by CDI-2. Psychological well-being of mothers was measured by: DASS-21- anxiety, stress and depression, CBI-2- caregiver burden, SWLS- satisfaction with life. Autism symptoms were controlled using ADOS and intelligence of adolescents was controlled using Wechsler scale.

Results

Results show associations of mother's neurodiversity attitude with lower level of stress, depression, anxiety, caregiver burden as well as higher level of satisfaction with life. For adolescents with ASC neurodiversity attitude was associated with lower self-esteem. Attitudes toward autism reported by parent and by child were strongly correlated. However, depression level of adolescents with ASC was lower compared with their depression level assessment done by mothers.

Discussion

Positive attitude toward autism seems to have advantages for mo-

thers well-being. The results do not show the same association in adolescents. But connection of adolescents neurodiversity attitude with lower self-esteem may be also a sign of compensating own psychological problems. Attitude toward autism seems to be shaped in a family as attitudes are similar for mother and for child. The connection of attitude toward autism with mental health might be new factor in considering quality of life of autistic people. Bringing attitude into focus might be useful for future mental health interventions of adolescents and adults with ASC.

Keywords: Family, Mental health, Quality of life

Poster Number : SAT02-40

The Relationship Between Special Interests and Well-Being for High-Functioning Autistic and Neurotypical Adults

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Introduction

Circumscribed interests (hereon referred to as special interests) are often classified as a deficit, due largely to their all-encompassing nature, and suggested interference with learning and reciprocal interaction. Despite this, many autistic people, as well as parents of children on the autism spectrum, report the profound benefit that special interests have on aspects of well-being. The present study investigated the relationship that leisure interest (the extent to which an individual would like to participate in a leisure activity), leisure engagement (how often the individual participates in the leisure activity), and distraction (the degree to which the leisure activity interferes with other tasks) have on domains of well-being.

Methods

Participants completed a series of questionnaires: an inventory of leisure activities to which they rated levels of interest, engagement, and distraction (FIFI-R), a measure of quality of life (WHOQOL-BREF), a measure of life satisfaction (HSWBS), a measure of autistic traits (AQ), and a measure of motivations for participating in leisure interests (SIMS). Due to the online nature of the study, 166 participants were recruited from around the world. An 'autistic' (N = 63) and a 'neurotypical' (N = 96) group were created for comparative analyses, determined via ROC analysis on AQ scores.

Results

The results demonstrated that overall mean interest, engagement, and distraction scores were not related to any domains of well-being. However, individual leisure interest, engagement, and distraction domains did present significant relationships with certain domains of well-being. In addition, the results demonstrate a significant positive relationship between autistic traits and intrinsic motivations for participating in interests (intrinsic interest and knowledge, and engagement and flow), as well as a significant negative relationship for extrinsic motivations (prestige, and personal life values and goals).

Discussion

Diminished well-being for individuals with ASD is a highly replicated finding, and these significant relationships between certain areas of interest and certain domains of well-being could be a key component to improving well-being. The intrinsic motivations for partaking in special interests go some way to explaining this link with well-being, and raise important questions regarding the use of special interests as rewards and motivators, as is becoming common in some disciplines.

Poster Number : SAT02-42

The lived experience of mental health inpatients with an autistic spectrum

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Introduction

This qualitative study explored how patients with ASC, a group known to be extremely vulnerable to psychological issues, experience admission to acute mental health inpatient facilities in the United Kingdom. Anxiety is a common characteristic for people who live with ASC but its recognition can be compounded by the difficulty in disentangling features of ASC from those of anxiety disorders. Despite growing acknowledgement that admission to acute mental health facilities should be a last resort, reported figures on admissions continue to rise and there remains a dearth of research highlighting how those who are most vulnerable in the inpatient setting actually experience this environment. The lived experiences of those with ASC could nonetheless help to inform service development.

Methods

During 2015-2017 naturalistic enquiry using qualitative methods of facilitated one-to-one semi-structured interviews captured the experiences of 20 adults from the East of England who were former psychiatric inpatients with an established diagnosis of ASC. Verbatim transcripts of audio recordings from each interview were analysed using Interpretative Phenomenological Analysis.

Results

IPA enabled the identification of broad themes, which explained in rich detail those participant reflections on the situations and events within the acute care mental health facilities that triggered responses such as anxiety, fear, agitation and social avoidance anxiety. It was then possible to establish the broad behavioural patterns associated with their responses i.e., isolating themselves from others, including other patients and staff, ceasing to eat and sleep adequately, and, all too often, self-harming or exhibiting aggressive and violent behaviours.

Discussion

This study provides further evidence that hospitalisation of a person with ASC should be the last resort. However, it is inevitable that in the future some people will need a mental health inpatient bed and the reductionist approach to inpatient services and the emergence of single person community services, whilst warranting applause, will leave gaps in service provision. Therefore, the thesis contends that instead of minimising inpatient availability to an unrealistic level, we should concentrate on the emotional and psychological experiences of the inpatients aiming to improve their service experience.

Poster Number : SAT02-43

Ageing and Social and Emotional Functioning in Older Adults with High Functioning Autism Spectrum Conditions

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Introduction

Little is known about changes in the diagnostic features of autism in adults with high functioning autism spectrum conditions (HF-ASC) as they age, or about their emotional and mental health needs. Research suggests younger individuals with ASC frequently suffer from co-occurring mental health problems, but these issues are not well understood in older adults. The aim of this exploratory study was to investigate the experiences of these older adults (aged 50+ years) in terms of changes in autistic characteristics and social and emotional functioning, with particular emphasis on anxiety and mood disorders.

Methods

Qualitative analyses of informant data collected from semi-structured interviews with ten autistic older adults, (M = 63.30), were conducted. An independent audit and review of the analyses was undertaken by an autistic research assistant whose collaboration provided an invaluable “neurodiverse check” on both the transparency of the analytic process, and the credibility of the analyses, to ensure the study was as consistent as possible with a participatory approach to autism research.

Results

Results suggest that autistic characteristics may not change over the lifespan, but rather are accommodated throughout a lifetime of trial and error, compensation and coping strategies. All participants

reported persistent social difficulties, and for most anxiety and depression had adversely impacted functioning. However, somewhat surprisingly, a positive outlook on life was identified as an overarching theme. Themes of emotional sensitivity, acceptance, and longing to belong were also identified.

Discussion

Despite experiencing many life difficulties participants' experiences, shared with frequent displays of humour, suggested older age brought with it a generally positive outlook on life. This is in contrast to the findings of other studies of autistic adults which reveal a steady, unchanging trajectory of isolation, loneliness and

longing for connection. Based on the findings of this study it may be that older adults with HF-ASC attain developmental gains in later life despite their autistic characteristics. Trends in normative ageing may provide a framework for understanding the functioning of older adults on the autism spectrum and inform future research on ageing with autism. This presentation represents an opportunity to share "their stories" and introduce a different perspective on what it might mean to grow old and reflect on life's journey as an autistic person.

Keywords: Aging, Emotional Life, Old age

Poster Number : SAT02-44

Comparison of characteristics of autistic adults between different age groups across the lifecourse in the UK-wide Adult Autism Spectrum Cohort study

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Introduction

The lived experience of autistic adults during adulthood is poorly understood. The ASC-UK cohort study aims to recruit a sufficiently large group of participants to investigate how the skills and needs of autistic people change across the lifespan. We compared demographics, autism symptomatology, rates of mental and physical health diagnoses, and everyday experiences of autistic adults from different age groups.

Methods

Participants were recruited through health teams, voluntary sector organisations, and the autism community and gave informed consent, or a relative/carer acted as 'consultee' (for those who lacked capacity to consent for themselves). All participants self-reported a diagnosis of autism spectrum condition, and completed a registration questionnaire and Social Responsiveness Scale-2 (SRS-2).

Results

1510 participants from four age groups (n=407, 16-25 years, n=530, 26-40 years, n=490, 41-60 years, and n=83, 61+ years) joined ASC-UK between 2015 and 2018 (45 months): 823 males, 653 females, 34 'other' gender/preferred not to report, mean age=37.0 years, SD=13.8, range=16-88). 1397 had capacity to consent for themselves (mean SRS-2 score=110.9 [SD]=28.8), 113

lacked capacity (mean SRS-2 score=125.6 [SD]=27.3). High rates of diagnosed depression (37-54%) and anxiety (43-55%) were reported across age groups. People in the youngest (16-25 years) reported lower rates of depression (37%) compared to those aged 26-60 years (52%) (p<.001). Rates of depression in the oldest group was not significantly different (43%). Sleep problems (22-29%) were similar across groups whilst the rates of gastrointestinal (GI) diagnoses (12-34%) significantly increased with age (p<.001). Participants aged 26-60 reported obesity (12% and 13%) more frequently than the youngest group (5%, p<.001) but not the oldest group (13%). Participants aged 26-40 (39%) and 41-60 (42%) were more likely to report being employed than 16-25 year olds (25%) (p=.001, p=.003), 21% of 16-25 year olds were in education. The majority of individuals live with a family member or partner: 16-25 (82%), 26-40 (62%), 41-60 (53%), 61+ (43%) and two-thirds of adults reported they spend time with friends.

Discussion

Rates of mental and physical health conditions and everyday experiences of autistic adults are strikingly similar across the lifespan. These results will inform hypothesis-driven accelerated cohort research studies and the development of effective life-stage appropriate support and interventions.

Keywords: Adult, Aging, Mental health

Poster Number : SAT02-45

Outpatient Psychotherapy for Adults with Asperger's Syndrome: Access, Treatment Satisfaction, and Preferred Modification

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Introduction

Asperger's syndrome (AS) is commonly associated with mental health difficulties. As a result more than 70% of adults with AS express the need for support by a psychotherapist (Gawronski 2011). However, persons with AS often highlight difficulties to access psychotherapeutical treatment, and the few adaptations made for their needs. Therefore, this project aimed to investigate access barriers and characteristics and determinants of AS patient satisfaction.

Methods

A nationwide anonymous questionnaire survey was performed on adults with AS. An age- and gender matched non-autistic sample with depression served as reference group. Data on treatment satisfaction was assessed using the Client Satisfaction Questionnaire by Attkisson and Zwick. Items to investigate reasons for seeking treatment and search- and treatment experiences were developed and the study was conducted in all parts by a participatory research group.

Results

Data was collected in 2017/2018. The eligible sample consisted of 262 adults with AS (62% female, mean age 37±12 years) We found that only 22% of adults with AS received psychotherapy and by this

significantly less treatment than controls (59%), even though both groups sought treatment for comparable reasons. A low level of expertise with autism was the main reason for being declined by therapists as well as a lack of knowledge about the diagnosis and its treatment plays a bigger role in determining treatment satisfaction for adults with AS. Individuals with AS unambiguously desired distinct adaptations for their treatment which reflect AS particularities in sensory processing and communication style.

Discussion

The results suggest the existence of a discrepancy between the determined requests for psychotherapeutic support and the actual realization of treatments in adults with AS, which should be addressed by the healthcare system. In fact, in a successive survey of more than 500 outpatient psychotherapists, a lack of knowledge was confirmed by the respondents and it was indicated that AS had played very little role in psychotherapist education and training. Disclosure of potential conflict of interest: None of the authors have any potential conflicts of interest to disclose. Ethical Approval: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable

Poster Number : SAT02-46

Sleep and school functioning in adolescents with ASD

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Introduction

Sleep problems are common in adolescents with ASD (Cortesi et al., 2010), with reported percentages of up to 88% (Hodge et al., 2014). While a growing number of studies show that sleep problems during adolescence have a major impact on (school) functioning in typically developing adolescents (e.g. Curcio et al., 2006), the relationship between sleep problems and (school) functioning in adolescent with ASD is not yet clear. The majority of studies

have used subjective measurements of sleep, which are known to have a poor reliability compared with objective sleep measures. Subjective sleep measurements are important to establish sleep quality, however, objective measurements can't be ignored (Goelma, 2018). Therefore, to identify relevant features of sleep variables in relation to (school) functioning, both objective and subjective sleep measurements are included.

Methods

With daily measurements over a period of 3 weeks, 20 adolescents with ASD and sleep problems were assessed on self-reported measures of sleep and (school) functioning. In the morning adolescents completed a sleep diary (e.g. sleep onset latency (SOL), number of awakenings, wake time after sleep onset (WASO), total sleep time (TST), last night's activities and electronic media-use). At the end of each day they completed questions about their (school) functioning (e.g. mood, concentration, fatigue). A parent and a teacher also completed questions about the adolescents' functioning. Additionally, in 10 adolescents, sleep was measured with a sleep tracker (Elan, Philips). Data were analyzed with network analysis, this is a new and promising analysis to establish a network representing the relations (edges) between directly measured variables (nodes), which can be performed on individual and group level (Costantini et al., 2015). In total, the network contains 17 nodes: TST, SOL, WASO, number of awakenings (measured with the Elan

and self-reported), sleep quality, mood, fatigue, stress, concentration, electronic media-use and caffeine use, physical exercise and mental effort (self-reported). Three separate network analyses with the same 17 nodes (at group and individual level) were performed: 1) aspects of sleep and (school) functioning measured by adolescents, 2) aspects of sleep and (school) functioning measured by parents and 3) aspects of sleep and (school) functioning measured by teachers.

Results

The results will be presented at the conference.

Discussion

The discussion will be presented at the conference.

Keywords: Sleep issues

Poster Number : SAT02-47

Understanding feeling of loneliness of adolescents with autism spectrum disorders

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Introduction

One of the features of autism spectrum disorders (ASD) is the difficulty in social interactions, including deficits in communication, emotional reciprocation and social skills. There are also frequent problems with establishing and maintaining social relations, functioning in a group of peers, which may lead to a high sense of loneliness. The aim of the study was to examine the relationship between loneliness, the intensity of autism spectrum disorders and cognitive functioning.

Methods

The study involved 50 adolescents with autism spectrum disorders from 13 to 19 years old and 50 neurotypic adolescents. The study was conducted using questionnaire methods - De Jong Gierveld Loneliness Scale and the Autism Quotient by Baron-Cohen questionnaire were used in the teen version. In addition, the quality and quantity of peer relationships was assessed. Also, test were carried out to assess the cognitive functioning of the subjects - both verbal and non-verbal. The subjects also underwent screening for depression. Tests were performed during an individual meetings.

Results

The results of the study showed that the feeling of loneliness is related both to the occurrence of autism spectrum disorders and their severity. There were also some connections between the sense of loneliness and the results of cognitive tests in the group

of adolescents with autism spectrum disorders. Twelve individuals with ASD met diagnostic criteria for depressive disorders, but none of subcejt from neurotypical group showed this type of tendency. There was also a significant difference in both quality and quantity of peer relationships.

Discussion

The results suggest that the perception of loneliness in the case of adolescents with autism spectrum disorders can be moderated by the level of their cognitive functioning. The understanding of the loneliness of teenagers with autism spectrum disorders raises doubts. Earlier research suggested that they may perceive the concept of loneliness as a situation of being alone, but not necessarily combined with negative feelings, as their typically developing peers do (Bauminger and Kasari, 2000). Results of the study partially confirm clinical experience showing that some people with autism spectrum disorders feel the need for social interactions, but they have difficulties in establishing and maintaining relationships

Keywords: Complex Autism, Emotional Life, Teenage

Poster Number : SAT02-48

Autism and finding meaning in life

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Introduction

Clinical practice shows that people with autism (ASD) can struggle with finding purpose in their life. Their way of detailed information processing and their need for completion leads to the need to know as precisely as possible what the purpose of their life is. Although some things in life are quite clear, such as what time the news begins and how old you are, there are no instructions on how to lead a meaningful life. This may be confusing and frustrating for people with ASD. Therefore, we aimed to gain more insight in how people with ASD find purpose in their lives and what may underlie a lack of purpose in these individuals.

Methods

Adults with ASD and their psychologists /therapists were interviewed. They were asked what their experiences are with how adults with ASD find purpose in their life. Further, it was discussed what may underlie a lack of purpose.

Results

First of all, it became clear that some adults with ASD who experience a lack of purpose see this as a fact of life which they accept. They do not suffer from this and do not feel the need for counseling

or therapy. Other people with ASD do suffer from a lack of purpose in their life. We distinguished the following underlying factors: The presence of symptoms of depression. Research shows that around half of people with ASD have one or more depressive episodes throughout life. A depression is characterized by a lack of interest in things and feelings of hopelessness. A lack of meaningful activities/sources. For the majority of people without ASD, contact with friends and family is one of the most important sources of life fulfillment. However, people with ASD often lack, or struggle with, social relations. For those who are also not able to work, it can be very difficult to find meaningful activities in life. Life stage transitions (like starting working life, first relationship) are often challenging for people with ASD, which is partly due to their difficulty with change. In these periods, they often experience higher stress levels and less opportunities for meaningful activities.

Discussion

With regard to a lack of purpose in life in people with ASD, it is important to first examine whether this is indeed a problem they are struggling with in their lives. If so, it is important to further analyze the underlying causes and consider relevant interventions. If not, therapy or guidance is often not necessary.

Poster Number : SAT02-49

Creating a route to the building of self-identity, confidence and inclusion: the Under Our Wing peer-mentoring project.

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Introduction

Increased awareness of autistic females has led to improved research focus on diagnosis, but little on areas of concern arising, eg mental health, safety, education. Awareness is not so far reflected in strategic planning or specific services. A research study 2011 found autistic girls experienced elevated anxiety and mental health issues with an overall theme of 'Where can we be what we are?', they felt there was nowhere they could 'be themselves'. In response, a local peer-support meet-up forum was founded. Evidencing the value of peer-support for mental health and wellbeing has been identified by the autistic community and some research

bodies as of priority importance, while the imperative for participatory research is gaining credence. In this context came the aim of designing, funding, delivering and evaluating a route to peer-mentoring for autistic girls and women.

Methods

2018-19, a 1 year autistic-led peer-support mentoring programme involved creation of a coherent pathway to participation, covering issues of safeguarding and risk, informed consent, specific needs and project limitations. Participants applied through an interview process, with 5 participants under 18 years and 2 through enga-

gement with a local school. The programme included training in mentoring skills, networking, business start-up, utilising creativity, IT skills, outdoors woodlands-based sessions delivered learning for self-care, confidence, team building. Externally conducted evaluation of the project used an established QOL tool alongside an innovative project-specific modification.

Results

The project was modelled as a co-creation between project team and participants, the (autistic) project manager and the (non-autistic) mentoring trainer were co-mentors for each other. Participants kept reflective diaries, submitted regular feedback forms and participated in evaluation interviews. Participants reported increased

self-confidence, sense of community and 'belonging' and personal insight.

Discussion

This innovative project modelled an autistic-led reflexive and iterative process, evolving in response to ongoing feedback from participants. Some barriers to engagement and learning were identified and the programme modified in response. Follow-up with this 1st cohort is planned and further peer-mentoring projects also. The maturity model co-constructed with the programme participants represents an innovative tool with potential for practical application and a conceptual framework worth further research.

Poster Number : SAT02-50

Can we predict Social Isolation in adolescence using development screening at 5 or 6 years old

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Introduction

If a preschool teacher can easily grasp the ASD characteristics of the child, that will enable to start developmental supports in early stages of the childhood. We developed a new screening tool that preschool teachers can easily grasp the state of preschool children. While studying the long-term course over 10 years in our cohort study, we examined how the ASD characteristics of children in early childhood grasped by TASP influences the adaptation to school and mental health in their elementary and junior high schools in our cohort study.

Methods

The sample comprised 3,717 participants (1,908 boys and 1,809 girls) of our cohort study investigated annually for 10 years between age 5-6 and age 14-15. We examined 3 kinds of developmental disorder symptoms (ADHD, ASD and DCD) assessed at preschools as predictors of developmental trajectories of 4 maladjustment variables (academic failure, peer problems, internalizing problems and externalizing problems) during 9 years in elementary and junior high schools using the conditioned latent growth model. Developmental disorder symptoms were rated by preschool teachers using our original scale, Transitional Assessment Sheet for Preschoolers (TASP). TASP consists of 35 items from 7 subscales (Hyperactivity/Impulsivity, Inattention, Social Interaction, Communication, Inflexibility, Fine Motor and Gross Motor) and its reliability and validity were examined from various aspects (internal and test-retest reliability and factorial, concurrent and predictive validity). Socio-emotional maladjustment was rated by teachers of

elementary and junior high school using SDQ. Academic achievement was measured with Kyokenshiki Norm Referenced Test.

Results

The conditioned latent growth model showed the following results: (a) Level of peer problem was predicted by high hyperactivity/impulsivity, poor social interaction, and poor gross motor skills through the impact of hyperactivity/impulsivity was diminished in high graders, (b) Level of internalizing problem was predicted by poor social interaction, poor communication skills, elevated inflexibility, and poor gross motor skills through impacts of communication and inflexibility were reduced in high graders.

Discussion

We found that ASD characteristics, grasped by preschool teachers in early childhood using TASP, predict social isolations and depressed states in their elementary and junior high schools.

Keywords: Assessment, Development, Mental health

Poster Number : SAT02-51

Behavior and emotional problems among 6-15 years old children with Autism Spectrum Disorder

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Introduction

Despite the growing number of research papers on the topic of autism, the lack of studies on autism in the Baltic States still remains. The aim of the study was to assess the peculiarities of emotional and behavioral symptoms among children with autism spectrum disorder.

Methods

The study was performed in the spring of 2018 in the University Hospital. A total 132 participants ranged in age from 6 years to 15 years 11 months, were included in the sample: ASD subsample $n = 33$ and normative subsample $n = 99$. Pervasive developmental disorders were identified according ICD-10-AM criteria by child and adolescent psychiatrist. Data from the intelligence test Wechsler Intelligence Scale for Children Third Edition (WISC - III) full scale were evaluated retrospectively from medical records. Full scale IQ ranged from 70 to 123 with a mean of 89.1 (SD = 13.3). Normative sample was collected from the primary care departments and had no history or current indication of psychiatric or physical problems. The groups were homogeneous both by sex and by age. The Child Behavior Checklist (CBCL) completed by one parent was used to investigate emotional and behavior symptoms. For nonparametric data statistical analysis was performed using Mann-Whitney test. T-test was used for statistical data, which followed a normal distribution. Data was analysed using Statistical Package for Social

Sciences (SPSS) version 21.0. A conventional p -value <0.05 was considered significant.

Results

Children with ASD scored significantly higher in all eight CBCL domains compared with control group ($p < 0,001$). We found that girls from control group had statistically significant more anxiety ($p = 0,037$), withdrawal ($p = 0,027$) and internal symptoms ($p = 0,012$). The girls in the control group, aged 6-11, had fewer anxiety, withdrawal and internal symptoms compared to older (12-15 years old) girls in the same group. Girls from the ASD sample were significantly more affected by somatic symptoms, especially in older group (12-15 years old).

Discussion

The study found that in adolescents with autism spectrum disorders, the manifestation of behavioral, emotional and social problems is higher than that of healthy peers. It is important to continue the study with a larger clinical and no clinical sample involving clinical no ASD group. There is still a lack of validated such golden standards as ADI-R or ADOS, so autism spectrum disorder were identified according ICD-10-AM criteria.

Keywords: Behaviour, Comorbidities, Mental health

Poster Number : SAT02-52

Treating Phobias in people with Autism and Severe Intellectual Disabilities

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Introduction

The development of cognitive behavioural treatments specific to type of anxiety has revolutionised treatment. They are based on the development of new theories of anxiety disorders and the use of verbal language combined with behavioural experiments to en-

able change (Cognitive Behavioural Therapy). Specific phobias are particularly common in people with autism. In practice fear of dogs has proved a major problem for community access of people with ASD, ID and limited communication. For people with ID, autism and limited communication skills both the assessments used,

and the CBT interventions appear inaccessible. Two studies are described which seek to address these difficulties.

Methods

Study 1: A systematic review of measures of dog phobia was carried out. A search of three online databases found 1381 publications which after deduplication and checking titles and abstracts left 21 to be studied in detail. Study 2: We describe the development of a treatment protocol for people with ID, autism and limited communication skills.

Results

Study 1: In the 1960s a simple measure of distance from the feared object was used, but this has been replaced with self-report questionnaires, of which the dog phobia questionnaire was used more than once. There is very little psychometric data on the scales used. Study 2: A flexible protocol of behavioural interventions including communication support (PECS, signing, visual schedules) and graded exposure to the feared object. Progress

along the hierarchy follows close observation of the participants behaviour and proceeds only as rapidly as the person's fear reactions allow.

Discussion

Study 1: For people with limited communication skills a carer report measure is required so that treatments can be evaluated. A proposed carer rating scale is described and further research is outlined to investigate its psychometric properties. Study 2: The assessment and treatment of anxiety in people with ID, ASD and limited communication is not well characterised. Our work indicates a way forward using carer report and observation to assess progress on a hierarchy and hence offers the possibility of more experimental designs in the future. Although the technique relies on graded exposure it is possible that cognitive elements are introduced through alternative communication techniques.

Keywords: Comorbidities, Intellectual disability, Intervention

Poster Number : SAT02-55

Associations between Cognition and Depression and Anxiety in Autism Spectrum Disorders - A Longitudinal Study

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Introduction

Depression and anxiety disorders are seen far more in individuals with autism spectrum disorders (ASD) than in the background population, and the estimated prevalence of these co-morbid diagnoses in ASD sums up to 80%. It is unknown why individuals with ASD have a higher prevalence of these disorders, but both depression and anxiety have been associated with ASD symptomatology, and it is possible that this increased risk derive from underlying causes, such as cognitive dysfunctions. Therefore, we aimed to study these co-morbid problems in a prospective design, where we examined the associations between depression and anxiety, and the three most prominent cognitive theories of ASD, Theory of Mind (ToM), Executive Functions (EF) and a Local processing Bias (LB). Additionally, we investigated the correlations to ASD symptomatology.

Methods

This was examined in a group of 21 high-functioning children (IQ>70) with ASD and a matched group of 30 children with neurotypical development (NTD). At two timepoints (10 years at T1, 14 years at T2), the children completed a battery of ToM and EF tasks and their parents completed questionnaires regarding autism symptomatology and mental health.

tic symptomatology and mental health.

Results

We found strong correlations between the parent-rated co-morbidity and the parent-rated ASD symptomatology although very few of these correlations held in the groups individually. Clinically observed symptoms (ADOS) and parental interviews (ADI) of ASD symptomatology was barely correlated to depressive or anxious symptoms. A general relationship between Theory of Mind (ToM) and symptoms of depression and anxiety was found at Time 1 and across time, but not at Time 2. Interestingly those individuals in the ASD group who showed persistently high levels of anxiety had a different trajectory of ToM performance, their ToM performance decreased, while the individuals with persistent low levels of anxiety improved their ToM performance.

Discussion

These results indicate that comorbid anxiety in ASD affects the ability to compensate for ToM disabilities.

Keywords: Anxiety, Cognition, Comorbidities

Poster Number : SAT02-56

Autism Spectrum Disorder, Nonverbal Learning Disability and Attention Deficit Hyperactivity Disorder: Overlaps and differences in emotional and socio-communicative abilities.

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Introduction

Children with Autism Spectrum Disorder (ASD), Nonverbal Learning Disability (NLD) and Attention Deficit Hyperactivity Disorder (ADHD) present some similar features, challenging their differential diagnosis. The aim of the present study was to determine similarities and differences across these clinical profiles in emotional and socio-communicative problems.

Methods

For this purpose, participants (N = 116) from 8 to 17 years with ASD (N = 29), NLD (N = 19), or ADHD (N = 29), compared with typically-developing (TD, N = 39), children were tested. Self-reports on anxiety and depressive symptoms and parent-reports on socio-communicative problems were administered. Linear regression models testing the fixed effect of Group were performed.

Moreover, a receiver operating characteristic (ROC) curve and the related area under the curve were estimated to express the clinical usefulness of the emotional and socio-communicative measures in discriminating among the groups.

Results

Our findings revealed traits of social anxiety in children with ASD. ASD and ADHD groups showed higher scores of depressed symptoms, anhedonia, disinterest and hopelessness than NLD and TD groups. In addition, children with ADHD showed a higher feeling of guilt than the ASD and TD groups. Impairments in pragmatics of language, social relations and interests emerged for all the clinical groups. ROC curves showed that these measures were useful not only in discriminating among the clinical groups and the TD group, but also within the clinical groups. In particular, the anxiety scores had a sufficient power in discriminating between the ASD and the

ADHD groups. While depression symptoms were sufficient in discriminate between ASD and NLD. Finally the indexes of pragmatics of language and social relations and interests had sufficient/good predictive power in discriminating among the three disorders with the ASD, who was the most impaired.

Discussion

In conclusion, confirming previous studies, our results showed emotional or socio-communicative problems in children with ASD, NLD and ADHD. In addition, the use of the ROC curves highlighted the usefulness of indexes of anxiety, depression and socio-communicative abilities in revealing similarities and differences across these disorders with important clinical implications.

Keywords: Emotional Life, Neuro-Developmental Disorders, Social

Poster Number : SAT02-57

Perception/action coupling in children with Autism Spectrum Disorders: insights from an eye-tracking study

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Introduction

At the basis of the build-up of sensori-motor, action and social interaction representations are the repetition of a gesture, the accumulation of experience, and the urge to interact with our environment. It has been hypothesized that the matching between an observed action and its associated representation contributes to action understanding, and that this perception/action coupling is impaired in ASD. Our hypothesis is that the integrity of this perception/action coupling is strongly dependent on action experience feeding up a motor repertoire. Here we aimed at quantifying, through measures taken from the visual exploration behavior, spontaneous distinction of actions presenting with a variable perception/action coupling in children, with Autism Spectrum Disorder (ASD) and in typically developed (TD) children.

Methods

While children (7-17 years) were passively viewing videos of daily actions presented either in the forward reading direction ("Forward", strong action/perception coupling) or in the backward reading direction ("Backward", weak action/perception coupling), an eye-tracking system measured the number and the duration of their eye fixations as well as variations of the pupil diameter.

Results

During the familiarization phase, we first verified that the two groups behaved similarly in terms of general attention to the videos. In a test of visual preference where the two types of videos, "Forward" and "Backward", were presented in competition, we found that the number and distribution of the fixation times were modulated by the strength of the perception/action coupling in TD children, but not in children with ASD. Moreover, the time course of the pupil diameter variation reflected the strength of the perception/action coupling in TD children, but not in children with ASD.

Discussion

We discuss these results in terms of differences in the motor repertoire, which is impoverished in children with ASD. On the whole, this study reveals that a 10 mn passive test with an eye-tracking system is sufficient to extract, from fixations and pupil dilatation measures, the presence of a perception/action coupling.

Keywords: Brain development, Neuro-Developmental Disorders

Poster Number : SAT02-58

What are the links between atypical sensory processing, adaptive functioning and maladaptive behaviours in autism spectrum disorder during childhood: Report from ELENA Cohort

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Introduction

Sensory processing allow to select, organize and associate several sensory informations from the environment in order to adapt the individual's behaviour. In children with Autism Spectrum Disorders (ASD), atypical sensory processing, adaptive difficulties, and problem behaviours are frequently reported. Our aims were to estimate the prevalence of atypical sensory processing and to investigate their associations with adaptive functioning and maladaptive behaviours.

Methods

Data were collected from a French prospective cohort of children with ASD (ELENA cohort *). A sample of 197 participants aged between 3 and 11 years were selected. Sensory processing was assessed through the Sensory Profile questionnaire (Dunn, 1999). Results are presented in four Quadrants: Sensory seeking, Low registration, Sensory avoiding, and Sensory sensitivity. Scores are interpreted according to the norms developed with typically developing children, which allow to define if the child's performance is in the typical or atypical range. Adaptive functioning was assessed by the Vineland Adaptive Behaviour Scales second edition (Sparrow, Cicchetti, Balla, 2005). Adaptive functioning is composed of three domains: Communication, Socialization and Daily living Skills. Maladaptive behaviours were assessed by the Aberrant Behaviour Checklist (Aman, Singh, Stewart, Field, 1985).

Results

Results showed a high prevalence of atypical sensory processing in children with ASD, 86.8 % . The majority of the sample had atypical scores in Sensation avoiding 78.1%, Sensation seeking 70.6%, Sensation sensitivity 65.3% and Low registration 55.4%. Atypical sensory processing was not associated with age, gender, cognitive level or symptomatology severity. Children with atypical Sensory seeking profile had lower adaptive functioning. We found a strong association between atypical sensory processing and maladaptive behaviours.

Discussion

Our results support the findings that atypical sensory processing is common in the large spectrum of ASD. Thereby, children with ASD and their families need to deal with them in everyday life. We highlight that atypical sensory processing are strongly associated with maladaptive behaviours. Atypical sensory processing might be one of the possible causes of challenging behaviours. For that reason it needs to be taken into account in early intervention in order to prevent subsequent challenging behaviours.* ELENA Cohort, to take note of the consortium: <http://elena-cohorte.org/Ina2/index.php>

Keywords: Adapting, Challenging Behaviour, Childhood

Poster Number : SAT02-59

Analog Code Research 31 children cohort with autism aged 6 to 11 years

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Introduction

Introduction Mathematical skills of children with autism have been rarely studied. Our study is to know if the analog code, which is predictor of success in mathematics, is deficient compared to the symbolic code. This study involves 31 children with autism aged between 6 and 11 years.

Methods

Methods After parental consent, 2 groups of children according to age (6-8 years and 8-11 years) were tested (Panamath, Tedi math, Zareki) to evaluate both analog and symbolic codes. We were searching for a link between mathematical skills and intellectual abilities of children or intensity of autism by correlating test results with the KABC2 scales (Kaufman Assessment Battery for Children 2) and the ADOS's score (Autism Diagnostic Observation Schedule). We used for statistical analysis the Pearson correlation coefficient.

Results

Results : 100% of the children in the 6-8 years group are in failure on the visual estimation test and 90% for the numerical scale test (analog code) and 60 to 90% for tests studying the symbolic code. In the 8-11 years group, 20 to 50% failed for tests studying the analog code, 10 to 30% for the symbolic code. When time is

taken into account, tests are massively failed in the 2 groups (70 to 100% failure). The search for correlations with the scales of the KABC is negative for the 6 to 8 years group. In the older group, results for the two codes are particularly correlated with scales of the KABC2 : planning ($p = 0.0007$ for comparison of numbers) and simultaneous ($p = 0.0003$ for numerical scale). The study of correlations with ADOS shows that the correlation is negative (more one has autism, the more mathematical difficulties), but not significantly. However the correlation with the test where time is taken into account is very positive with ADOS ($p = 0.0005$).

Discussion

Discussion : Children with autism fail massively mathematics and particularly the younger ones. The results show that the analog code is more negative than the symbolic code according to our hypothesis. It explains the difficulties in calculation of many autistic children but the improvement over time is encouraging. The study of correlations confirms simultaneous scaling of KABC2 as predictive of mathematical skills. The strong correlation between ADOS's score and failure for test where time is taken into account made us the question of a test of this type as a possible additional autism diagnostic tool probably with a larger population.

Keywords: Assessment, Diagnostic, Learning

Poster Number : SAT02-60

The relationships between motor skills and intellectual functions in preschool-age children with autism spectrum disorders

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Introduction

This study explored the relations between motor skills and intellectual functions in 4-6-year-old children with Autism Spectrum Disorders (ASD). Furthermore, we try to substantiate the reasons why ASD populations are frequently hampered by motor skills impairment.

Methods

This study investigated the links between motor skills and intellectual functions in the ASD population by administering and correlating Wechsler Preschool and Primary Scale of Intelligence (WPPSI-IV) and major components index with Peabody Developmental Motor Scales 2 (PDMS-2). ASD symptoms were measured using the Autism Spectrum Quotient—Children's Version (AQ-Child) or

Childhood Asperger Syndrome Test (CAST) by the clinical psychologists.

Results

Twenty nine children were included and the findings are as follows: 1. Moderate relationship existed between fine motor and matrix reasoning performance ($r=.41, p < .05$). 2. Moderate relationship between visual-motor integration and matrix reasoning was found ($r=.43, p < .05$). 3. A significant moderate correlation existed between the fine motor and similarities of verbal comprehension ($r=.39, p < .05$). 4. Grasp skill was moderately relevant ($r=.37, p < .05$) to similarities. 5. Gross motor skill had no significant correlation to each component of intellectual functions.

Discussion

The results of this study show that the matrix reasoning was moderately correlated to visual-motor integration ($r = .432, P < .05$).

This might be explained by some similarities existed across the visual-motor integration and matrix reasoning, such as matching identical figures, analyzing at least two dimensions information, and the object functions. Moreover, the literature found that the better similarities performance of WPPSI-IV was associated with the activation of dorsal anterior cingulate cortex (dACC) and dorsolateral prefrontal cortex (DLPFC). The human dACC and DLPFC were involved in visual spatial attention, action selection, coordinate eye movement and body movement. Therefore, similarities might relate to both fine motor skills and grasp skills. Finally, since gross motor skills generate less cognitive load than fine motor skills, no further significant correlation was found between each subtest of gross motor skills and intellectual functions.

Keywords: Cognition, Neurological Disorder, Preschool

Poster Number : SAT02-61

Etiological diagnosis in very young children with Autism Spectrum Disorder

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Introduction

Clarification of the DSM 5 diagnosis criteria, scientific research on early biomarkers, and progressive enhanced awareness of its general neuro-developmental dimensions, have contribute to early life Autism Spectrum Disorder (ASD) diagnosis. In terms of etiological workup recommendations, the consensus is that any children receiving an ASD diagnosis should have a genetic assessment, brain imaging and metabolic assessments would depend on additional clinical signs or symptoms (Frye RE 2015, Harrington JW et al 2014, Rossignol DA et al 2012). However in very young children, ASD could be the very first symptom of an altered brain development in the context of a metabolic (Schiff M et al 2011) or an epileptic disorder. Assuming that some of these disorders are treatable, early ASD diagnosis might drive changes in etiological workup. This work presents a literature review and a retrospective analysis of a young children cohort, assessed for functional and etiological ASD diagnosis in a Swiss tertiary center.

Methods

Retrospective study of the etiological workup performed in children assessed in a tertiary center over a period of 2 years (2017-2018).

Review of the literature.

Results

We present the descriptive statistics of the cohort's data, comprising epidemiological data, and clinical EEG, brain MRI and neuro-metabolic investigations results. We compare our results with the existing reviewed literature.

Discussion

Changes in clinical practices regarding etiological workup and diagnosis in ASD should be carefully considered in terms of children general health benefits, and health systems economical yield. As clinical data are more and more easily used in research (big data science) and allow for multicenter studies, standardized consensus about etiological investigations in ASD at different developmental time-points are needed. In the future, the output of these data's analysis could contribute to open new perspectives for research on ASD, either on biomarkers, or intervention's follow-up.

Keywords: Complex Autism, Diagnostic, Epilepsy

Poster Number : SAT02-62

Mentalizing styles in average-IQ adults with autism- and schizophrenia spectrum disorders and its relationship with autistic features and psychosis symptoms

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Introduction

People with autism spectrum disorder (ASD) and schizophrenia spectrum disorders (SSD) have difficulties in understanding ambiguous social stimuli, showing an impaired functioning when compared with non-clinical population. The aim of the present study was to explore differences in the processing of social ambiguous information in adults with ASD and schizophrenia spectrum disorders (SSD), and its relationship with autistic and psychosis features.

Methods

An ASD sample (n=19) was compared with a sample of SSD patients (n=16) and non-clinical individuals (n=21), in a modified version of the Movie for the Assessment of Social Cognition (MASC-R). The Movie for the Assessment of Social Cognition (MASC) (Dziobek et al., 2006) is a 15-minute video-task first developed to assess the ability to infer mental states, such as emotions, thoughts and intentions. In the film, four characters interact with each other, while some on-screen questions appear in between

the narrative. The participant must decide out of four alternatives, what is the "correct" answer: "correct ToM" (an adequate ability to infer mental states in others), "excessive ToM" (a tendency to over-interpret ambiguous information), "reduced ToM" (a literal understanding of ambiguous information), "absence of ToM" (a severe incapacity to infer mental states in others). The present study introduces a variation in the original task (MASC-R), asking the subject not to choose only one alternative, but to rank the four of them on the basis of the suitability of each one.

Results

«Compared with the SSD group, the ASD group had a lower proportion of «Theory of Mind» (ToM) responses (p 0.04)

Discussion

whereas the difference was much more pronounced with the non-clinical group (p 0.00). Regarding the mentalizing styles

Keywords: Cognition, Mental health, Social

Poster Number : SAT02-64

Sensory processing and executive functioning in adults with autism spectrum disorder

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Introduction

Both sensory issues and impairments in executive functioning (EF) can lead to problems in day-to-day functioning for adults with ASD. In this study, we expect to find that sensory issues can predict impairments in EF. Since there are gender differences in ASD, it is expected to also find these regarding sensory reactivity and EF.

Methods

The self-reports for sensory issues (using the GSQ) and EF-impairments (using the BRIEF-A) of 30 men and 30 women with ASD, 20 neurotypical men and 24 neurotypical women were compared using MANOVA. Second, two-tailed bivariate correlational analyses were conducted to examine the relationship between the GSQ and BRIEF-A. Afterwards, relevant variables were incorpo-

rated into models for linear multiple regression analyses.

Results

Men and women with ASD reported more sensory and EF-issues than neurotypical adults and women with ASD reported the most issues. Women with ASD only reported more behavioral regulation impairments than men with ASD. Correlational analysis showed much more significant correlations for women than for men with ASD. Regression-models indicated that hyporeactivity to visual information explained most of the variance for EF impairments, especially for men with ASD. For women proprioceptive hyporeactivity explained most of the variance.

Discussion

Findings are in line with earlier studies indicating that adults with ASD experience more sensory issues than neurotypical adults, predominantly women with ASD. Maybe therefore, sensory issues also seem to be more related to EF-impairments for women with ASD. For men, EF-impairments could mostly be explained by a lower awareness for visual information. As for women, a lower body-awareness seems to play a more important role.

Keywords: Adult, Behaviour, Mental health

Poster Number : SAT02-65

Electrical epilepsy status during sleep (ESES): A case report and family experience

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Introduction

Epilepsy is one of the comorbid conditions of autism spectrum disorders and is characterized as brain disorder by an enduring predisposition to generate unprovoked seizures that are repeated during twenty four hours. Research indicate that it affects 5-40% population of persons with autism spectrum disorders (ASD). Clinicians look for atypical electroencephalogram (aeEEG) readings to inform the diagnosis. Practice shows that EEG is mostly shot during sleep for persons with (ASD). This is the best way to recognize continuous spike-and-wave patterns during slow wave sleep (CSWS) and is called electrical status epilepticus during sleep (ESES). Some researchers indicate it affects 0,2-0,5% of childhood epilepsy (which prevalence is 0,5-1% of all epilepsy). Different types of seizures occur when one has ESES (absence, partial, myoclonic, tonic-clonic,...) and changes neuropsychological functioning of persons affected. This very rare condition, affects not only person with the status but it's family as well. Therefore, the goals of this research were to examine the change of symptomatology of ASD and how does it affect family quality of life.

Methods

This paper reports on a case of 13 year old girl with ASD with ESES that was conducted in January 2019. Data was collected using triangulation. This means that more than one method to col-

lect data was used. Regarding the goal to examine the change of symptomatology, monitoring of various experts was collected compared the time before and after ESES in order to understand neuropsychological changes and "Assessment of basic language and learning skills" test was used for the evaluation of abilities after ESES was developed. Regarding the examination of its affect on family life, mother was interviewed using semi-structured interview.

Results

Epilepsy was developed in 10 years of age but ESES was first diagnosed after three years. Data shows changes regarding behaviour, communication, intellectual, motor and language capacities. Because of very frequent seizures during day and night, many family activities are moved to home environment. Family feel support provided by medical clinicians but regarding diagnosis and treatment, results indicate delay support. Results confirm the difficulties faced by children and their families with rare conditions.

Discussion

This study emphasize the importance of medical and therapeutic work of children with ESES.

Keywords: Epilepsy, Family, Sleep issues

Poster Number : SAT02-66

Gross motor skills in autism, a forgotten skill?

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Introduction

Motor skills in ASD are often approached from the perspective of diverse disorders. Based on a clinical case of a child with autism, gross motor skills are approached from the perspective of a skill to be highlighted.

Methods

A review of literature shows that most authors report a higher motor deficit associated with a more severe ASD and a low intellectual level. Psychometricity (occupational therapy) follow-ups are most often prescribed in this deficit setting or when the child's young age or the developmental level, particularly in language, does not allow for further follow-up.

Results

In the face of these observations, the subject we present raises questions. He is a 35-month-old child with a typical autism diagnosed by ADOS and ADIR. The etiological assessment is normal. The Mullen's profile is marked by a high deficit level in all areas except gross motor skills with good coordination planning and movement execution skills, a vestibular and proprioceptive system well developed that allow complex motor actions such as climbing, balancing on small surfaces, sensations sought by the subject. Wechsler scales aren't possible. According to the usual

methods of calculating a global developmental quotient, which include fine motor but exclude gross motor skills, he is considered to be in deficit even if he can express a very good competence which is not common in ASD.

Discussion

This conducts to a more general reflection. First are we right not to consider gross motor skills in assessing the developmental quotient? Second gross motor skills are not highly valued and even can constitute a barrier to care. Indeed follow-up methods for young children are based on dyadic pleasant relationship of play. It requires stimulation provided by the adult to match the child's desired sensations with the aim of developing social and communication interaction. Here the adult is put in difficulty to imitate or produce these global motor actions because of the tiredness that it causes in him (because of porting for instance) or due to his reluctance to promote physical activity out of the ordinary (such as seeking balance). The older the child is, the less physically able the adult is to offer this stimulation. This lack of dyadic play could have a negative impact on the child's development. It therefore seems in such a case to offer intensive motor care from an early age, based on motor activities in line with the child's skills.

Keywords: Adapting, Assessment, Treatment

Poster Number : SAT02-67

Cognitive and socio-emotional development of children with autism spectrum disorder (ASD) and intellectual disability from several European countries

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Introduction

Some researchers have suggested that nationality affects the prevalence rate, diagnosis, and social representation of disorders

and symptoms. Rare studies were concerned with psychological development comparative analysis between countries. This study has the objective to investigate the similarity or not of cognitive and

socio-emotional developmental profiles of children with ASD and Intellectual Disability from four European countries and the relationship between these and the degree of severity of autism and overall development level.

Methods

Participants comprised 105 European children with ASD (22 girls , 83 boys) diagnosed by psychiatrists and psychologists according to ICD-10 and DSM-IV-TR criteria and Childhood Autism Rating Scale (CARS), ranged in chronological age from 18 months to 14 years, with an average of 5 years and 3 months who had developmental levels of less than 24 months. Individuals were tested using the SCEB (Social Cognitive Evaluation Battery, Pearson-ECPA, 2007) by trained and experienced psychologists and recruited from public and private institutions. SCEB permits to assess developmental levels of 16 functional abilities and heterogeneity indexes in both cognitive and socio-emotional domains.

Results

Results showed evidence of a similarity in the heterogeneous co-

gnitive and socio-emotional developmental profiles of all the children, whatever their country of origin, and a relationship between this developmental heterogeneity and the degree of severity of autism and overall development level. Moreover, some interaction effects of weak intensity were noted between groups of children of the four different nationalities concerning the development of some functional abilities of the SCEB.

Discussion

This study indicates the universality of atypical development in children with autism including very developmentally disabled ones, notably characterized by the socio-cognitive developmental heterogeneity. It confirms the interest of comparative and inter-country studies about neurodevelopmental disorders such as ASD and the development of assessment instruments adapted both to this clinical sub-group of children with ASD and severe or moderate ID and to each country, in order to carry out individualized interventions.

Keywords: Assessment, Culture, Development

Poster Number : SAT02-68

The night is the hardest time to be. The sleep experiences, perspectives and needs of autistic adolescents

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Introduction

This is the first study to utilise, a modified version of a participatory methodology, Photovoice, combined with sleep technology (actigraphy) and phenomenology to understand autistic adolescents everyday lived experience and to investigate the ways in which ways different types of anxiety and sensory issues contribute to sleep difficulties experienced by autistic adolescents.

Methods

36 autistic adolescents were recruited, aged 12 to 17, from 4 different cities across the UK. Background information were collected using a number of psychometric tests including anxiety, sensory profiles and severity of autism rating scales. Autistic adolescents were involved by collecting photo and sleep data by themselves, determining the content of the data, and analysing and interpreting the data that consist of their observations, experiences and reflections as well as how they negotiate and construct reality through their everyday interactions in their familiar environments. Photovoice protocols were combined with Interpretative Phenomenological Analysis.

Results

Adolescent-driven content analysis identified five major categories:

school related anxiety (27.06%), bedtime use of video game networking (11.05 %), sensory difficulties (25.04%), special interests (20.40%), sleep hygiene routines (16%). Interpretative Phenomenological Analysis identified important topics. Three master themes emerged: (i) the perceived night time difficulties in adolescents' lives such as sensory overload and performance anxiety and uncertainty, (ii) coping strategies including night time reading as a source of companionship and special interests to cultivate positive emotions during the night time, (iii) the importance of personalised and unique environmental sleep hygiene and sensory approaches.

Discussion

With this study we moved beyond the common narrative of considering sleep problems as a deficit in the behavioural repertoire of the teenager. We were the first to obtain personal accounts on sleep in flexible and creative ways, honouring autistic people as experts by experience. A strong sense of the importance of the "feeling good" factor during the day and sensitive individualised approach during night time was expressed throughout the interviews. Such information is central to the goal of designing sleep support models by clinicians .

Keywords: Anxiety, Sleep issues

Poster Number : SAT02-69

Hyperlaxity evaluation and sensory/motor profiles in 3 groups with abnormal connectivity spectrum disorders (asd, adhd, ts) compared to controls

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Introduction

Hyperlaxity is a common condition in general population with a prevalence of 20-30%. Hyperlaxity shows a higher prevalence in Abnormal Connectivity Spectrum Disorders, above all in Autism Spectrum Disorder and ADHD. Previous works reported a connection between hyperlaxity and sensory/motor profiles. The aim of our study is to evaluate the prevalence of hyperlaxity in three samples of children with neurodevelopmental disorders and one sample of healthy controls, in order to determinate whether hyperlaxity and the severity of clinical conditions are related, or could play an etiopathological role.

Methods

We recruited 85 patients belonging to three different groups according to DSM 5 diagnostic criterias (ASD, ADHD, TS), giving them a score for laxity (Brighton/Beighton scores). A sample of 31 healthy controls age-matched were evaluated using the same protocol to collect normative data. All children aged between 8 and 15. Exclusion criterias were moderate to severe intellectual disability and the presence of a neurological or orthopedic condition. All

participants were finally assessed using semistructured interview, parents structured questionnaires (CBCL and DCDQ) and cognitive profiles. In particular, regarding cognitive profiles we evaluated discrepancy between V-IQ and P-IQ. For the autistic group ADOS evaluation was also performed.

Results

Preliminary results show significant differences in laxity scores and cognitive discrepancies comparing the three groups of ACSD with the controls. This study shows that high laxity scores correlate with dysfunctional alterations of cognitive profiles.

Discussion

It is possible that the three groups, recently included in ACSD, show different gradients of disability compared to controls. In particular, the most compromised group among the three groups of our survey is Autism Spectrum Disorder.

Keywords: Cognition, Diagnostic, Intellectual disability

Poster Number : SAT02-70

A Sensitive Measure of Social Interaction Styles and Social Vulnerability in Developmental Disorders - Moving Beyond the Constraints of the Social Responsiveness Scale 2

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Introduction

The Social Responsiveness Scale (SRS-2, Constantino & Gruber, 2012) is the most widely used, standardised measure to examine social functioning abilities/disabilities in developmental disorders. However, evidence suggests the SRS-2 lacks specificity in capturing subtle social differences between developmental groups. Using a new parent-report questionnaire, this project aimed to probe social interaction styles in greater detail, and provide suffi-

cient specificity to understand social skills that transcend diagnostic boundaries, alongside those that might be syndrome-specific. This poster focuses on 2 objectives: to capture i) the (a)typicality of social interaction styles with peers versus adults, and ii) evidence of social vulnerability within the social profiles.

Methods

We collected questionnaire data from 94 parents of children with

developmental disorders, including Autism (n=29), Williams syndrome (WS, n=29) and Attention Deficit Hyperactivity Disorder (ADHD, n=36). A subgroup of parents completed the SRS-2 to allow comparisons across measures.

Results

The mean for all groups showed significant levels of social atypicality as measured by the SRS-2. On the social interaction questionnaire, mapping to objective (i) a 3x2 ANOVA analysed whether social interaction styles differed depending on the person (adult vs peer) and diagnostic group. There was a significant personX-group interaction suggesting social interaction atypicalities not only differed depending on whether the interaction was with an adult or peer, but also by diagnostic group. While there was no significant difference between adult and peer interaction ability in Autism or ADHD, the WS group showed more atypicalities with peers than adults. Mapping to objective (ii) a one-way ANOVA revealed no

significant difference in mean social vulnerability between groups. Importantly, the social vulnerability levels reported for all groups were significantly higher than from a 'typical' sample, suggesting heightened social vulnerability across these groups.

Discussion

These data provide evidence of overlapping social atypicalities in Autism, WS and ADHD. Furthermore, they suggest that social atypicalities may vary depending on who the child is interacting with, but that the pattern may be syndrome-specific, and this is important for theory and intervention. The social vulnerability data emphasise the necessity to capture social skills accurately in developmental groups and the potential consequence of atypical social functioning.

Keywords: Neuro-Developmental Disorders, Social

Poster Number : SAT02-71

The relationship between gastrointestinal problems, sleep disturbances and adaptive behaviour in children with autism spectrum disorder

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Introduction

Many children with autism spectrum disorder (ASD) suffer from comorbid medical symptoms, including gastrointestinal (GI) and sleeping problems. These conditions may affect the adaptive behaviour, which reflects an individual's ability to meet the demands of everyday life. Therefore, the aim of this study was to investigate the links between GI disturbances, sleeping difficulties, adaptive behaviour and the severity of ASD symptoms.

Methods

Data regarding demographic characteristics, GI symptoms, sleep disturbances and behavioural symptoms were collected. Questionnaires GI severity index, Children's Sleep Habits Questionnaire (CSHQ), Vineland's adaptive behavioural scale (VABS-3) were used. ASD symptoms were evaluated with ADI-R and ADOS-2.

Results

Children with more severe ASD symptoms had lower adaptive functioning. Children with more severe GI symptoms and sleep disturbances had lower performance in communication, daily living

skills, social communication, and problem behaviour.

Discussion

A better understanding of the impact of gastrointestinal and sleeping problems on adaptive behaviour in ASD children may be important in implementing personalised therapeutic approach. The authors declare no conflict of interest.

Keywords: Adapting, General health, Sleep issues

Poster Number : SAT02-72

Age of First Walking and Associations with Symptom Severity in Children With Suspected or Diagnosed Autism Spectrum Disorder

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Introduction

Age of first walking (AOW) is reported to be delayed in autism spectrum disorder (ASD) compared with typical development, and has been discussed as a potential early marker for ASD. However, the relationship between AOW and variations in ASD symptoms across different neurodevelopmental disorders is largely unknown.

Methods

This study involved analyses of data from an ongoing large multi-site study of neurodevelopmental disorders. The sample included 490 children (23% females) evaluated for 'suspected ASD' by specialist health services, differentiated into 'ASD' (n=376) and 'non-ASD' (n=114) diagnoses, with varying cognitive abilities. Mean (M) age at inclusion was 11.1 years (standard deviation (SD) = 3.7). Autistic symptom severity was assessed with total scores from the Autism Diagnostic Interview-Revised (ADI-R), the Social Communication Questionnaire, and the Social Responsiveness Scale. AOW, sex, age, nonverbal IQ, and symptom severity was compared between the ASD and non-ASD group. Furthermore, we investigated the associations between AOW and symptom severity independent of ASD diagnosis. Sex differences were explored. Available norms for AOW allowed for comparison with typically developing children.

Results

Mean AOW (months) was delayed in ASD (M = 14.7, SD = 4.3) compared with non-ASD (M = 13.8, SD = 2.9), $p = .005$. Significant delays compared with population norms were found for both groups

($p < .001$). 31% of children in the ASD and 25% in the non-ASD group were characterised as "late walkers" (AOW at or after 16 months). AOW was significantly associated with autistic symptom severity. The strongest association was found with ADI-R, where AOW explained 7.0% of the variation after adjusting for potential confounders ($p = .02$). Contrary to population norms, females had a tendency to delayed AOW (M = 15.0, SD = 4.5), however not reaching significance level. AOW differed significantly between the two diagnostic groups in males ($p = .001$), but not in females.

Discussion

Our findings support that, although not being unique to ASD, delayed AOW occurs commonly in ASD and is associated with symptom severity. Thus, ASD should be considered as an actual differential diagnosis in cases with delayed AOW, perhaps particularly in females. The underlying mechanisms and clinical implications should be investigated in prospective studies.

Keywords: Assessment, Gender, Neuro-Developmental Disorders

Poster Number : SAT02-73

Medical care training intervention for children with Autism Spectrum Disorder**Authors:****Jérémy Bourgeois**, Fondation Lénval pour enfants et adolescents, Nice, France**Frédéric Perrel**, Centre Ressources Autisme PACA Antenne de Nice, Nice, France**Amandine Monnot**, Centre Ressources Autisme PACA Antenne de Nice, Nice, France**Prescillia Pierron**, Centre Ressources Autisme PACA Antenne de Nice, Nice, France**Sylvie Serret**, CHU Lénval, Nice, France**Introduction**

Medical care in children with Autism Spectrum Disorder (ASD) are frequently described as causing anxiety and behavioral disturbances, which interfere with their abilities to receive appropriate care (Raymaker et al., 2016), leading to increased hospitalizations and use of psychotropic treatments, and reducing quality of life and lifespan (Carbone et al., 2015). In accordance with french national recommendations (HAS, 2012), we developed a procedure for 1/ assessing the abilities to receive and participate in medical care, and 2/ training the lacking abilities in standardized learning situations. This intervention was evaluated with children with ASD who were unable to access to some needed medical care.

Methods

Typical behavior in medical context was assessed with a questionnaire resulting in a participation score (SPPS). Previous testing defined a cut-off below 65/100 to indicate the need of a training intervention. The presence of six skills considered as mandatory for medical were assessed (acceptance of proximity, position, contact, climbing, examination, and affixing), lacking skills were trained through a standardized individual procedure, acquired skills were then transferred to mock specific medical situations trainings. 10 children with ASD were evaluated, aged from 4 to 17 years old (mean age: 11.7 y.o.). Pre-training SPPS varied from 7 to 42 (mean

score : 25). All children had at least two lacking skills. The intervention was conducted in the Autism Ressources Center of Nice by a specialized nurse. The effect of the intervention was assessed by measuring the number of training sessions to complete the objectives, the evolution of the SPPS, and the success in receiving the medical care for which they were trained.

Results

The number of training sessions varied from 5 to 20 (10.5 sessions on average). Post-training SPPS varied from 50 to 86 (mean score: 64.9). After the training, all children were able to receive the trained medical care (radiology examination, cardiac examination, biological investigation, or blood test).

Discussion

Our results are encouraging, as they provide evidence for the effect of the intervention. Following a limited number of training sessions, all children were able to receive and participate in their medical care. These results allowed our team to adapt the procedure to a computerized tool: CLEAS, an Android application which provides the standardized evaluation tools and training procedure.

Keywords: Care, Somatic health, Training

Poster Number : SAT02-75

Initial somatic assessment during the autism spectrum disorder diagnostic process : a systematic review of international clinical guidelines**Authors:****Anouck Amestoy**, Centre Hospitalier Charles Perrrens, CRA, Bordeaux, France**Manuel Bouvard**, Centre Hospitalier Charles Perrrens, CRA, Bordeaux, France**Tom Dauchez**, Centre Hospitalier Charles-Perrrens, CRA, Bordeaux, France**Introduction**

Autism Spectrum Disorders (ASD) are neurodevelopmental disorders highly associated with various somatic conditions that can be hidden by core symptoms of ASD and complicate diagnosis. Identifying co-occurring disorders challenges the best effective

health and social care in this population and influence the long-term outcome. Process of ASD diagnosis have to integrate systematic somatics investigations in order to adjust medical and social supports.

Methods

A systematic review of international clinical guidelines for ASD diagnosis assessment published from 1 January 2005 was performed. Thirteen international guides were selected. We first conducted a quality appraisal selection, according to the Appraisal of Guidelines Research and Evaluation, second edition tool. Then, we performed a comparative analysis of selected documents on the basis of co-occurring somatic disorders investigations process.

Results

Although the international clinical guidelines are heterogeneous in quality (methodological score lies between 33 for the American Academy of Pediatrics clinical report and up to almost 100 for National Institute for Health and Care Excellence guideline), they share homogeneous content concerning initial somatic assessment. Somatic disorders described in all guidelines are frequent and achieve consensus. In all guidelines, initial diagnosis processes are mainly recommended to be performed by a multidisciplinary team involving pediatric, neuropsychiatric and genetic specialists. Clinical examinations appeared to be base for the

assessment of somatic conditions in the guidelines. Systematic genetic investigations are recommended by 40% of the guidelines, and metabolic, electroencephalographic or imaging investigations were mostly recommended when indicated by the presence of warning signs for clinicians.

Discussion

In accordance with this results, to perform a systematic and comprehensive initial somatic assessment during the ASD diagnostic process, multiple specialists are required and consensual warning signs must be screened. In order to help clinicians and coordinate between professionals in the process, an « addressing tool » that could be a coordination tool between professionals would be helpful. This tool may provide support for a systematic screening that can reinforce epidemiological data on somatics co-occurring disorders in ASD.

Keywords: Comorbidities, Diagnostic, Somatic health

Poster Number : SAT02-76

Impact of somatosensory orthoses on behavioral and postural control in individuals with autism and severe proprioceptive dysfunction

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Introduction

Compression garments (CG) are an adjuvant treatment for Generalised Joint Hypermobility (GJH) including Ehlers-Danlos syndrome hypermobility type. Their action is likely to be related to a better proprioceptive control. We aim to explore the use of CG in individuals with autism and severe proprioceptive dysfunction (SPD) including some with GJH on postural control and challenging behaviors.

Methods

We retrospectively describe 15 patients with autism and SPD, including 7 with comorbid GJH, hospitalized for major challenging behaviors with remaining behavioral symptomatology after multidisciplinary approach including medication, treatment of organic comorbidity and behavioral restructuring. Each patient received a compression garment orthose to wear at least 1 hour/per day for 6 weeks. We assessed participants at baseline, 2 weeks and 6 weeks for challenging behaviors with the Aberrant Behavior Checklist (ABC), sensory integration with the Dunn questionnaire, postural sway and motor performance through a self-designed motricity path.

Results

14 patients achieved the protocol. We found a significant effect on most ABC rating scores at 2 weeks that persisted at 6 weeks (total score, $p=.004$, irritability, $p=.007$, hyperactivity, $p=.001$, lethargy, $p=.001$). Postural control in dorsal and profile position significantly improved before and after wearing compression garments ($p=.006$ and $.007$, respectively). Motor performance was also significantly improved. However, we found no significant change in Dunn sensory scores. During the 6-week duration of the open trial, the treatment was overall well tolerated (one patient only did not stand wearing tight clothes). A comorbid GJH was not associated with a better outcome.

Discussion

Compression garments appear to be a promising adjuvant treatment for both behavioral and motor impairments in individuals with autism and SPD. Through a developmental approach, we will discuss their clinical relevance on proprioception, ASD. We will list the methodological improvement necessary for future study

Keywords: Challenging Behaviour, Comorbidities

Poster Number : SAT02-77

Physical development as a chance for autism

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Introduction

I see a lot of women in Ukraine who is still doing many home tasks, but in addition they knew everything about earning money, becoming independent. But special children with features of behavior and perception could be born anyway. I could help them because I have very different educations and experiences: philology and physical rehabilitation, individual fitness training at sports gym. Also I developed myself in moving, dancing, and arts: spent 12 years in choreography and left drama studio at Les Kurbas theatre in Lviv. Also I have been working as school teacher, tutor and animator. So my goal is to combine all my rich experience and to give health, strength, creative happiness to children and mothers. I see the development of children, the success and understand and feel that they need more. It also gives happiness to me.

Methods

The methods which I use are all about combination of physical trainings and creation of special atmosphere. In future I want to create sports center for people with autism. As I see now boxing classes is very effective for development of strength and coordination. So I plan that in my sports center there would be boxing classes, fitness gym, SPA, hippotherapy, choreography, rock climbing, rolledrom,

massage for children and mothers.

Results

Now I already have regular classes with autistic children, children with Asperger syndrome and others. Due to my project I see the first results now: children adapt well in groups, their socialization is much better, behavior and discipline becomes much better in competitive relays. The proprioception, visualization and coordination works in box and fitness gym. In the end of our trainings we do some yoga exercises and get encouraging. During the classes we use visual cards for some tasks, stopwatch, music, work with whistle. Now I have two groups: younger (5-10 years old) and older (11-20 years). And the number of children grows constantly.

Discussion

The great part of work I do with mothers: it's very good for them to meet each other, to consult with me about healthy food and the food for their special children. It is also very important to do physical trainings with mothers for their beauty, health, weight loss, healthy muscle tone, joy and the sense of life and wish to create something better. I think that happy mother is a way to health and strong child.

Poster Number : SAT02-78

Safety and tolerability of second-generation antipsychotics: a naturalistic prospective study

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Introduction

Children with Autism Spectrum Disorders (ASD) may present with behavior problems that, posing a health threat to both patients and caregivers, often demand the use of pharmacological therapies. Antipsychotic drugs are currently the main treatment for these problems and, by virtue of better safety profiles, second-generation antipsychotics (SGAs) are preferred. Although SGAs are recognized to be efficacious for the control of behavior problems,

their true effectiveness comprises a balance between risk and efficacy, considering also the quality of life of patients and caregivers. Non-interventional long-term studies are needed to provide evidence focused on patients and caregivers that may inform more correctly than clinical trials on the real place in therapy for SGAs

Methods

We conducted a 3 years multi-site observational study on the tole-

rability of SGAs, mainly risperidone and aripiprazole, used for the treatment of irritable children affected by ASD and/or intellectual disability. Data were collected almost every 3 months, following the clinical routine. Assessments comprised details about drug therapies, routine hematochemical exams, collection of adverse drug reactions, details about the persistence in therapy and causes of dose change/drug withdrawal. We focused our analyses on metabolic adverse reactions and on the impact of drug discontinuation

Results

More than half of patients discontinued their therapies after 2 years of follow-up, mostly due to drop-out. The most frequent treatment-limiting adverse reactions were metabolic disturbances and weight gain, stressing how events that are not clinical emergencies may still be very important for the quality of life of patients and caregivers, to the point of causing drug withdrawal. Focusing on body weight, we observed how patients treated with SGAs tend

to reach a stable status between being overweight and obese. Patients who gain most weight may be those who progressively withdraw from treatment, further highlighting the importance of the physical consequences of psychiatric drug therapies

Discussion

We observed that, in spite of the proven efficacy of SGAs to treat behavior problems, their real life tolerability is low, due to adverse physical consequences. These possibly reduce the quality of life of patients and caregivers, who opt for dropping out of treatment. The use of SGAs in this clinical context currently appears as a bargain between mental and physical health that still demands improvement

Keywords: Challenging Behaviour, Childhood, Quality of life

Poster Number : SAT02-79

A systematic review of strategies that influence physical healthcare access for autistic adults

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Introduction

Some physical health conditions are reported more frequently by autistic people compared to the general population (e.g. cardiovascular disease). Autistic people may be significantly less likely to access screening services (e.g. cervical screening). Recent studies reported an elevated risk of premature mortality for autistic people compared to the general population. We aimed to complete a systematic review of the literature to inform studies that aim to improve health and healthcare for autistic people.

Methods

Inclusion criteria: Qualitative, quantitative, and mixed-methods studies published in English, with a sample, or sub-sample of autistic adults (age 16 years+), includes barriers that prevent effective access to physical healthcare or, factors facilitating healthcare. Databases (including CINAHL, and MEDLINE) were searched using a broad list of terms agreed by health professionals and researchers. The Qualitative Assessment Tool for Studies with Diverse Designs (QATSDD) was used to evaluate the methodological quality of studies.

Results

5,177 records were included and 3,308 articles were screened by title and abstract (n=2,139 duplicates). 32 articles were assessed for eligibility by full-text read through. Six articles were retained for inclusion in the qualitative synthesis. The QATSDD was completed by two independent raters (ICC=0.97, p<0.001). Studies varied in methodology: two quantitative papers, two qualitative studies about healthcare experiences, and two mixed methodology studies. Quantitative and qualitative data identified similar barriers to physical healthcare access including: anxiety, sensory sensitivities, negative experiences with professionals, and problems with patient-provider communication. One study testing a toolkit for improving patient-provider communication showed a significant reduction in barriers to healthcare access, showing healthcare access for autistic adults can be improved.

Discussion

Autistic people face diverse barriers to accessing healthcare, helping autistic people access healthcare more effectively is likely to

require a personalised approach. Our research team is building on these findings through projects that evaluate ways of improving access to healthcare for older autistic adults, and identifying treatable health conditions through specific health checks for autistic people.

Keywords: Intervention, Services, Somatic health

Poster Number : SAT02-80

Celiac Disease in Autism Spectrum Disorders: a comorbidity?

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Introduction

Autism Spectrum Disorders (ASD) are typically associated with infection, autoimmunity and an elevation of inflammatory markers, particularly affecting the digestive and nervous systems. A gluten-free (GF) diet is often followed by parents with children on the spectrum in the hope to alleviate some of their symptoms. However, limited scientific research has been carried out until recently supporting the possibility of Celiac Disease (CD) as a comorbidity, and results of existing research have shown inconclusive or mixed outcomes. Is a GF diet just a fad and should not be recommended to any child on the spectrum as a dietary treatment? Or is it possible to identify a class of ASD patients with specific genes that could predispose them to a higher sensitivity towards inflammation/autoimmunity/ceeliac disease (CD) and who may benefit from a GF diet?

Methods

In 2018 research centres in Paris have carried out a case control design which has shed new light on the role the human leukocytes antigen (HLA) and some specific HLA-II subclasses may play in the autistic population. Researchers looked at the distribution of HLA class II genes in 474 ASD patients versus 350 healthy controls (HC).

Results

The case control results showed that the ASD cohort had a prevalence of the HLA DRB1*11-DQB1*07 haplotype compared to HC subjects (14.53% versus 8.7%). In other studies, the HLA-DRB1*11 is showed to be associated with ASD risk, and HLA-DQB1*07 is pathophysiologically associated with CD. So ASD patients having that particular haplotype are also predisposed to CD. Both ASD and CD patients present with a variety of comorbid gastro intestinal (GI) symptoms. Unfortunately, the Paris study did not contain any information on GI symptoms, which makes it impossible to assess whether this risk haplotype is associated with ASD per se or because of CD.

Discussion

Keeping these new findings into consideration, it appears legitimate to consider a genetic screening for HLA-II subclasses in the autistic population. Such intervention may be helpful in deciding which ASD patient would benefit from a GF diet. This would also help parents to make a more informed choice before adopting a highly restrictive dietary treatment. Further confirmation of CD in the autistic population presenting the HLA-II subclasses would require specific testing to confirm a final CD diagnostic.

Keywords: Comorbidities, Intervention, Treatment

Poster Number : SAT02-81

The right to health of the person with Autistic Spectrum disease: the Disabled Advanced Medical Assistance (DAMA) pathway response

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Introduction

Literature data report premature mortality of the person with autistic spectrum disorder (ASD). This may be due to the difficulty in accessing health services. Behavioral problems can create difficulties in the execution of diagnostic and therapeutic procedures. So in fact the right to health of people with ASD is denied. ". According to Charter of People's Rights with Disability in the Hospital, these people have no special rights, but the same rights as everyone. They need appropriate measures to enable them to take advantage of these rights on an equality basis.

Methods

DAMA is a pathway activated for the treatment of medical problems of people with disability. It is spreading in some Italian regions with different names, such as PASS (Assistance Paths for Subjects with Special Need). DAMA-PASS model are based on: trained multi-disciplinary team that care together the patient, tailoring diagnostic-therapeutic pathways to the patient; spaces suitable for multi-disciplinary and anesthesiological practices; appropriate working time; in-depth knowledge of the person and correct relationship. The central core of the DAMA – PASS model is the day service: the team is coordinated by a nurse facilitator who accepted the request of the caregiver, submitted by toll free number or email, and presents it to the team. After an in depth interview, the team organizes

and adapts a diagnosis and therapeutic path. All procedures are performed possibly in a single access («all in one time») without the use of physical restraints, but with anesthesiological support, respecting patient dignity.

Results

From 2000 to the end of 2018, 4788 person with DSA were treated by two Italian centers (8.0% of all treated patients with disability): 86% were treated as outpatients, 13% admitted in day hospital, 1% hospitalized in wards and only 3% through Emergency department.

Discussion

The DAMA-PASS organizational model build a patient-tailored care to overcome many "health barriers". It reduces admissions from the emergency department and hospitalization of these patients, decreases the burden for patients and caregivers and ensures the right to health for people with disability. However, these services are active in a few Italian hospitals, while they should be disseminated throughout Italy and Europe, as a constituent element of the National Health Systems.

Keywords: Ethics, General health, Right-based

Poster Number : SAT02-83

Assessment of pain in ASD

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Introduction

Until recently, persons with Autism Spectrum Disorder (ASD) were considered insensitive to pain. The specifics of autistic functioning include sensory perceptive anomalies, which, associated with cognitive impairment anomalies and difficulties in communication,

question the real nature of the relationship between pain and autism.

Methods

Data from the literature, very few, highlight that person with ASD

are pain hypersensitive and the pain expression in these individuals abnormal. These new understanding elements establishing such a link between behavior disorders and pain should allow us to change the way to identify, assess, treat pain and some behavioral problems of individuals with ASD . From these elements a specific clinical approach and assessment of pain was promoted, using body language and behavior , a tool was develop and test its clinical applicability in painful situation, taking in account behavior, gesture and facial expression, audible expression, sleep patterns, opposition to care and identification of a painful aera upon examination.

Results

The tool was assess in a group of non verbal ASD and there was

a good correlation between the the assessment and the clinical examination to identify the pain . Pain management is a challenging task in these population. Individuals with intellectual and developmental disabilities display specific barriers to adequate pain evaluation, since they cannot give valid self reports.

Discussion

We are promoting this scale to many Health care professionals and it is easily done and the most important in this action , the tool can be utilized by non caring staff : family, family care givers and other staff who take in charge persons with ASD . The return is satisfactory and we are thinking to use it on a larger scale to improve it.

Keywords: Assessment, Behaviour, Pain

Poster Number : SAT02-84

Women with autism: Exploring healthcare and health outcomes disparities

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Introduction

Current evidence indicates significant disparities in healthcare access and health outcomes for autistic people as compared to non-autistic people, including reduced life expectancy. Our research explores health and healthcare disparities between men and women with autism, and between women with autism and women in the general population, with additional attention to the intersectional impacts of gender identity and (older) age. This data will contribute to answering our key research question: how do natal sex and gender identity impact diagnosis, treatment and health outcomes for women with autism across the lifespan in [country]?

Methods

The project is being carried out in partnership with co-researchers who are women on the autism spectrum. They are contributing to tasks such as planning database queries, planning and delivering focus group sessions, interpreting data, and developing evidence-based policy and practice recommendations. The project began with a scoping study using an extensive database of longitudinal data provided by over 1000 men and women with autism in [country]. This data will be used to map and compare existing pathways to diagnosis and care for men and women with autism, and to identify barriers and enablers specific to women. The potential intersectional impact of (older) age and variant gender identity will also be explored. Both autism-related healthcare (diagnosis, intervention, support) and general healthcare are examined. Through semi-structured interviews and focus groups with women with autism, we will develop in-depth insights regarding the

database query results. Shared analysis will make it possible to suggest methods to address disparities found in health services and outcomes, and to suggest beneficial practices and policies.

Results

We will provide preliminary results of research that will be substantially complete by the conference date. We will report on the results of our database search, interviews and focus groups, and participatory analysis. We will also share our experiences of participatory research processes.

Discussion

To date, there has been a remarkable lack of research investigating health and healthcare disparities that are specific to women with autism. This data is needed to improve healthcare outreach, improve healthcare provider training, and reduce morbidity and mortality. Our presentation will include policy and practice recommendations.

Keywords: Gender, General health, Mental health

Poster Number : SAT02-85

Internal difficulties and social cognition in Women with asperger syndrom : comparative study with gifted and typical women population

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Introduction

More and more studies point to a female sub-diagnosis in the Autism Spectrum (AS). These women would show less outsourced behavior than men but similar internal difficulties. But, in clinical practice, this data seems to be forgotten and misdiagnosis can be made. In this study, we choose to explore the invisible difficulties of women with SA in parallel with gifted women and typical. We wanted to objectively show the consequences of internal difficulties of women in relation with sensorial et social impairing.

Methods

The Hospital Anxiety and Depression Scale, The Sensory-motor subscale of RAADS-R, the Autism Quotient and the Functional Repercussion Scale of Social Cognition were completed by 64 Typical women, 44 gifted women and 99 women with AS (56 AS and 43 AS and gifted). These women were found via social networks and associations dedicated to gifted people or autism.

Results

Women with AS have no more depressive disorders than HPI and controls but more anxiety disorders. High potential impacts the age of autism diagnosis for this population who are diagnosed with HPI in average 8 years before the diagnosis of Autism. There is a signi-

ficant correlation between AQ and ERF-CS ($r = .79, p < .001$) and moderately significant between AQ and sensory-motor subscale ($r = .62, p < .001$) as well as between this subscale and ERF-CS ($r = .63, p < .001$). We found too a moderatly significant correlation between sensory-motor subscale and daily inconvenience ($r = .64, p < .001$) and between this subscale and the frequency of diffulties ($r = .67, p < .001$) create by lack social cognition

Discussion

It seems necessary to consider the more significant anxiety in Women with AS and the correlation between autistic traits, social difficulties and sensory specificities. More, we show that high potential delays diagnosis of autism. A possible explanation is that gifted women and professionals attribute the difficulties to high potential and don't consider the possibility of an autistic syndrom before many years. We can make the supposition that high potential could mask outsourced autistic trait. But, internal difficulties are the same than women AS without high potential. So, it look like necessary to investigate the intellectual level of a women when she comes for an autism diagnosis, because external manifestation of autism may be less observable and lead to a misdiagnosis.

Keywords: Gender, Quality of life, Social

Poster Number : SAT02-86

Relationship and sexual education for individuals with Autism Spectrum Disorder (ASD) in Nouvelle Aquitaine, France: the need for continuity for a better inclusion

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Introduction

This project is intended to defend the need for a relationship and sexual education programme as essential learning, necessary for the development, well being and inclusion of the individual with Autism Spectrum Disorder. Our aim is to respond to the sad, true stories that have been observed and experienced at all ages.

Methods

Since 2014, in high school, the Maison Familiale Rurale organisation and at the association SESSAD-RAPCEAL in Limoges, we have promoted our programme in the following situations: regular individual or group sessions, structured to raise awareness and give information to adolescents and adults, during emergency interventions, following difficult situations cause by inappropriate behaviour at the request of parents, teachers or regional organisations. The need for this type of educative programme has been

identified by means of a self-report online survey addressed to a sample of parents, clinicians and teachers, which targeted their views on the emotional and sexual life of individuals with autism.

Results

Talking about sexuality is still taboo in our region. Other areas of education seem to be take priority, in the eyes of the person with autism's entourage: autonomy, schooling . Social skills training is, in itself, insufficient for successful relationship and sexuality education. Individuals with autism are diligent and interested by this type of training programme. They do not necessarily know how to ask for information relationships and sexuality . Our programme of education in this area has resulted in the modification of certain inappropriate behaviours.

Discussion

In our region, relationship and sexuality education is limited and veiled. It is not normally incorporated into an Individual Learning Plan. Learning relationship and sexuality skills must take into account autism-related characteristics, such as the lack of Theory of Mind (ToM), emotional regulation, rigidity to routine and specificity of sensory functioning (being oversensitive or undersensitive). Support and training in relationships and sexuality is not a luxury but a need for all individuals with autism. It is also an obligation under the WHO's (World Health Organisation) report on defining sexual health, 2002.

Keywords: Emotional Life, Program, Sexuality

Poster Number : SAT02-87

Validity and reliability of the French version of the Q-ASC: a tool for investigating the female autistic profile

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Introduction

From its earliest descriptions, autism has been considered a predominantly male condition, leading to the exclusion of autistic women from both research and clinical diagnosis. However, autism now appears to be more common in women than previously thought. Over the past decade, a number of researchers have uncovered slight differences in female presentations of autism when compared to males. Females frequently present with (i) less impaired communication, (ii) qualitatively different restricted interests as well as less stereotyped behaviors, and (iii) better camouflage of social impairments. Thus, autistic females are less likely to obtain diagnosis and appropriate support, which can lead to extremely negative health and life outcomes. Hence, there is an urgency to diagnose autistic girls and women with greater efficiency, to capture their specific characteristics and to address their needs. The Q-ASC (Attwood et al., 2011) was designed for use in girls aged 5 to 19, and is a parent report questionnaire, which describes gender-sensitive autistic profiles. This study aims to adapt and validate a French and adult version of the Q-ASC. We took a participatory approach

in order to ensure that this adult questionnaire accurately depicted the internal states and challenges of autistic women.

Methods

Our research team, composed of autistic and non-autistic researchers, assistants and students, recruited a large cohort (N>200) of francophone adults from an online autism community. Participants included males and females, with and without an autism diagnosis. They filled a French version of the Q-ASC composed of two questionnaires (one for the subject, one for a relative). Participants were encouraged to provide comments and had the option of being re-contacted to participate in further discussions on the research.

Results

We expect similar results to the Q-ASC pilot study (Ormond et al., 2017), i.e. eight reliable and interpretable components, as well as gender differences. We plan to incorporate feedback from autistic women in order to continue to improve the tool and to develop future studies.

Discussion

We will discuss the validity and reliability of the questionnaire and how it can be improved. We will also focus on how this tool could help clinicians to better understand autistic women and adapt their

practice.

Keywords: Assessment, Diagnostic, Gender

Poster Number : SAT02-88

Missing: access to mainstream education for autistic girls**Authors:**

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Introduction

A growing body of work has recognised that the prevalence of autistic girls is much higher than previously thought. Those who previously flew 'under the radar' include cognitively able autistic girls, who may have superficially better communication skills and often mask their difficulties, resulting in needs sometimes being underestimated or misunderstood. This knowledge is important because it demonstrates the necessity of making suitable educational provision for autistic girls, regardless of how well they are perceived as managing in school. There is evidence that a growing number of autistic adolescent girls stop attending mainstream secondary schools in England, but little is known about why this is happening or what needs to change. The historical under-diagnosis of girls has meant their stories have been absent from research into autism and into the ways in which they are excluded from education. This study positions the voices of these absent girls as key to understanding their lack of access to education and engages them as participants and co-collaborators in knowledge production.

Methods

Topical life histories were gathered from ten autistic adolescent girls, who had started mainstream secondary school but were not currently attending. Lived experiences were explored over three sessions of semi-structured interviews, in person or online using the

text function of Skype. Girls generated timelines to chart pathways to absence, identifying both positive and negative events, and these guided discussions. The life history process sought to help the girls understand and take ownership of their past and enable them to make recommendations for better practice based on their experiences. It also gave them the opportunity to look forwards and extend their pathways towards ideas of a positive future.

Results

Preliminary findings identify that disengagement from school was a fluid, gradual process, resulting from the complex interaction of a range of factors, and not a rejection of learning. They show multiple, often subtle ways in which autistic girls may struggle to access education, often unnoticed, with economic, health and social consequences.

Discussion

The findings may alert schools to signs and situations that can ultimately lead to the breakdown of a placement, plus reveal strategies and attitudes that have a significant impact on accessing the mainstream education provided. This has implications for the provision of individual support as well as wider strategic planning.

Keywords: Education, Inclusion, Participation

Poster Number : SAT02-89

Empathy in high-functioning girls with autism

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Introduction

The female autism phenotype is thought to be different to males, perhaps due to superior social skills or an ability to 'camouflage' their difficulties. As a result, girls and women with autism often go undiagnosed, which leads to years of confusion and struggling to fit in with their peers. Unfortunately, this can lead to these women developing other mental health difficulties, such as depression, anxiety disorders or eating disorders. Experiencing and expressing empathy is a vital skill when building social relationships, which is believed to be impaired in individuals with autism. However, it is yet unclear if this also applies to girls with the disorder. Thus, the aim of this study is to contribute to our understanding of the female autism phenotype, in particular in relation to empathy.

Methods

194 adolescents participated in this study (mean age = 11.51, SD = 14.83), 70 of whom had autism (17 girls/53 boys) and 124 who did not have autism (69 girls/ 55 boys). In order to elicit an empathic reaction, the experimenter feigned hurting her hand while closing a binder. Three aspects of empathic responding were observed: emotional arousal, pro-social responding and comforting style. Group (with/ without autism) and gender differences were examined.

Results

In terms of emotional arousal, youngsters with autism exhibited less than their peers without autism, and there was no gender difference. Overall, girls (with or without autism) engaged in more pro-social empathic responding than boys did. When it comes to comforting styles, girls both with and without autism showed a preference for emotion-focused comforting, and so did boys without autism. Furthermore, boys with autism engaged in significantly more problem-focused comforting than the girls with autism did, while girls with autism used considerably more emotion-focused comforting when compared to boys with autism or girls without.

Discussion

In line with current literature examining gender differences in the presentation of autism, the present study identified some important distinctions in terms of empathic responding. Girls with autism were seen to be more pro-social than boys with autism, and also showed a preference for emotion-focused comforting. This may reflect an increased ability to learn these social skills from peers. Implications for how we can better recognise and support girls with high-functioning autism are discussed.

Keywords: Behaviour, Emotional Life, Gender

Poster Number : SAT02-90

Subjective perception of quality of life: is it a gender issue?

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Introduction

Autism and gender are an emerging field, few research studies have focused on the subjective perception of quality of life (QL) in a comparative approach to identify conditioning traits in the screening of girls and women with autism. This study aims to obtain preliminary data of this subject in a Spanish speaking sample.

Methods

The study included three stages. An initial analysis of current re-

search. Design of a QL perception questionnaire using a Delphi method of three rounds to make an adaptation of the Cummins Personal Welfare Index (2003) with specific and concrete indicators addressed to adult women with ASD. The final questionnaire assesses general QL level, health and wellness, life achievements, social relations, current and future security, inclusion in the community and spirituality. Finally, we adapted the questionnaire to assess QL in different age and sex samples, including ASD and non-ASD participants. The total sample included 1019 participants:

girls and teens under 18 years old with ASD (N=189, 18.5%), boys and teens under 18 years old with ASD (N=129, 12.7%), adult women with ASD (N=268, 26.3%), neurotypical adult women (N=358, 35.1%), adult men with ASD (N=75, 7.4%). The data was obtained through an online survey. Statistical analyses and differences in QL perception were compared between groups through an analysis of the variance (ANOVA).

Results

Significant differences between groups were present in all the perceived QL factors ($p < .001$), the ASD women had the lower scores. ANOVA comparisons showed that women perceived the lowest perception of QL in health and wellness ($p < .003$), life achievements ($p < .010$), social relations ($p < .027$) and inclusion in the community ($p < .001$). No significant differences were found between women and men with ASD in general QL level and actual

and future security. No differences in perceived satisfaction about spirituality between the ASD. Significant differences were found in women with ASD compared to typical women that showed the highest satisfaction in this area ($p < .001$).

Discussion

Findings suggest that subjective perception of a negative personal well-being might be an especially marked feature in women with ASD, in comparison with their male peers and typical women. These results highlight the need to acquire deeper knowledge and awareness into how sex and gender may be affecting the well-being of ASD and their need to address and design support to respond for their needs.

Keywords: Adult, Gender, Quality of life

Poster Number : SAT02-91

Model of self-representation of asd females in spain

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Introduction

The gender bias and under-diagnosis on the female side of autism have led to the invisibility of this group. While there has been an initial trove of interesting projects such as, Autism in Pink (2012-2014), Women's Table AETAPI (since 2015), and Association francophone of autistic females (AFFA) (2016), the issue of ASD in females has not been a priority. This situation makes necessary to develop actions such as those proposed by the Committee for the Promotion and Support of Girls and Women in the Autistic Spectrum (CEPAMA). In ASD women, compensatory behaviors and the art of camouflage disguise the symptoms, and as a result, it becomes more difficult to identify subtle and complex traits capable of revealing their presence in them. This leads to a reductionist and stereotyped view of females in the spectrum and a lack of recognition by professionals.

Methods

The estimated female population with autism spectrum disorder (ASD) is much larger than the identified population, and therefore, the purpose of our self-representation group is: a) to sensitize society to recognize the characteristics and needs of ASD females, b) to make visible the diversity of profiles in women with ASD, c) to overcome the pathological model by promoting a comprehensive model, d) to promote the social inclusion of this group, e) to claim the right to participation and decision-making in the educational, health, work-related and social spheres, f) to collaborate in research studies on the topic, g) to explore together with autism pro-

fessionals valid models of intervention for the ASD females group from a holistic approach.

Results

CEPAMA was founded in February 2018 in Spain. Representatives of different Autonomous Communities of Spain are networked working together for the advocacy and full social inclusion of ASD females. In this way, their empowerment is promoted through actions such as: 1) awareness-raising campaigns through the media, 2) creation of a website for diffusion and consultation, 3) participation in divers meetings, conferences and congresses, 4) incorporation of inputs into legal documents, guides and manuals on ASD females.

Discussion

After the development of the above actions, it has been achieved to generate a growing interest in the topic of female ASD. Hence, collaborations have been initiated with professional of associations in the scope of disability and autism, encouraging collaborative environments that allow progress in research, diagnosis, support strategies and inclusion.

Keywords: Adult, Empowerment, Gender

Poster Number : SAT02-92

Creating Youth Work Resources: Autistic Teenage Girls and Making Friends

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Introduction

Through my work with autistic young people, a clear pattern emerged showing that autistic teenage girls were facing multiple difficulties making and keeping friends. In response to these difficulties, I set up a fieldwork study to explore youth work approaches that could support girls with ASC in developing strategies to make and keep friends.

Methods

Research was carried out with five adolescent girls (aged 11 to 16 years old) over a period of one month, most who felt they were struggling with making friends at school and had volunteered because they wanted support in finding some. The study was carried out at a local senior school and the local youth club. The workshops were all based on a person-centred approach exploring the girl's friendships and difficulties with making and keeping friends, using art forms that the girls chose. Evaluation includes quotes from professionals, discussions with the young women and feedback from parents.

Results

Results highlighted there are no short-term solutions as girls face multiple difficulties making friends. However, key impacts from the work included: creating a safe, exploratory space for girls to

understand their relationships and their own identity, finding more support services for some of the girls as a result of the workshops, as well as informing discussions with professionals and parents about further support. Unexpectedly, the girls highlighted that a big part of the problem was not only how they dealt with friendships and conflicts, but also how they were wearing a mask and felt they could not be themselves when around their peers. The results highlighted that problems were far more complex than just having strategies to make or keep friends.

Discussion

The study implies the need for long-term girl's groups in supporting adolescent girls with autism to progress: building self-awareness and self-respect as well as helping with friendship difficulties. I believe youth workers are well positioned to deliver this with the right training. Novita (2018) also agree 'Young women with autism could benefit from support designed to help them with friends as they move from childhood into early adulthood' but have no current solutions as to how this would look. My case study offers useful evidence about types of helpful and unhelpful support for these girls, however the research will continue in order to develop more resources and be ready to be presented at Niece in 2019.

Keywords: Gender, Teenage

Poster Number : SAT02-94

Women and girls with autism spectrum disorder: capacities, needs and priorities

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Introduction

In recent years, advances in scientific knowledge about autism spectrum disorder (ASD), early detection, and improvement in diagnosis have contributed to increasing numbers of people with ASD identified. This increase has been especially significant in the case of women and girls. Preliminary scientific results suggest differences in clinical manifestations between women and men. Women seem to be more efficient participating in reciprocal conversations and imitating social behaviours. Besides, women may show differences in basic cognitive processes, such as language, and

different patterns of restrictive interests. Evidence has suggested that women experience barriers in accessing specialised support systems, being more likely to receive late diagnosis confirmation and to be misdiagnosed. However, studies about the needs of girls and women with ASD are practically nonexistent.

Methods

Since 2018, our organisation is carrying out a study aimed to increase the knowledge about needs, interests and capacities of women and girls with ASD in our country. The study will also address

the barriers they experience in accessing services, including those related to detection and diagnosis. It includes the perspectives of people with ASD, their families, and professionals working with them, and the participation of more than 70 ASD organisations and professionals from the public administration. The methodology is qualitative, using instruments as personal life histories, interviews and focus groups. To date, 19 women and 12 girls with ASD, 56 families and 16 professionals have participated. Data collection will continue until March 2019, triplicating the total number of participants.

Discussion

The results will provide information about the needs and priorities of women with ASD and critical areas that need more study, in order to improve public policies and support models or interventions for women with ASD.

Keywords: Diagnostic, Gender, Participation

Poster Number : SUN01-01

Effect of social support on the quality of life of parents of children with ASD in Algeria

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Introduction

Autism Spectrum Disorder is a syndrome that requires a total commitment from parents to their affected children, this situation can have repercussions on several areas of parental quality of life (QoL): emotional well-being, social relations, free time and hobbies, ...etc. These areas of QoL can be influenced by factors that can improve or degrade them among these factors: family and professional support . So what is the level of impact of a child's ASD on general QoL (QoL), the emotional and adaptive life of their parents? Can family and professional supports influence the QoL, the emotional and organizational well-being of Algerian parents with a child with ASD?

Methods

This study was conducted in Algeria on a sample of 47 parents of children with ASD who completed two questionnaires :the first questionnaire is the PAR -QOL(parental quality of life) (Raysse , 2011) that assesses the consequences of childhood disorders on general QoL , the emotional and adaptive life of parents,the second questionnaire is the social support scale of Lacharité, Moreau, M.-L., & Moreau, J (1999). Both questionnaires are adapted to the Algerian environment by us .

Results

Our results indicate that parents of children with ASD feel that their QOL is moderate. Social support influences the QOL ,the emotional well-being and the adaptive life of parents, Professional support influences parents 'QOL and their emotional well-being but the number of sources of support provided to families of children with ASD has not relation to parents' QOL and their two emotional and adaptive domains.

Discussion

The results about the level of impact of autism on parents' quality of life are consistent with the studies of Raysse (2011) and Grimm-Astruc (2010) . results concerning the effect of social support on the quality of life of parents of children with autism are consistent with international research that has shown that this factor is strongly related to the well-being of parents (Khanna, & Al, 2011), reduces their stress level (Samadi, McConkey, 2014) promotes optimism mothers (Ekas, Lickenbrock and Whitman2010) and predicts a good quality of family life (Cappe & Al, 2017).These results allow us to deduce that parents of children with ASD need both forms of support to benefit from more or less adequate life.

Keywords: Family, Quality of life, Social

Poster Number : SUN01-03

Family Program: measuring the impact of participation in parents-to-parents family support meetings (FSM)

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Introduction

The first Parents-to-Parents Family Support Meeting (FSM) of Fundación Brincar started in 2011, with only 8 participants. The group was attended by mothers and grandmothers of people with ASD, with monthly meetings to address different aspects of autism and

its impact on families. Since then, they have significantly expanded, with currently 10 groups and 495 participants. The objective of this Project is to evaluate the impact and level of satisfaction of families of people with ASD in attending FSMs of Fundación Brincar of Argentina

Methods

A cross-sectional study was used. A survey was sent to all participants of FSMs with autocomplete answers. Participants no longer attending, were also included. An Anonymous Response setting was implemented, as well as data codification to avoid answer repetition

Results

Surveys were emailed to 495 participants of FSM. The average age of participants is 48,5 years. A total of 71,4% are mothers or fathers of children with ASD, while 27,4% are grandmothers/fathers and 1,7% aunts/uncles. The average age of the family member with ASD is 8,4 years. As far as impact is concerned, 70% indicated a very positive level, 60% improved their family relation and the majority mentioned participation in FSMs improved their social inclusion. A total of 97,8% will continue attending, and 100% recommends FSM to other families facing similar situations.

Discussion

Bringing up a child with autism can be challenging for parents and family members in general. This reports greater levels of stress than parents of children with a typical development or with other developmental disorders. Studies have also indicated more cases of depression and a lower quality of life in comparison with parents with other developmental difficulties, physical handicap or cronical health conditions. The level of stress is associated with the intervention on their child, their quality of life during the intervention and of the family in general. Parents-to-parents family support meetings seem to improve social inclusion, reduce stigmatization and enhance access to health and educational resources. Monthly attendance of FSMs had a highly significative impact in the personal and family life, as well as the relation with the family member with ASD, in the majority of cases. Therefore, we consider FSM as a valid intervention for families of people with ASD, as well as an accesible resource in a low income country like Argentina.

Keywords: Family, Organisation, Self advocacy

Poster Number : SUN01-05

Early Detection, Diagnosis and Intervention Services for Young Children with Autism Spectrum Disorder Across Europe: Family and Professional Perspectives

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Introduction

The perspectives of parents and professionals towards detection and diagnosis of Autism Spectrum Disorder (ASD) play a fundamental role in guiding the improvement of services, but both viewpoints have rarely been considered jointly. The aim of this study is to understand the opinions of the autism community (families and professionals) on detection, diagnosis, and early intervention services for young children with ASD.

Methods

Twenty focus groups were carried out in 10 European countries within the framework of the Autism Spectrum Disorders in the European Union (ASDEU) network, leading to the development of two independent surveys that were distributed online among families with a child with ASD and professionals who reported working or have worked with same population in the same period of time or in recent years (N = 2,032). Questions aimed to collect specific data about detection, diagnosis and intervention of young children with ASD (level of satisfaction, age of access, etc). Multinomial regression analyses were conducted to compare family and professional' groups.

Results

Overall, 60.2% of respondents reported positive satisfaction with detection, diagnosis, and intervention services, although parents

scored significantly more negatively (4.64) than professionals (4.94). Families reported higher ages for their children at the time of detection and consequently of access to diagnostic services, compared to professionals. The European regions with lower per capita income reported more frequent delays to service access, and lower levels of satisfaction than regions with a higher one.

Discussion

Although, overall, families and professionals express satisfaction with detection, diagnostic and intervention services for children with ASD in their communities, differences were seen between groups. Families reported that professionals should take into account their concerns and provide them opportunities to actively participate throughout the detection, diagnostic and intervention process. Greater satisfaction of families and professionals was associated with a lower age of detection and diagnosis, supporting the goal of implementation screening programs and initiating intervention as soon as possible. Service policies and future research should focus on reducing delays in access to services, potentially with specific early detection programs, and to promote closer collaboration between professionals and families to improve satisfaction and wellbeing of families and children.

Keywords: Family, Professional, Services

Poster Number : SUN01-06

I Am Different Because I Have ASD Sibling: A Qualitative Study on Siblings of ASD Child in Lithuania

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Introduction

Introduction: The relationship among the siblings is the longest lasting relationship among humans (Beyer, 2009). Sibling studies

are extensively researched area (Beyer, 2009). However, there is still less known about the relationship among siblings when one of them has ASD and the existing findings are mixed (Benderix

& Sivberg, 2007, Mascha & Boucher, 2006, Orsmond & Seltzer, 2007). Objectives: This was a novel study that aimed to look at the siblings' experiences in growing up with ASD sibling in Lithuania. Especially, to capture the different types of experiences: struggles and blessings through the eyes to the sibling. We also considered age, gender and ASD severity which are usually not considered in previous studies.

Methods

Methods: We have used qualitative methods to access more in-depth experiences of the participant's. We used semi-structured interviews. Total of 15 siblings agreed to participate, age range from 11-24 years, from 13 families. The data was then transcribed and analysed using NVIVO 12 software. We applied grounded theory analytic framework to understand the findings.

Results

Results: Lithuanian siblings reported stress due to responsibilities given to them. Participants were obliged to take care of their ASD

sibling despite the birth order (being younger sibling) or age difference (being 10 years apart). They have shared about challenges of having ASD sibling such as behavioural problems of ASD, feeling "secondary child", experiences of stigma and embarrassment of their ASD sibling. This was reported by siblings who had brother/sister with severe symptoms of ASD. Despite of all the difficulties siblings reflected on positive aspects like being more understanding and able to cope better in challenging situations compared to their friends.

Discussion

Discussion: The current study highlighted the impact of ASD on sibling's relationships. In addition, it informed about existing family dynamics from the sibling's point of view. While it is not possible to mediate sibling's age, gender or severity of ASD, there are strategies that can be employed to facilitate more positive relationships between sibling participants and ASD sibling and family as a whole.

Keywords: Childhood, Family, Mental health

Poster Number : SUN01-07

Having a Second Child, when your first has Autism: A qualitative study of parental experiences

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Introduction

Around 20% of infants who have an older sibling with Autism Spectrum Disorder (ASD) develop ASD themselves (Ozonoff et al., 2011), and a further 20–30% develop broader developmental difficulties (Messinger et al., 2013). It is known that the diagnosis of a child with ASD has impacts on family functioning, including family planning (Navot et al., 2016). However, research has yet to explore the lived experience of parents having a second child when they already have a child diagnosed with ASD. This study sought to better understand the impact of this familial risk on parents, and the experiences of parents of a child diagnosed with ASD around the conception, pregnancy and early development of a subsequent child.

Methods

The current study involved in-depth interviews with (1) parents of a child diagnosed with ASD, who have a subsequent child (with or without ASD), and (2) parents of two typically developing children. Current recruitment of 8 parents in each group meet thematic saturation, and data analysis is currently being finalised. Interviews

with parents involved a set of open-ended questions developed to explore parental experiences around the pregnancy and early developmental periods of the subsequent child. A minimal number of broad, data-generating questions were asked as recommended in phenomenology (e.g. Brod, Tesler, & Christensen, 2009), allowing participants to speak about the experiences that were most salient to them. Interviews lasted between 1-1.5 hours and were transcribed verbatim. Data analysis has been concurrent with data collection, and involves a thematic analysis of the data.

Results

Preliminary analyses have found three main themes. The first of these focuses on parents' experiences of 'uncertainty', exploring parents guilt and stress over the potential of subsequent children being diagnosed with ASD, alongside positivity for any future children. The second of these focuses on 'balancing roles', exploring the impact of a diagnosis on the management of a family during pregnancy and with a newborn. The third theme 'getting through' explores parents' methods of supporting their children and finding support for themselves. These themes will be contrasted with the

control group.

Discussion

Implications of identifying the unique experiences of parents around the pregnancy and early development of a subsequent child when

the first has ASD include the identification of psycho-educational focuses and resources that would be important for future parents.

Poster Number : SUN01-08

Supporting families with young children with autism: Evaluation of a new parent-directed and home-based early intervention program

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Introduction

The efficacy of a special early intensive behavioural intervention program is evaluated. The stated aim of this program is to empower parents to create effective learning and interactive situations in daily life with their child. They are also trained to manage difficult behaviour and to stimulate their child's development.

Methods

The early intervention program is a short-term program (8 months), highly intensive (30h / week), home-based, parent-focused and based on behaviour modification techniques. 11 children with autism (3-5 years old) and their families participated in this project between 2014 and 2017. Data about changes in autistic symptoms measured using ADOS-2, ADI-R, improvements in developmental age (PEP-R), changes in intelligence (SON-R) and in daily problem behaviour (HSQ) were collected at three times: before the waiting period (t1), after the waiting period (8 months) (t2) and after the early intervention program (8 months) (t3). Quality of mother-child interaction was evaluated using video-records of interactional situations. The changes in the different areas during the waiting period (t1/t2) are compared to the changes during the

training period (t2/t3).

Results

There was a significant reduction in autistic symptoms and significant increases in developmental age and intelligence for the children after intervention. The problem behaviour decreased significantly. Mother-child interaction improved: Mothers were able to stay in a better positive interaction with their child and to keep their child's attention. Stereotyped behaviour was reduced and the children showed more joint attention behaviour. Mother-child interaction was more reciprocal after the training. In comparison there was no significant change in these areas after the waiting period.

Discussion

The described early intervention program could be proved to be highly effective for young children with autism and their families. Possibilities to implement this new program in the country are discussed.

Keywords: Infant, Intervention, Learning

Poster Number : SUN01-09

Do you know me? Caring for children with Autism Spectrum Disorder and Intellectual Disabilities in hospital

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Introduction

For children with Autism Spectrum Disorder, hospital is stressful enough. Add to this a clinician who doesn't know how to communicate with them or understand what their behaviours mean. What are the chances of a positive experience? At the Royal Children's Hospital Melbourne there was no standard way to document a behaviour or communication plan. These patients were often having traumatising experiences, with safety breaches sometimes occurring for both staff and patients. Code Grey's (security and clinical team responding to aggression) were called to help support these patients and entire areas of the hospital were shut down to safely care for single patients. How could we improve experiences for patients with ASD?

Methods

We had a multidisciplinary team of nurses, doctors, allied health and parents to gain knowledge and different perspective from all stakeholders. We developed a tool called the Behaviour and Communication Profile (B & C Profile), which covered areas such as communication, behaviours of concern and sensory needs. This was piloted on one ward over 4 months. Education sessions were run to inform staff on how to use the tool. Parents were surveyed on how the tool impacted their experience and for any feedback on the tool.

Results

During the pilot of the tool, the number of Code Grey's and beds blocked decreased by 100%. The implementation of the B&C Profile cannot claim all of the credit for this statistic, as there are a number of factors influencing Code Grey's and bed blocks, however anecdotally staff and parents felt that the tool contributed to improved experiences. 89% of parents felt the B & C Profile helped staff to understand their child's needs (the other 11% stated N/A) and 95% of parents felt the profile helped improve the staff's communication with their child (the other 5% stated N/A). Staff awareness and knowledge of the resources available for this patient cohort increased.

Discussion

The results show that planning in advance and individualising a plan leads to a more positive and smoother experience for everyone. Feedback was positive and encouraging from parents all the way up to hospital executive. One limitation was the fact that the tool was paper based in an electronic environment. Feedback from all parties suggested the tool should be built into the Electronic Medical Record (EMR), which is happening as part of a future project.

Keywords: Challenging Behaviour, Childhood, Communication

Poster Number : SUN01-10

Acknowledging post-traumatic stress symptoms in parents of individuals with Autism Spectrum Disorder and providing sufficient support

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Introduction

Autism spectrum disorder is a complex neurodevelopmental condition that has a profound impact on the natural course of parenting. Pervasive exposure to traumatic events that are commonly associated with the overwhelming care needs of individuals diagnosed on the spectrum can significantly elevate the risk of post-traumatic stress symptoms in parents. From the point of diagnosis, parents can experience varying degrees of grief and loss, isolation, limited parenting efficacy, insufficient support and financial stress which

can significantly impact parenting capacity. While some elements of parental stress can be ameliorated through early screening and sufficient psychological support to empower parenting, for some families there is an overabundance of behavioural presentations that result in significant parental sleep deprivation, witnessing of self-harm, fear for own safety or safety of siblings, and a constant state of hyper-vigilance which elevates the risk of post-traumatic stress disorder (PTSD). This paper explores the frequency and correlation of parent rated depression, anxiety and stress symp-

toms, the degree of psychological impact/distress experienced by parents, the development of PTSD in a portion of parents and the need for parenting based early interventions that focus on supporting and empowering parents.

Methods

Psychometrically sound self-report questionnaires were implemented pre-test and post-test with parents of individuals with autism to explore the rate of depression, anxiety and stress symptoms, level of caregiver burden, quality of life and the occurrence of post-traumatic stress symptoms. Parents were provided with intensive parent focused intervention that included psychoeducation and focus on the guided participation relationship. A repeated-measures statistical analysis was implemented to assess significant long-term impacts on parenting.

Results

This study indicated that there is a significant need for clinicians to recognise the psychological impact of autism spectrum disorders on parenting capacity. Early screening of post-traumatic stress symptoms must be considered by clinicians and parents must be provided with significant support to ameliorate parent stress. Parent training was critical to empowering parenting capacity.

Discussion

These findings document a need to recognize the degree of psychological impact that autism spectrum disorders have on parenting and identifies key protective factors to decrease parental stress.

Poster Number : SUN01-11

How to fall in love with autism

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Introduction

New investigations demonstrate that autistic brain is interconnected and works in a different way to the neurotypical. But is it possible that not only the brain but also the whole body is connected differently? How does it affect their life? How do autistic perceptions translate to a not-autistic person? A challenge for a neurotypical researcher is to comprehend the differences, lacking personal experience of the sensations of processing information with different parts of the brain.

Methods

Born on the spectrum, my method is finding words that can translate what a child perceives and lives through. I teach parents a philosophy that helps them create a profound connection specific to their child. My method focuses on the autistic talent, optimizing environment and carers' perceptions rather than solely rely on training autistic children to conform to social norms and expectations. The change starts from parents who are open to learn how to manage their own personal space and emotional balance. I also introduce them to some unconventional concepts such as:

- Emotional Skin Deficiency (ESD) - challenges and benefits
- Autistic perceptions - physical, visual, sound, time, etc
- Emotional Hygiene for everyone
- Multi-Level Communication
- Nutritional adjustments in support of the internal autistic structure

Results

My method is not a therapy but a philosophy. The outcomes achieved

are inspiring and promising even for the most challenging cases. Working as a consultant for families and young adults I could witness the positive changes first-hand. Looking at the world through their child's eyes resulted to be the turning point of a shift in the parents' paradigm leading them to practical tools to manage daily challenges which evolved into overall improvement of everyone's wellbeing, communications and increased willingness to learn for both parties.

Discussion

We, as society, need to re-define what an "intervention" means. For autism is a talent and I work to help society to see it as such. Interventions could focus on harnessing our talents and improving the stereotype and communities' mindset learning from both worlds. My call for action is to create adequate educational programmes introducing the neurotypical mind to a spectrum of enriching possibilities, new models of communication and the concepts mentioned above, working towards recognising autistic people as brilliant and much needed members of society.

Keywords: Alternative Communications, Behaviour, Stress

Poster Number : SUN01-12

Co-parenting among parents of children with Autism Spectrum Disorder: A systematic review of the literature

Authors:

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Introduction

Research among the general population has shown that a high quality co-parenting relationship is an important factor for the child's development and the couple's relationship. Yet, empirical studies in the field of autism have mostly focused on the couple's romantic relationship. Thus, it is important to go beyond the romantic relationship and understand the co-parenting relationship as a separate concept in the domain of autism, especially as parents of a child with ASD are confronted on a daily basis with very different and more stressful parenting demands. The objective of this study was to be the first systematic review to identify the factors associated with co-parenting a child with ASD.

Methods

This systematic review was conducted according to the PRISMA statement. The relevant research was screened in order to conserve quantitative and qualitative articles in English or French language. Due to a certain confusion in the literature concerning the concepts of co-parenting and the couple's romantic relationship, studies were selected if they had at least one specific assessment of co-parenting or one of its dimensions. Overall, twelve databases were searched and nine articles met the criteria for inclusion after screening.

Results

This review highlights the limited number of studies focusing on co-parenting in the domain of autism as well as their heterogeneous methodologies. Despite these limits, the findings suggest that certain factors such as parental stress, satisfaction with the division of childcare-related labour, and autism symptom severity are related to co-parenting a child with autism spectrum disorder.

Discussion

This study emphasizes the need for further research to assess the factors of risk and protection related to co-parenting a child with ASD, as well as how the co-parenting relationship affects the child with ASD throughout different stages of development. Future researchers are advised to use consistent terminology, measurements, and include data from each parent in the analysis. Such research would support practitioners in their work on the co-parenting relationship, which could ultimately prove to have a beneficial effect on their romantic relationship given the bidirectional link between these two constructs. Moreover, parents may be more willing to work with practitioners on their co-parenting relationship in a first instance rather than their marital difficulties.

Keywords: Family

Poster Number : SUN01-15

Music Therapy in Autistic children - How do parents think it helped?

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Introduction

It is well established that music therapy may facilitate skills in areas typically affected by autism spectrum disorders (ASD) like social interaction and communication, using musical experiences and the relationships that develop through them. The aim of this study is

to evaluate the positive effects of improvisational music therapy, through parents' perception, in these children.

Methods

This is a prospective descriptive study involving a group of 8

children aged 2-4 years old, diagnosed with ASD accordingly to Diagnostic and Statistical Manual of Mental Disorders (DSM-V), followed at a Neurodevelopment Clinic of a district hospital in Portugal, that started weekly music therapy in January 2019. A questionnaire was applied to the parents at the beginning of the therapy and will be applied 6 months after intervention.

Results

The authors hope to find that in the parents perspective, music therapy helps children with ASD to improve their skills in social interaction, verbal communication, initiating behaviour and social-emotional reciprocity.

Discussion

Despite the widely reported positive impact of Music Therapy in children with ASD, there are no objective tools to assess the effects of this specific therapy. The necessity of standardized models of assessment in Music Therapy is urgent and needed in the near future.

Keywords: Alternative Communications, Assessment, Behaviour

Poster Number : SUN01-16

Transition from family living to independent living

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Introduction

Moving from family living to independent living is a significant transition for any individual and their family. In an ideal world, an individual approach would always be used. For individuals with high dependency needs this is even more important, as understanding one's personality, skill-set and interests are key elements to ensure a high quality of life.

Methods

When our daughter was still in high school, we started to think about her transition to independent living. We elected to look at alternative approaches. What living arrangement would be best, taking into consideration our daughter's strengths and weaknesses, and likes and dislikes. It had to work for us and our daughter, while taking into consideration the availability of support services.

Results

The process of moving out, and creating a home for our daughter has been a journey of questions and learning:

- When is the best time for your child to move out?
- What are our options; and what are the implications of each option?
- Are government funded support services available if one does not live in government housing?
- What are the benefits of living alone or together with others?
- Will living with others impact one's services?
- Financial limitations?
- Impact on parents, siblings and city officials?
- Location, and the proximity to arenas of community interaction.
- What constitutes a high quality of life?
- How do you define quality of life?
- How do we ensure that our daughter's wants and needs are go-

verning, not what we as parents want for our child?

- Is there stability in her life?
- Is she happy?
- What constitutes good quality of service?
- Does she have a strong support group?
- Do caregivers receive proper training and follow-up?
- Are we doing everything we can to retain caregivers?

And what would our daughter want?

We would like to share our experiences and learnings from this process.

Discussion

Our daughter has been living in her own apartment with support staff for over 3 years. We started this process in hope to give her long-term financial independence. She has gotten so much more. We attribute her high quality of life to her living arrangement, a home structured for her unique needs. For the family there is a high level of involvement with the caregivers and service providers. Today, this is the correct choice for everyone. In the future that may change. The journey is not over, it is a continual assessment of her quality of life and how her living arrangement impacts her network.

Keywords: Community based, Inclusion, Quality of life

Poster Number : SUN01-17

We Will Survive. Psychological competence and non-technical skills for professionals caring for children with autism

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Introduction

Supporting people in the autism spectrum is both a beautiful and difficult task for anyone. The psychological impact of caregiving on professionals is still unexplored, even if we experience its effects in daily practice. As empirically verified by the most recent research (Rogers, 2018), the specific model followed by caregivers seems no longer relevant to their preparation and quality of their actions, each one come from the mind of the adult who conceives it, so the expert is a co-protagonist, not simply a technical performer. Therefore, he has the responsibility of taking care of his mind health, going beyond technical skills and knowing that the personal attitudes play an essential role on the efficacy of care actions. The purpose of our research is to investigate the correlation between efficacy of interventions and non-technical skills of professionals.

Methods

Seven years ago we started to work with educators and health professionals using a new training program. The Non-technical Skills Training addresses three dimensions of skills: 1) executive 2) intrapersonal (e.g. regulating emotions), 3) interpersonal (e.g. communicating with parents and colleagues, reading the interactive dynamics). The program provides the presence of a Supervision time that work on personal meanings and emotional difficulties, supporting the caregiver in noticing moment-by-moment effects/affects

moved from the meeting with child and his automatic reactions. The goal of the program is to define a Personal Functional Profile (PFP), that goes around nine psychological dimensions describing the individual prevailing attitudes. A multimodal approach based on self-report and objective measures is used, e.g. the Resilience Scale (Connor et al., 2003), PANAS (Watson et al., 1988), FEFS (-Gross, John, 1998).

Results

The first available data confirm that the three programs help professionals to feel more resilient during critical moments, confident with parents compliance ability, safer in understanding how to proceed. Above all, they report an increase in vitality and the feeling of being more able and emotionally congruent to take care of children, who also seem to exhibit fewer dysregulation episodes.

Discussion

Finally we can say that caregiver's subjectivity and non-technical skills are still a shadow zone in autism training courses, so we have to work harder in this direction, because every experience of people with autism seems to be closely linked to the quality of the actions and health of caregivers mind.

Keywords: Care, Community based, Professional

Poster Number : SUN01-18

MindfulTEA. An specific Mindfulness based program for people with ASD, their parents and support professionals

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Introduction

There are three main aspects in the literature about wellbeing in people with Autism Spectrum Disorders (ASD) and their families and support professionals: the presence of behaviour problems

and its impact in people with ASD and their families (Lecavalier et al., 2006), high levels of stress, anxiety and depression among families (Hayes, & Watson, 2013, Olsson, & Hwang, 2001) and high levels of professional burnout (Zarafshan et al., 2013). In this way,

one emerging line is the implementation of Mindfulness Based Interventions (MBI) which has shown effective to reduce anxiety, depression, rumination and aggressive behaviour in people with ASD (Singh et al., 2011, Spek et al., 2013) as well as reducing stress and increasing the perception of positive aspects of caregiving and satisfaction with parenting skills in their parents (Ferraoli & Harris, 2013, Kowalkoski, 2012, Singh, 2014, Singh et al., 2006). However, there are some important points which haven't been considered: 1) there is no MBI set applied to people with low-functioning autism, 2) MBI don't consider aspects of Self Compassion even though has been shown to be important in this population (Neff, & Faso, 2015) and 3) there is no studies about effectiveness of MBI in reduction of professional burnout of workers who support people with ASD.

Methods

We have designed and implemented a specific MBI protocol for people with ASD and their families and support professionals with four innovations: 1) a main Self-Compassion component for parents, 2) consideration of possible Broad Autism Phenotype in parents, 3) a specific designed for people with low-functioning autism and 4) implementation of support professionals. The intervention is

being carried out with 100 parents, 50 professionals and 25 adults with low- functioning ASD. This is a pre-post study. FFMQ, SCS, PSI-SF, HADS, MBI, PROQL, CARS and BPI are being administered.

Results

We expect to show evidence of the relationship between Self Compassion and Behavior Problems as well as to discover the effects of an 8 week MBI protocol in parents, professionals and people with low functioning ASD.

Discussion

MBI have shown effectiveness in different fields related with personal wellbeing in people with ASD and their families. We want to provide a new contribution in the adaptation of these kinds of programs to the specific characteristic of people with ASD and their families and support professionals in order to increase their personal wellbeing.

Keywords: Emotional Life, Family, Stress

Poster Number : SUN01-20

How Do Occupational Therapists Care For Children With Autism? A review of the literature

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Introduction

Autism was for the first time described by Leo Kaner in the 40s, which now affects about 70 million people, affecting social relations and the performance of occupational roles, which are a very important work of several health professionals in order to reduce barriers and improve those individuals skills, bringing further autonomy and independence, for this population. This work aims to identify the interventions through literature databases of occupational therapy professionals and their results.

Methods

The article searches and their review ran between July and December 2015 through the Virtual Health Library (VHL). A research was conducted in MEDLINE, SciELO, LILACS and Cochrane, using occupational therapy and autism reporters. The initial search did not limit publications for the year. Subsequently, the period with the highest number of publications was selected, so the publications between January 2011 and December 2013 (3 full years) were selected, which corresponds to the period with the highest number of publications.

Results

From the analysis of the material found was possible to include 12 articles in this work. They included elements where only intervention was reported performed by an occupational therapist.

Discussion

The major operation occupational therapists axis is the sensory interventions supported by Jane Ayres's theory of sensory integration. These and other interventions have improved occupational performance of autistic children, changing them to more participatory in their daily living activities.

Keywords: Intervention, Program, Quality of life

Poster Number : SUN01-21

A Mixed-method Examination of the Impact of Experienced Stigma on Social Outcomes

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Introduction

Research demonstrates the negative impact of stigma experienced by parents of children with autism spectrum disorder (ASD, Gray, 2002, Farrugia, 2009, Mak & Kwok, 2010), however, less studies have investigated the consequences stigma has on the diagnosed individual. Exploring how stigma affects the social outcomes of young adults has increasing importance for helping to best support these individuals. Using a mixed methods approach, the current study aimed to examine how stigma relates to social outcomes.

Methods

For the quantitative portion of the study, 31 adults diagnosed with ASD (mean age = 26.62 years) completed several rating scales assessing social satisfaction (Cyranski, et al., 2013), social self-efficacy (Sherer et al., 1982), self-esteem (Dagnan & Sandhu, 1999), and adaptive functioning (ABAS II, Harrison & Oakland, 2003). Participants also completed an edited version of the Stigma Scale (King, 2007), a 28-item measure that assesses perceived and experienced stigma. Thus far, qualitative data has been collected from seven participants using a semi-structured interview and will continue until achieving saturation (Morse et al., 2002).

Results

Quantitative results revealed individuals with ASD that have ex-

perienced higher stigma also report significantly lower social satisfaction ($r = -.60, p < .001$), lower self-efficacy ($r = .51, p = .003$), and lower adaptive functioning ($r = .42, p = .02$), but found no relation between stigma and self-esteem. Preliminary qualitative results show individuals with ASD experience a widespread lack of understanding of ASD in the community. Further, interviews suggest this limited understanding contributes to experienced stigma related to self-esteem, self-efficacy, and social satisfaction. These data will be examined in greater detail using applied thematic content analysis (Guest et al., 2012).

Discussion

Using mixed-methods, the current study demonstrates the relation between negative social outcomes and experienced stigma among adults with ASD. Qualitative results directly tie this stigma experience to perceived ASD knowledge deficits among the community at large. To help minimize the negative consequence of stigma for individuals with ASD, an understanding of how these experiences impact quality of life can help with the development interventions to support individuals with ASD during the transition to adulthood and to help reduce stigmatizing beliefs and behaviors on a broader community scale.

Keywords: Adult, Environment, Quality of life

Poster Number : SUN01-22

A 'Quality of Life' approach to changing the way we support young people with autism and their families: findings from a specialist school

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Introduction

X is a specialist day and boarding school for boys, aged 10 to 19 who are on the autism spectrum. The school wanted to determine whether student and family Quality of Life (QoL) information could contribute to improving student outcomes and to guiding the support it provides for their families.

Methods

Data sets from the parent and self-report versions of the Quality of Life in Autism (QoLA) questionnaire (Eapen, 2014) were collected on three occasions over one school year. The QoLA has two parts. Part A provides insight into various aspects of the students' and parents' QoL such as their physical, psychological and emotional well-being. Part B data reveals which characteristics of their sons'

autism (e.g. anxiety, sensory issues, behaviour) the parents are finding most problematic, which can then be compared to the students' own views on this.

Results

Analysis of Part A data over time revealed that, as a group, students (n=30) maintained positive feelings about their physical, psychological and emotional well-being. Parent responses (n=17) showed much more variability but the majority reported improvements over time, in terms of feeling happier, less stressed and more satisfied with their family life. Part B data analysis identified some notable discrepancies in how students perceived aspects of their autism compared to their parents. For example, 83% of parents viewed independence in daily living tasks as being highly problematic compared to only 17% of students. Other discrepancies were related to sensory issues and managing anxiety.

Discussion

QoL information has helped the school to re-conceptualise and change the way it plans outcomes for students and the way it offers support to families. Individual student QoLA data has been used to set more meaningful and personally relevant targets for them in the areas of communication, self-management and independence. Group data from parents has identified which aspects of autism they perceive to be most problematic and this has led to precisely targeted support for them in terms of managing anxiety, dealing with sensory issues and developing independence in daily living activities. The school has developed a network for sharing its QoL framework with other schools who are interested in taking a quality of life approach to their work.

Keywords: Education, Family, Quality of life

Poster Number : SUN01-23

Evaluation of a nationally available service for supporting autistic people and their families with the transition to adulthood

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Introduction

Established in 2013, the service is a nationwide autism-specific advocacy service supporting young people and their families with the transition from education to adult life. Funded by 'Transforming Lives' and delivered by extensively trained home based volunteers who have provided information, advice and guidance to over 1300 families. Being a unique service which fills a gap in provision, the aim of the project was to pilot an internal evaluation process where valid evidence of 1) performance through immediate outcomes i.e.: monthly Key Performance Indicators (KPI) and 2) impact through longer term outcomes i.e.: qualitative case studies can be collected and inform service design.

Methods

A Theory of Change (ToC) was developed to identify immediate and long term outcomes, key elements of the ToC were used to inform the structure of questionnaire tools and topic guides, a board of external analysts advised on an evaluation strategy, a steering group of service managers and fieldwork volunteers was consulted on data collection tools, consent to participate in case studies was obtained via permissions on mandatory KPI surveys, telephone interviews (n=16) carried out by fieldwork volunteers for case studies six months after service delivery, KPI data (n=34) summarised for financial year 2017-2018, thematic analysis of qualitative data obtained from interviews.

Results

Main themes illustrate how autism-specific knowledge and understanding enables parents to be better informed and confident in supporting their child with transition. Most parents yielded desired outcomes by taking direct action, advocating for support from educational institutions or organisations. Others experienced more indirect benefits by being more emotionally prepared for transition and improved family relationships. Parents overall wouldn't know what to do alternatively regarding support and many felt that other services wouldn't have as big an impact meeting their specific needs. The service has been accessed by families from a wide range of socio-economic backgrounds but has been a proven lifeline for parents who struggle to cope financially.

Discussion

The combination of mandatory post service data collection (KPIs) and participation in case studies six months after delivery has provided rich evidence demonstrating performance and impact. Such evidence will be used to inform future proposals to maintain quality, funding and increase reach.

Keywords: Services, Teenage, Transitions

Poster Number : SUN01-24

NAVIGATOR ACT for parents to children of Autism Spectrum Disorders (ASD) and other disabilities

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Introduction

Parenting a child with autism is a long-term challenge despite of its many rewards. Parents to children with disabilities report high levels of parenting stress, depression and anxiety. The relationship between the parent and child functioning appear to be bidirectional. However, only a few interventions geared towards the psychological well-being of parents have been systematically evaluated. The aims of this study were to evaluate feasibility and the preliminary efficacy of the novel Navigator ACT acceptance and commitment therapy group intervention for parents to ASD and other disabilities in the context of outpatient disability services.

Methods

Stressed and distressed parents (n=94) to children (0-17 years) with ASD (n=66) and/or other disabilities (n=28) were allocated to the 5-session manual-based Navigator ACT intervention. The intervention was delivered in several clinics by two disability services professionals currently participating in the Navigator group facilitator program. Feasibility was measured by treatment completion and parent satisfaction while preliminary efficacy was assessed with self-rating instruments from the baseline (time-point one, T1) to post-intervention (T2), and 3-month post-intervention follow-up (T3).

Results

69 out of 94 (80 %) of the parents (ASD n=66, other disabilities n=28) completed the intervention, i.e. attended at least 4 out of 5 treatment sessions. Significant changes from pre- to post-intervention were observed in psychological flexibility, mindfulness, depression and anxiety with moderate to large effect-sizes. The decline in parental stress reached significance first at 3-month follow-up. In addition, child's difficulties (e.g. emotional and behavior problems) and the impact of these difficulties on family declined. All efficacy-related measures were maintained or improved at 3-month follow-up.

Discussion

Navigator ACT was a feasible treatment for distressed caregivers in the outpatient disability services context. The preliminary results of the efficacy of Navigator ACT were promising, and support the bidirectional nature of effects of the psychological well-being. Navigator ACT seem to help parents in challenging situation to regain psychological well-being, thus enhancing the psycho-social environment of the child with disability and the entire family. A randomized and controlled trial is necessary to confirm these findings.

Poster Number : SUN01-25

Micro-costing of the Incredible Years Autism Spectrum and Language Delays Programme

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Introduction

Communication difficulties associated with autism are a strong predictor of externalising maladaptive behaviour. Child emotional problems and conduct difficulties are reported as being a greater cause of distress and mental health problems to parents than the core symptoms of autism. Evidence based parenting programmes such as the Incredible Years (IY) series are effective for both treatment and prevention of child conduct problems, and associated

social and emotional problems. The IY Autism programme is a new addition to the Incredible Years suite that targets parent-child relationships and broad developmental outcomes including communication, social skills and behaviour problems. Although there is strong evidence demonstrating the effectiveness of parenting programmes, economic evaluations of their cost effectiveness are rarely undertaken.

Methods

This costing was conducted from a public sector multi-agency perspective, alongside a pragmatic RCT evaluating the Incredible Years Autism programme. The sample consisted of 58 families from four centres across North West Wales. Data was gathered from cost diaries documenting all expenditure including group leader salaries, venue hire and administration costs. Initial training and group leader supervision were also added. Costs of future roll-out of the programme were calculated for five families per group (average number of parents attending sessions in RCT), and for ten families per group (recommended maximum number of attendees).

Results

Total costs to set up and deliver the program as part of normal service delivery were £8103.02 (£810.30/child with 10 parents attending, £1620.60/child with 5 parents attending). Future roll-out

cost of the program, excluding initial set-up costs (training, materials etc.) was £2648.62 (£264.86/child with 10 parents attending, £529.73/child with 5 parents attending).

Discussion

Using a previously developed and standardised framework ensured precise and accurate micro-costing of the IY Autism programme. This contributes towards identifying the costs and benefits of the programme for policy deciders, future implementation, and provides information for any future cost-effectiveness analysis. This research also contributes to the understanding of the cost of autism to public health services, and increases economic information on parenting programmes shown to benefit the wellbeing of both children and parents.

Keywords: Adapting, Challenging Behaviour, Communication

Poster Number : SUN01-27

Atlas - a stressreduction mindset til staff and parents

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Introduction

We were interested in stress in both staff and parents to children and adolescents with ASD diagnosis. We focused on the impact stress have on both the life of parents and children/adolescents. We were concerned about how to secure development and wellbeing in this group of people.

Methods

We developed a course and training-programme which we give to both parents and our staff to secure a mindset, where focus is on stress-management. We are still in process with developing and evaluating this

Results

We find that when staff and parents are given methods to unders-

tand their own stress and to analyse upon their own stress and coping it is possible to choose other/different copingstrategies. To be able to choose other copingstrategies tend to increase wellbeing and reduce stress.

Discussion

Our focus is relevant because reducing stress via being able to choose other coping-strategise eg. gives the opportunity to a life with wellbeing and development. We are focused on how we can increase the possibilities for development and inclusion for individuals with ASD and their families. We see this as a mindset equally important as concrete training-methods.

Keywords: Development, Family, Stress

Poster Number : SUN01-28

Adaptability, cohesion, and satisfaction in families with a child in the autism spectrum

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Introduction

The impact of having a child with autism in the family is grave, for both parents and siblings. Negative consequences have been reported on the way family members function and on their relationships. Relevant research evidence is sparse in Greece and, thus, the present study aimed to examine family adaptability, cohesion and satisfaction, as well as sibling relationships in families of children with and without autism. Additionally, it investigated the role of certain demographic characteristics such as other offsprings in the family or the child's age on the above factors.

Methods

Participants were 46 parents from the broader area of Athens who agreed to complete three self-report questionnaires. Their children on the autism spectrum attended either special schools, or inclusive mainstream schools or Day Care Centres. The questionnaires administered by the researchers included (a) the Family Adaptability and Cohesion Evaluation Scale (FACES III), (b) the Family Satisfaction Scale (FSS), and (c) the Sibling Inventory of Behaviour (SIB). Data collection was completed in three months' period of time.

Results

The results showed that parents with only one child with autism are less satisfied with the adaptability of their family than those who have more than one children. In addition, according to the participants' answers, it has been suggested that the older the child with autism is, the less acceptance and support he/she receives from his/her siblings. However, when strong emotional ties develop among family members typically developing children seem to support their siblings with autism and to exhibit fewer aggressive behaviours and feelings of shame. Therefore, the cohesion and satisfaction of the family of children with autism seem to affect positively sibling relationships.

Discussion

The present study pointed out the importance of family functioning in families with a child in the autism spectrum and how the strengthening of the emotional ties among family members may develop healthy sibling relationships. As there are very few similar studies internationally, our findings provide insight about family functioning and interpersonal relationships in families of children with autism, as well as the opportunity to formulate useful suggestions that will help future research efforts.

Keywords: Adapting, Family, Quality of life

Poster Number : SUN01-29

Autisme Info Service: A COMPREHENSIVE MULTI-CHANNEL AND MULTI-TARGETED NATIONAL INFORMATION AND REFERRAL SERVICE

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Introduction

According to the report of the French "Cour des Comptes", published in December 2017, 85% of people with autism do not benefit from appropriate care.

While France has taken the measure of this major public health problem in recent years, the life course remains a battleground for people with autism and their families.

The lack and dispersion of information on the pathology and the warning signs, the absence of referencing of support and training systems, the virtual non-existence of coordination between the various stakeholders and health professionals, the difficulty of administrative and educational procedures... are all shortcomings that today lead a certain number of users and their representatives to request complete and accessible information via a dedicated sup-

port service.

It is in response to this observation that the Autism Info Service system was born.

Methods

The mission of Autism Info Service is to provide general and up-to-date information on autism spectrum disorders, to relay the recommendations of the HAS, to support the persons concerned and their families, to guide users towards the services best suited to their needs. This mission is conducted in accordance with the law and the dignity of individuals and in a non-judgmental and neutral approach. Autism Info Service is aimed at women and men with autism and their families, health and social professionals, supervisors... and more generally, anyone interested in autism. Autism Info Service is the first national free information and listening service by telephone, e-mail and chat to help and guide people with autism, their entourage and professionals working with them on questions

relating to this disability and their future.

Results

The future could materialize with the creation of an Autism Info Service Observatory to monitor the evolution of the expectations of the publics concerned and practices through an annual barometer. Autism Info Service wishes to publish the figures related to its system. These figures will relate to statistical data recorded by respondents and the digital platform, from one year to the next. This observatory could eventually help a growing number of actors to set up concrete actions in favor of better consideration and management, but also facilitate the sharing of good practices and monitor the evolution of the expectations of the publics concerned and practices.

Keywords: New Technologies, Personalised Support, Transversal

Poster Number : SUN01-30

Parental experience of participation in a parent-mediated communication intervention with their child with Autism Spectrum Disorder

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Introduction

There is growing evidence to support parent-mediated communication interventions for children with Autism Spectrum Disorder (ASD, e.g. Pickles et al. 2016). Interventions delivered through parents bring potential advantages over those delivered by professionals: reduced cost, increased intensity and generalisation, parental empowerment. The real-world implementation of parent-mediated intervention is heavily dependent on parental buy-in and investment, often against a backdrop of time, energy and financial constraints. Therefore an understanding of parental experience is crucial.

Methods

Participants were 18 parents who participated in Paediatric Autism Communication Therapy (PACT), a video-aided communication-focused intervention delivered to parents by Speech and Language Therapists (SLTs). Semi-structured interviews were conducted with all participants. Interviews were transcribed and analysed using thematic analysis.

Results

6 themes emerged:- Adjustment to diagnosis: The experience of receiving the ASD diagnosis and the emotions this elicited, how the therapy was seen as a lifeline against this backdrop- Expectations: Considerable variability in parental expectations of what the intervention could achieve. Some parents wanted rapid change or assumed that the SLT would help their child to speak which led to disappointment for some- Therapy processes: For many parents the intervention allowed them to reflect on their parenting and interactions, many were surprised and shocked by what the video feedback revealed- Relationship with therapist: Common to all interviews was the high esteem in which the SLTs were held: patient, validating, positive and with the ability to lead the parents to a discovery rather than telling them what to do- Practical challenges: Time consuming, travel to sessions, length of sessions, venue, difficulties in occupying child during video feedback, concerns about confidentiality of video material- Outcomes: PACT led to many parents making enduring changes in their interactions with their child and the benefits were demonstrated in improved verbal and non-verbal communication and behaviour in their child on a daily

basis. Parents were won over by the progress in their relationship with and understanding of their child

Discussion

PACT was a positive experience for parents, helping them move

on after diagnosis, feel supported and valued, and improve parent-child relationships. Expectation management and practical arrangements need consideration.

Keywords: Communication, Family, Intervention

Poster Number : SUN01-33

The effect of therapeutic interventions of children with ASD on their parents' mental health

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Introduction

Parents raising children with autism spectrum disorder (ASD) often struggle to manage the demands of everyday family life. It has been reported that parents of children with ASD experience not only significantly more stress than parents of typically developing children but even more stress than parents of children with other special needs. As highly-stressed they are more vulnerable to experience mental health problems, such as anxiety and depression. In our study we aimed to determine whether the parents' mental health (stress, wellbeing, satisfaction with life, depression) can be affected simply by their child's progress followed by the inclusion in regular and comprehensive therapeutic intervention.

Methods

Total of 36 parents and 36 children with ASD took part in the study. Children, aged 2-12 years (M = 5.2 years, 12 girls and 24 boys) participated in developmental and/or behavioural therapeutic interventions for two months. A questionnaire battery was developed for the purpose of the study. It included COPE – short version, Parental Stress Scale (PSS), Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS), Satisfaction with Life Scale (SWLS) and Centre for Epidemiologic Studies Short Depression Scale (CES-D 10). Parents filled out the questionnaires prior and after the treatment.

Therapists measured children's progress (prior vs. after) using the therapist's questionnaire specifically formed for this purpose.

Results

The influence of the child's progress in therapeutic treatment on different aspects of their parents' mental health was not statistically significant. On the other hand, there is an evidence that the instrumental support, that parents received throughout the therapeutic sessions, had a positive impact on two aspects of their mental health - stress level and wellbeing.

Discussion

The parents in our study benefit the most from the instrumental support of professionals working with their children. The obtained results give us an insight of how to efficiently help parents of children with ASD to reduce their stress level and improve their wellbeing. Besides encouraging them to actively participate in their child's intervention, there is a great need for target educational groups in order to support them on their way to greater independence.

Keywords: Family, Intervention, Stress

Poster Number : SUN01-34

Autism: the spirit of empathy and equanimity

Authors:

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Introduction

I am doing theater and meditation because it brings me confidence and joy of living as an autistic Asperger. I also listen to epic music. The question I asked myself was: «Can autistic people be happy at all times? Can we be included in the community in this way? «

Methods

I have been doing theater since I was in school and meditation for over 10 years. It all started in Montceau-les-Mines in France. Today, I practice both in Angoulême and still in France. In theater I learn to articulate, strengthen my voice and play a character either in a play or in a movie. I do as a hobby because because I inform you that I work as a layout artist in animation. Then I meditate for 15 minutes at least once every day. For that, it is enough for me to go in a calm place and to sit cross-legged. Given my auditory hypersensitivity, silence helps me concentrate. Finally, I compare my behavior based on the number of times I do these activities. Clearly, the more I practice, the more the effects grow.

Results

I realize these activities allow me to develop more quickly and progressively joy, empathy and equanimity. The result is that I smile more often than before in everyday life and even in shocking situations. The results are beyond my expectations.

Discussion

This action could involve all people with autism because it allows them to be less depressed and to regain self-confidence in society. Indeed, these activities give them a favorable environment to develop themselves. Autistics can also learn dancing and directing films like I do. Also, I recommend to everyone to create compulsory meditation classes in all schools because we live in a society where the competitive spirit is king. As a result, the pressure is increased by this state of mind as well as depression. In conclusion, it is clear that autistic people need more calm and tranquility to succeed as human beings.

Keywords: Adapting, Behaviour, Empowerment

Poster Number : SUN01-36

Group Parent Training for Autism: validate an operational model

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Introduction

Parent Training is useful in families with autistic children to provide parents with a range of tools to reduce problematic behavior and increase learning opportunities for children. The goal was to create a structured PT pathway to illustrate the mental functioning of the autistic child, provide operational tools to parents to manage problematic behaviors and create networks between the parents of autistic children.

Methods

5 psychologists held group parent training sessions for one year

for parents with children aged 3 to 7 with a diagnosis of autism. The meetings were 12, each with a specific topic. Theoretical knowledge and operational tools have been given to parents through operational forms specifically designed for parents. With the Parenting Stress Index (PSI) tool, parental stress levels were measured.

Results

After the training, parents experienced a level of awareness of their child's condition and greater competence in using the tool to reduce problematic behaviors and increase appropriate behavior.

Discussion

Training families with children with autism is useful for reducing parental difficulties and improving the relationship of individual parents towards disability. The group has proved to be an important

way of developing self-help skills among parents.

Keywords: Challenging Behaviour, Family, Training

Poster Number : SUN01-37

Cost-effective post-diagnose support programme for an under-resourced region

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Introduction

A number of studies show that the prevalence of Autism Spectrum Disorders (ASD) is rising in alarming numbers, currently reaching 1 in every 68 people. Studies also show that the most effective approach to improve the lives of these children and their families is to support, train and empower them. This must be implemented from moment that the parents find out about their child's condition. Authorities are unaware of the financial burden that this is having on society. As a result, there is an urgent need to create a cost-effective model of support and early intervention for these families, particularly in under-resourced geographical areas. The aim of this research is to create a post-diagnosis programme for families with young children with autism in a very low budgeted region.

Methods

In order to achieve this, the researchers have compared most of the models of post-diagnosis support provided by public institutions around the world. These programmes facilitate confidence, trust and decision-making for the families in different ways. Thirty parents of children with ASD have been interviewed in order to understand their specific needs, both during and after the diagnosis using a mixed qualitative and quantitative approach.

Results

The data gathered reveals a severe lack of expertise or clear procedures by paediatricians and other health and social professionals.

Parents were consistently ignored when they verbalised concerns regarding the social and communication development of their child. Only one third of the families interviewed received diagnosis using tools scientifically accepted. Also, after receiving the news, parents were thrown into the unknown. Families were looking for concrete and trustworthy information about the specific profile of their child, support and procedures regarding interventions, tools and strategies to deal with problem behaviour and contact with other families.

Discussion

The researchers have created a post-diagnosis support programme merging the analysis of the programmes already in place in some countries with the specific needs of families. The programme takes into account the current budget that public services in this region allocate to therapy during the three months posterior to a diagnosis of ASD and uses it to fund the proposed programme as a replacement. This programme aims to tackle the challenge of autism more efficiently by being more cost-effective with the addition of empowering the families throughout the process.

Keywords: Complex Autism, Empowerment, Family

Poster Number : SUN01-39

Intensive Intervention for Late Diagnosed Autistics: Finding Self

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Introduction

When a child is diagnosed with autism, intensive intervention protocols are often provided through early intervention, school based services and family support. However, for someone diagnosed after the age of 25, the protocol generally involves asking the person about their autism before they even really know what it is. Then there is testing, assessment, interviewing, provision of the diagnosis and no post-diagnostic support. This presentation will reflect on a specific protocol (being studied as my dissertation topic) designed to provide the adult model for intensive intervention at the time of diagnosis.

Methods

A therapeutic approach using dyad conversation, a framework of understanding autism and an introspective self-assessment is used to facilitate the person understanding 1) what is autism 2) how do I experience my autism through the lens of my unique experience of autism 3) how do others experience my autism 4) what accommodations, adaptations, supports and interventions can be partnered with disclosure to enhance understanding, facilitate more accurate and targeted reporting of symptoms and expand access to supports and services of both an informal and formal manner with agencies.

Results

While the research is in process, the anecdotal results reflect that many autistics present for diagnosis without really knowing what autism is. They also do not independently have the capacity to ascertain what is relevant to report (personality) versus what is symptomatic (autism manifestations). They also struggle to report due to shame and stigma however, when using this protocol without blame or shame, they can become more forgiving of self and more forthcoming as they no longer perceive their condition as a failure of character but a fact of life. Thus far, all have reflected that they could not have come to this level of understanding of self or meaningfully reported their needs without this systems navigation support.

Discussion

This research thus far, demonstrates that autism is an experience happening TO the autistic person until they engage this protocol for self-awareness. It allows the person to prioritize what they can and can't do without causing harm to one's overall wellness. It helps them to be more forgiving and less shame ridden. It offers them some sense of support shifting from autism happening TO them to autism living WITHIN themselves.

Poster Number : SUN01-41

Empowering Parents to Support Effective Treatment: Parent Training Models Applied Across Multiple Settings

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Introduction

A clinical investigation was undertaken to study models of parent training which are evidence-based and empowering and can be applied across a variety of treatment settings. Individuals with Autism Spectrum Disorder (ASD) can experience important challenges with skill generalization. To support meaningful and effective

progress it is important to engage the entire family system and enable the family to learn treatment strategies which can offer substantial benefit to the individual with ASD and, in fact, the entire family system. Treatment planning which begins with efforts to empower parents to apply therapeutic procedures consistently and effectively can substantially improve quality of life and accelerate

treatment gains.

Methods

Parent training modules were applied simultaneously with direct care and across home, educational, and clinical settings. This included a primary school environment, homes, a community-based clinic, and a specialized clinic addressing the treatment of feeding difficulties. In each setting the parent training supported family members in learning therapeutic procedures for use across home and community settings and included modeling and direct observations, teaching for the family, training on data collection, and supportive feedback to help family members learn to utilize strategies in a fashion consistent with professional implementors. Parents were also provided with data collection tools and guidelines to help organize their efforts outside of the training and were monitored over time for skill generalization

Results

When provided with a supportive coach model parents were not

only able to learn the skills needed to implement therapeutic strategies successfully, they found the process effective and meaningful. Further the direct treatment effects for the individuals with ASD supports the positive impact on skill transfer across environments.

Discussion

This investigation strongly supports that family training should be incorporated into treatment across all environments and that providers should offer this service as a standard of care whenever possible. The information collected endorses the premise that families can implement therapeutic strategies very well when provided with appropriate training and that individuals with ASD benefit markedly from such efforts. Further, family members report a high degree of investment and confidence in these treatments as well as comfort receiving coaching as well as supportive feedback.

Keywords: Family, Training, Treatment

Poster Number : SUN01-42

Understanding the educational needs of culturally and linguistically diverse children with autism: A scoping review

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Introduction

We conducted a scoping review of studies conducted in the UK and the USA to ascertain what is known about culturally and linguistically diverse (CLD) children with autism. The main aim was to i) understand current research regarding the experiences and needs of CLD families of children with autism and practitioners who work with them, ii) identify available resources or interventions that can support both families and practitioners, and iii) understand 'state of the art' as regards to representation of diversity in autism research.

Methods

A systematic search of four electronic databases: 1)PROQUEST Social Sciences Premium Collection (Education Collection), 2) EBSCO ERIC, 3)PSYCINFO, and 4)SCOPUS including MEDLINE was conducted. Seventy-seven studies met all the following inclusion criteria: the study 1)focuses on individuals with autism who are 18 years old or younger, 2)focuses on culturally and linguistically diverse populations, 3)was published between 2000 and 2018, 4)was conducted in the UK or the USA or the participants

were living in the UK or the USA, 5)was published in English and in a peer-reviewed journal, 6)included empirical data, 7)included as participants parents, family members, teachers, therapists, or children.

Results

Emergent themes from the preliminary analysis indicate that social perceptions of autism are influenced by cultural and linguistic contexts, include exclusion from the educational and social system of CLD children with autism, and challenges about language preference in bilingual environments. Gaps in the existing literature include focus on only specific ethnicities, lack of participatory research and stakeholder involvement or lack of capturing the autistic 'voice'.

Discussion

There is a need to research, conceptualize and develop good educational practice for autistic pupils with respect to ethnic and linguistic diversity. This includes a need to increase school practitio-

ner's knowledge of appropriate educational practices in autism in culturally sensitive ways. We put forward a framework for addressing the educational needs of culturally and linguistically diverse children with autism. This focuses on the intersection between disability and ethnicity. It is hoped that this can guide future research

and the development of resources for parents and practitioners working with culturally and linguistically diverse children.

Keywords: Culture, Education, Inclusion

Poster Number : SUN01-43

The evaluation of the functioning of families with ASD children using the Circumplex Model

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Introduction

Autism Spectrum Disorder (ASD) is a disease described as strongly heterogeneous due to a large number of symptoms which may appear in the child's functioning. Adults life of people with ASD depends on the early introduction of intensive therapeutic programmes, modifying the undesirable behaviours, and aimed at teaching social and communication skills. The aim of the paper is to evaluate the functioning of families with an ASD child and compare it to the functioning of families with healthy children.

Methods

The study was performed using (Flexibility and Cohesion Evaluation Scales, FACES-IV). The study included 70 parents of ASD children, and 70 parents with children without diagnosed ASD, as the control group.

Results

Two of the many results has been established that the parents of autistic children achieve lower results in the Balanced Cohesion sub-scale than the control group. Also, the parents of ASD children obtained higher scores in the Disengaged sub-scale than the control group.

Discussion

This may be a significant result, suggesting the risk of the occurrence of a disturbed family system, functioning in families with children with ASD, which should be a trigger for providing these families with early family functioning diagnosis and consequent support and therapy. What does this paper add? This paper shows that may be a significant result, suggesting the risk of the occurrence of a disturbed family system, functioning in families with children with ASD, which should be a trigger for providing these families with early family functioning diagnosis and consequent support and therapy. The study was performed using (Flexibility and Cohesion Evaluation Scales, FACES-IV). The study included 70 parents of ASD children, and 70 parents with children without diagnosed ASD, as the control group.

Keywords: Complex Autism, Family

Poster Number : SUN01-44

Developing parent education in autism in south-east Europe: the ESIPP project

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Introduction

Autism can challenge typical parenting styles, causing parents to feel deskilled and disempowered, especially when little support or information is available to them. Parent education has been shown to be effective in improving personal, educational and social outcomes for individuals with autism and their families. However, though parent education programmes exist in parts of Europe, in others – such as south-east Europe - they have been extremely limited or non-existent. This presentation reports on a 3-year project (Sept 2015-Aug 2018) developing, providing and evaluating the impact of parent education across three south-east European countries: Equity and Social Inclusion through Positive Parenting (ESIPP).

Methods

A partnership of parents, professionals and academics worked together to carry out the project in Croatia, Cyprus and the Former Yugoslav Republic of Macedonia. The project was evaluated using a combined process and outcome evaluation methodology. This included quantitative methods (pre- and post-training parent questionnaires, analytics) and qualitative methods (parent interviews, trainer focus groups and reflective diaries).

Results

The ESIPP parent education programme was based on identified good practice and locally differentiated for the three countries. Local training teams were developed, providing 19 training workshops at 11 sites, training 335 parents.

Attendees reported that they took away practical strategies to use with their children, gained ideas to keep their children happy, increased their knowledge about autism, increased their child's social opportunities through attendance, and developed personal support networks. Post-training interviews in all three countries showed that parents identified positive changes in their children, particularly with regard to communication, the management of restricted interests and dealing with sensory issues.

In addition, almost 450 delegates attended stakeholder conferences. Feedback regarding the project, its aims and materials was overwhelmingly positive, and contributed to the ongoing sustainability of parent education in the three countries.

Discussion

This project highlights the importance and impact of parent education. Partners have worked with local policy-makers to ensure that parent education will continue to be provided and developed in these three countries, and wider ongoing impact of the project is supported by training materials being freely available from the project website and Erasmus+ portal.

Keywords: Family, Inclusion, Learning

Poster Number : SUN01-45

Training Video as an Appliance for Special Education Teacher in Parent Counselling for Collaboration Betterment

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Introduction

State of affairs in education field today is that many educational institutions are unprovided with special education teachers but the need for them is highly rated. Lack of special education teachers causes a situation where children with special needs are not supported in terms which are needed for them because teachers who work with these children don't have enough knowledge of how to adapt the school or kindergarten environment in a way that is needed. Parents also may not have enough help and support to cope with their child with special needs. One of solutions is that child with special needs gets special education therapy from rehabilitation centre. That way, parents have better opportunities to master different skills of developing and teaching their child at home. Also, it gives special education teacher a chance to start a lucrative collaboration with parents. Therefore, it is important to guide parents how to be active network members and also how to be active member in collaboration with special education teacher. It is important to find a way how to inspire and encourage parents to do all of this. Present research is a study of development where training videos for parents were made to support them in developing their child at home. The author of this research wanted to find out if training videos would encourage parents to be more active teachers to their children with special needs.

Methods

The research took place from November 2017 until March 2018. The practical part of the research was conducted via qualitative interviews between parents of children with special needs. After that, analyzing the results were done.

Results

The research outcome showed: 1) Training videos were positively accepted by parents. 2) Parents found that exact descriptions which were sent along with the training videos were helpful and made it easier for them to understand the purposes of activities seen. 3) Training videos motivated parents to do developmental activities at home.

Discussion

A suggestion to use training videos in their work has been made to other specialists whose everyday job is to develop children with special needs and counselling parents. The author of that research has an idea that there should be some kind of website in the future which contains different videos made by specialists to get ideas of activities to use while working with children with special needs.

Keywords: Development, Family

Poster Number : SUN01-47

PROGRAM FOR PARENTS: «BALANCED CHILD WITH ASD» A SUCCESSFUL WAY TO RAISE A CHILD WITH AUTISM

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Introduction

PROGRAM FOR PARENTS: "BALANCED CHILD WITH ASD" A SUCCESSFUL WAY TO RAISE A CHILD WITH AUTISM For many parents, raising a child with autism is a very challenging and overwhelming experience. The purpose of this presentation is to introduce "Balanced child with ASD", an effective program for parents based on personal positive experience and a successful col-

laboration with professionals. This program is a step-by-step practical guide for parents to establish a balanced environment and life style, identify and address the fundamental needs of their child and provide an effective holistic solution for these needs.

Methods

This program is based on 15 years of successful and positive ex-

perience of a particular parent and professional of autistic child and incorporation of many different holistic techniques and methods. This program is packaged in the format for easy use by other parents. It contains three main domains which then are presented across twelve different modules. Restoration: Detoxification, Sleep, Environment and Intermission. Stimulation: Nourishment, Interventions, Education and Exercises. Attitude: Positivity, Curiosity, Compassion and Motivation.

Results

As a result of this new program, at least 10 children with autism have improved their quality of life, made a successful transition from primary school to secondary, to college and have even found jobs. 20 other children still in the process of making great progress and are at different stages of positive changes. What is remarkable that life of a whole family is improving as a result of being at this program. Testimonials, real life stories and many happy families are the true outcomes of this program

Discussion

As the number of children with autism grows worldwide, families require more approachable and effective ways of supporting and raising their children. Inspired and empowered parents with the knowledge, real tools and clear guidance to follow can provide better care for their children and can help them to become valuable citizens of our society. The "Balanced child with ASD" program has been designed exactly for this purpose and can be adapted to any country and any local region. Parents who would like to provide long-lasting support for their children will find this program very beneficial. It would, therefore, be advantageous for this program to be popularized and translated into different languages such as French, German, Italian. Local funding would be very helpful to support this initiative.

Keywords: Empowerment, Family, Program

Poster Number : SUN01-48

Systemic psychotherapy for supporting family and therapy of child with ASD

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Introduction

Big influences of the family functioning was observed in the therapy of children and adolescents, young adults with ASD. During 8 years of implementing different therapy forms it was noticed that family as a system develops specific characteristic and strategies to deal with autism and that dependencies between ASD deficits and family ways of dealing with autism are mutual. The question was, What are the differences in family needs when dealing with autism and therapy of children with ASD? Also- Who is therapy for? for child or for the family? or maybe for the child and the family? What are the topics and the benefits of family therapy for parents and siblings?

Methods

Case studies. Flashback and experience from therapy of more than 150 children with ASD and their families. Describing family contribution for the therapy. Drawing attention to shifts in the emotional needs within family of people with ASD and how they work with them in family therapy for the benefits of whole system. Indication for family development aims and how do they differ from families without child with ASD.

Results

They are different influences of family mechanisms on the effectiveness of therapeutic activities addressed to people with ASD at

various stages of development. They is need of redefinition of concepts: differentiation, gratification, independence, emotionality dependence in the context of functioning characteristic. It is crucial for the people with ASD considering family needs in the therapy of their children and appreciate how big influence does it have for the quality of any implemented therapy.

Discussion

Discussion of the characteristic and practical difficulties in the therapy in the context of interaction with family system: boundaries in the family, various difficulties of the transition to subsequent stages of development, family roles, emotionality, ties, family diversity. The need of redefinition of concepts: differentiation, gratification, independence, emotionality dependence in the context of functioning characteristic child with ASD and whole family system. The reflection about how much do we consider family needs in the therapy of children with ASD and what can we do for increasing family participation in the therapy to help parents and siblings needs.

Keywords: Complex Autism, Development, Family

Poster Number : SUN01-49

Relationship between parents and therapists during treatment

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Introduction

Relationship between parents and therapists always remains a crucial key to therapy outcomes and overall prognosis of persons with ASD. From the announcement of the diagnosis to the understanding of the several characteristics of the disorder and the engagement to a specific therapeutic scheme, there are several challenges to confront and procedures that should be followed from both sides. In the every day practice, practitioners in a very high percentage seem to forget the importance of parents' involvement to therapy or even more often resist engaging with the parents due to fear or lack of knowledge and experience on family counseling. The goal is to evaluate the importance of a functioning communication system between parents and therapists, for the person's inclusion and the whole family's quality of life.

Methods

A sample of 250 families with children or adolescents with ASD is studied according to whether parents or carers were involved in therapy of their children and in which way they did, if they had their own personal therapy and which kind. In addition, we recorded whether therapists had support, supervision or personal therapy during providing their services. Those factors are related with the

outcome of therapy and the quality of life of the whole family.

Results

Communication between parents and their children's therapists seem to be hard in many cases. This is due to lack of therapists' experience in counseling, difficulty to control or handle with negative emotions (anxiety or disappointment) during therapy in front of parents, parents' communicative difficulties and emotional involvement. Working in a therapeutic team seems to be a positive-supportive factor for professionals which can reinforce the interaction with parents. Therapeutic schemes in which parents participated in an energetic and creative way had better outcomes.

Discussion

Results suggest that a good relationship between parents and therapists as well as parents' involvement in therapy are important for a better prognosis and inclusion. More studies should be made in order to find out which is the most appropriate and effective way to achieve this goal.

Keywords: Family, Inclusion, Treatment

Poster Number : SUN01-50

Quality of Life of Parents of Children with ASC and Their Complacence with Educational Services: Results from a Large-n Quantitative Study

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Introduction

Positive relationships were found between quality of life (QoL) in parents of individuals with ASC, and the quality of services received by their children with ASC (Lai & Oei, 2014, Siman-Tov, Kaniel, 2011, Eapen & Guan, 2016, Frantzen et al., 2016). A pilot study from a Hungarian sample brought similar results (Gyori

et al., 2016). The main objective of our study was to explore the relationship between perceived quality of educational services received by children and adolescents with ASC and the QoL of their parents. Findings were compared to those from parents of neurotypical individuals.

Methods

Data were collected from parents of individuals with ASC, providing data on 346 children (age range 6–18 years) and from parents of neurotypical individuals, 166 offsprings (age range 6–18 years). There was no significant difference between parental groups in level of education or in type of residential settlement. Data were collected by an on-line questionnaire battery, composed of, among other tools, the WHO-QOL BREF and the Quality of Life in Autism Questionnaire (QoLA); parents' subjective complacence with educational services was measured by rating questions. Symptom severity was measured by the Social Communication Questionnaire (SCQ). For respondents without on-line access or relevant competencies, an assisted paper-and-pencil data collecting method was offered.

Results

Significant differences were found between the QoL measures of the two groups (ASC/NT) in all domains. The severity of symptoms

in children with ASC showed negative relationship with parental quality of life (QoLA). In the ASC sample, all domains of parental QoL showed significant positive relationships with parents' subjective complacence with educational services received by their children. In the group of parents of neurotypical children, only the 'environment' domain of QoL showed significant (positive) relationship with parents' complacence with educational services.

Discussion

Results, coming from the first large-n representative study on the issue in our country, are overall in line with previous findings from the international literature, confirming further their relevance across cultures. As a novel aspect, our results point at the importance of parental perception of quality of educational services received by the child.

Keywords: Education, Family, Quality of life

Poster Number : SUN01-52

Mothers of preschoolers with autism spectrum disorder (ASD): Parenting behaviour, parenting stress and ASD characteristics

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Introduction

Preschool age can be a very challenging time for parents of a child with ASD. Early ASD signs of their young child can become more pronounced, and parents may have to cope with the recent diagnosis and the start of intervention services. Not surprisingly, parents of preschoolers with ASD experience more parenting stress, compared with parents of typically developing children or children with another disability. Moreover, they may have ASD characteristics themselves, possibly influencing their parenting behaviours.

Methods

In total, 42 children participated together with their mother. Children in the ASD group (N=21) were matched with the control group (N=21) on developmental age and gender. Maternal parenting behaviour was observed during three tasks and additionally evaluated through a self-report questionnaire. Parenting stress and ASD characteristics were evaluated through self-report questionnaires. Linear mixed models (LMM) were used to compare the means of parenting behaviours among mothers of children with and without ASD. Additionally, within-group centered maternal ASD characteristics and parenting stress were added as covariates to investigate their role in parenting behaviours. Finally, both the inter-

action of group with parenting stress and with ASD characteristics were included to investigate whether the role of these maternal characteristics was similar for the two groups.

Results

Mothers in the ASD group reported more parenting stress than mothers in the control group. Maternal ASD characteristics did not differ between groups. Mothers in the ASD group demonstrated more negativity and less sensitivity towards their child during observation. When children with an IQ below 70 (n=5) were excluded from the analyses, only the difference in observed negativity remained significant. Considering the self-report questionnaire, a significant group effect was only found for stimulating the development, with a lower score in the ASD group. No effect on observed or self-reported parenting behaviour was noted for either parenting stress or maternal ASD characteristics, nor an interaction with group.

Discussion

We conclude that parenting behaviours are largely comparable across the ASD and the control group. However, mothers of preschool children with ASD experience more parenting stress,

show less observed sensitivity and more negativity and report less stimulation of the development. This may indicate that these mothers still have to find a way to deal with their child's ASD.

Keywords: Family, Preschool

Poster Number : SUN01-53

ASD services for adults requiring very substantial support: the family perspective

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Introduction

Young adults with autism spectrum disorder (ASD) and their families experience loss of support from health and social services during the transition to adulthood (Thompson et al, 2018). To arrange appropriate adult services, families should find competent facilities providers. When services are lacking or inadequate, some families set up self-managed services in the attempt to answer long life challenges due to ASD condition (Anderson & Butt, 2018). To explore experience with health and social services of parents of young adults with ASD requiring very substantial support, a qualitative study was conducted in a group of families who set up an integrated social agricultural cooperative to promote social and working inclusion of their children.

Methods

Two focus groups of one hour and a half each were conducted with nine parents recruited via the administrative services of the cooperative "Giuseppe Garibaldi" in Rome, Italy. All the participants were parents of young adults involved in a one-year project financed by European social funds. Qualitative interviews were digitally recorded, transcribed, and analysed by using content text analysis associated with a grounded theory approach. A questionnaire on specific domains related to services experience was also administered at the end of the encounter.

Results

The focus groups provided detailed information relating to the experience of the family with services. Emergent themes included bureaucracy issues, lack of services, fighting for access, staff problems, adequacy of intervention programs and emotional and financial burden of "doing it yourself". Overall, they confirmed the urgent need of innovative services supporting community living of their children.

Discussion

Despite recommendations of international clinical guidelines (NICE, 2011, New Zealand Autism Guidelines, 2016, SIGN 2016), our preliminary results confirm that families of young adults with ASD still experience a lack of services during the transition to adulthood and long term support (Anderson, Lupfer & Shattuck, 2018). Overall, parents reported the scarcity of follow-up programs for medical, psychiatric, and daily needs as well as interventions suited at an individual level, able to promote autonomy and inclusion of their children. More research is needed to understand unmet necessities of young adults with ASD requiring very substantial support and their families in order to identify appropriate solutions taking into account Quality of Life models (Brown et al 2009).

Keywords: Family, Services, Transitions

Poster Number : SUN01-54

They know what I'm talking about - Impact of the Good Start Peer Support Project

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Introduction

The Good Start project of The Finnish Association for Autism and Asperger's Syndrome 2014–2017 includes the development of a model of early-stage peer support, in which personal support can be offered in the supportee's everyday environment. The project has trained volunteer peers in different parts of Finland to offer support when the autism spectrum diagnosis is still recent or has not yet been confirmed. All volunteer peers have personal experience of the autism spectrum. In the project, parents encounter other parents of children with an autism spectrum disorder, adults encounter other adults with an autism spectrum disorder etc.

Methods

In 2017 we prepared a report on the impact of peer support to study its effects on the supportees and volunteer peers in addition to what the project means to them. Data was gathered by means of an online survey directed at Good Start peers and follow-up forms for the peer support offered.

Results

An essential aspect of early-stage peer support is sharing a common experience of living with ASD. The report found that this kind of connection is hard to establish with someone who has not had the same life experience, and the Good Start project meets this

need for peer support based on similar backgrounds. Supportees find that encountering someone who understands what life with ASD can be like and the emotions it can arouse in different people is crucial and helps them cope. Based on the report, it can be said that, at an early stage, it is vital to meet with a peer within the same framework – someone with personal experience of the autism spectrum.

Discussion

Study shows that both supporters and supportees find this action beneficial. For supporters Good Start Peer Support gives possibility to either "give back", show gratitude, for the support that they have received or to ensure that individuals in similar situation do not have to feel been left alone as they did e.g. For supportees contact with supporter shows that they are not alone in this new situation and may act as a possible path to peer support groups. Professionals in the field have responded well to the volunteers since they also find the peer support system helpful: now they do not have to leave people alone with their thoughts right after giving them a diagnosis. In societal perspective there is a better possibility to perceived well-being and survival in a stressful stage of life.

Keywords: Peer helper, Peer support

Poster Number : SUN01-58

Keys to Family-professional collaboration model for developing social and communicative skills in children with ASD

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Introduction

Our goal is to identify keys aspects and practices based on evidence in the use of strategies for developing social and communication skills within Family-Centred Early Intervention Service in ASD. Empowering families being one of the principal goals of the intervention.

Methods

We are supporting toddlers and children (0-6 years) in Natural Environment in order to promote optimal development in children with or at risk of (ASD). Our work is based on gathering evidence-based practices of the different intervention models specialized in Autism (such as DENVER, HANEN, etc.) and incorporate it within the framework of Family-Centred early intervention. In

order to do so, we focus on the nuclear difficulties of ASD, such as social-communication skills and rigid cognitive profile that leads to the development of repetitive and stereotyped behaviours and interests. From there, our principal goals are empowering families in their knowledge and use of strategies to adjust their interactive style to the needs of their child, structure and manage the context to encourage communication and social skills and as well as intentions. We work together (family-professional) to develop strategies that will enable children's higher functioning in their natural environment, using Social Communication programme for early intervention in Autism (AITTEA) as our programme of intervention.

Results

From this review of good practices and from our practices that we have accumulated in the last four years, we have established a set of keys strategies and practices guideline for Family Centred Inter-

vention in ASD. Our results have been very positive in empowering families and children's development. Also we can observe higher parental competencies. Our results are based from family survey on their satisfaction with the Family-Centred Service, with the Individual Plan Support designed by the family and professional as well as the outcomes of the Individual Plan Support.

Discussion

As a conclusion from our experience in developing such programme and framework, it allows us to provide a services that response to the needs of families and that of the children with ASD. It is essential to be able to combine models of Family-Professional Collaboration within natural settings and the incorporation of tools and strategies in the early intervention for children with ASD.

Keywords: Childhood, Empowerment, Family

Poster Number : SUN01-60

Needs of grandparents of preschool-aged children with ASD in Sweden

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Introduction

The presence of grandparents in a family with a young child with ASD can alleviate demands that parents and siblings may experience by providing necessary support to their adult children and to their grandchild with ASD. Yet, little is known about needs these grandparents may have in family and community settings. This study investigated perceived needs of grandparents in relation to their preschool-aged grandchildren diagnosed with ASD in the cultural context of Sweden.

Methods

Participants were 120 maternal and paternal, non-custodial grandparents of children enrolled into psychoeducation intervention programs provided by the Autism Center for Small Children at the Habilitation & Health (funded publicly by the Stockholm County Council). Data were collected at four psycho-educational workshops using the demographic survey, the Grandparents' Needs Survey, and the impact supplement to the Strength and Difficulties Questionnaire – the Swedish version.

Results

Grandparents expressed most needs in topic areas of information and childcare. No significant relations were found between grandparents' demographics and perceptions of needs,

grandparents' needs were predicted by their perceived burden.

Discussion

The study's findings can inform practitioners about grandparents' most and least prioritized needs in various topic areas, which may help practitioners to plan quality family-centered early intervention services, as well as to improve already existing formal support programs offered to grandparents, parents, and preschool teachers. To understand further the unique needs of grandparents of grandchildren with ASD both in Sweden and other cultural contexts, qualitative and longitudinal research is needed to explore the influence of societal factors, grandparents' demographic characteristics (particularly, gender and lineage) on grandparents' involvement with their grandchild diagnosed with ASD. In addition, future research needs to develop and use more objective instruments to investigate the longer-term effects of grandchild disability on grandparental functioning.

Keywords: Family, Old age

Poster Number : SUN01-61

The degree of independence of adolescents with ASD and attachment styles and parental attitudes of mothers and fathers

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Introduction

Autism is a way of human development, different from the typical, manifested by differences in the way of communicating with others, establishing relationships, expressing emotions, learning and a variety of behavioral patterns. Each person with autism is an individual, and the features mentioned above can be of varying intensity (definition created by JiM Foundation). The difference in the behavior of people with ASD towards parents may translate into the development of specific parental attitudes. Parental attitudes may vary in direction and strength, which manifests in parents in a certain tendency to respond positively or negatively to a child. The specific parental attitude together with the specific attachment style of the parents affects the patterns of certain behaviors towards the child which in the period of puberty may have a bearing on the degree of independence of the teenager. The aim of the work is to analyze the relationship between parental attitude, parental attachment style and the level of independence of adolescents with ASD.

Methods

Based on the available literature, we conclude that both the attachment style and the type of parental attitude that parents / guardians represent have a significant impact on the degree of independence of their children. Thirty parents / legal guardians will

participate in the study. Standardized questionnaires were used (Mieczysław Plopa's Parental Attitude Scale, Questionnaire of Attachment Styles) and a questionnaire prepared by the researchers on the assessment of the level of independence of the teenager performed by the parent.

Results

Preliminary results of the study show that the type of parental attitude and the parent's attachment style influence the degree of independence of adolescents with ASD. The results obtained may have practical implications in the treatment of people with ASD. It is important to involve parents in the process of their child's therapy in order to develop his independence from the early years of his life.

Discussion

The functioning of adult people with ASD who depend on the caregivers' help is still an issue without a proper solution in Poland. We conclude, that specialized parental support in caring for adolescent children with ASD, in order to expand their autonomy, will translate into increasing their independence in adult life.

Keywords: Autonomy, Family, Teenage

Poster Number : SUN01-62

Conceptualisation of parenting in research on young children with or at risk for ASD: A systematic review of observational measures

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Introduction

The importance of early environmental experiences, such as parenting, is now more and more acknowledged in research on emergent autism spectrum disorder (ASD). However, the heterogeneity of observational measures for parenting behaviour makes it difficult to compare results and draw strong conclusions. This may have serious consequences for both research and clinical practice,

as parenting assessment outcomes are needed for and used in the development and empirical testing of theories and in the design of parenting interventions. The aim of this systematic review is to take a first step towards a common language for parenting research, by critically reviewing the parenting constructs that are currently used in observational methods in studies of parenting behaviour among parents of young children with or at risk for ASD.

Methods

Web of Science, PubMed and Scopus were searched for papers investigating the parenting of young children below four years of age with or at risk for ASD. 21 papers were included in this review and synthesised narratively. Through a comprehensive consensus decision-making process, parenting constructs investigated in these papers were classified under nine overarching parenting categories that were identified based on prior categorisation by two of the authors and an independent researcher.

Results

The 21 reviewed papers used 13 unique “coding approaches” and included a total of 63 parenting constructs. Categorisation based on their description initially resulted in seven overarching categories of parenting behaviour: warmth, responsiveness, scaffolding, proactive control, intrusiveness, negativity and dyadic interaction.

Due to the heterogeneity of the results, an eighth category “other” was added for parenting constructs that could not be grouped under any of the seven categories, and a ninth category “multiple” was added for constructs tapping multiple categories.

Discussion

The complexity of the categorisation process clearly demonstrates the need for a common language in research on parenting young children with or at risk for ASD. This review provides a first step towards a conceptual framework that can provide a solid foundation for the observation of parenting behaviour and thus inform theory and practice. However, further research should investigate applicability among young children of different ages.

Keywords: Childhood, Family

Poster Number : SUN01-63

Self-management: from social exclusion to inclusion in an educational setting

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Introduction

Self-management interventions has been described as highly effective for individuals with autism in enhancing both social and academic skills. In this study the first author conducted a self-management project in high-school. The challenges were to establish relations to classmates and to participate in the social settings at school and outside of school. The research question was whether a self-management procedure could increase social initiatives and prosocial behaviour targeted to classmates.

Methods

The participant was an 18-year-old male with classical autism and the intervention were carried out in a high school setting. The independent variable consisted of a package of social skills training and tutoring. The dependent variable was prosocial behaviour and social and other initiatives measured and analysed with a single subject design (N=1). Reliability and treatment integrity were controlled by the tutor.

Results

The self-management procedure increased social initiatives and prosocial behaviour targeted at co-students, in accordance with predicted outcomes. The participant reported qualitatively the experience of increased social belongingness to the social community of the class and classmates. Follow-up probes four to six

months after the completion of the intervention shows that results were maintained.

Discussion

In accordance with existing literature, this study suggests that self-management interventions are effective in increasing social skills in students with autism. Reliability and validity are challenges inherent in self-management interventions and is a challenge for researchers and practitioners to overcome. In this study we used verbal reports and descriptions from the participant to the tutor and second author to established reliability and treatment integrity of the measured results. The limited number of participants in this study represents a challenge to generalization and clear-cut conclusions, but seen in connection with existing literature there seems to be good grounds to think that self-management interventions are effective for people with autism spectrum disorders. The promise of self-management interventions in increasing social skills in people with autism should be investigated further. Self-management interventions represent a promising way to deliver interventions that is characterized by a high degree of client involvement and autonomy, and thus promote empowerment in service delivery.

Keywords: Learning, Self determination, Social

Poster Number : SUN01-66

Prevention of (cyber-) bullying

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Introduction

Bullying is a common problem known since long time, nevertheless violence and discrimination is worsening and spreading more and more, assuming also new forms by cyberbullying. Children and adolescents on the autism spectrum are very often victims, not so clever to understand situations at risk of bullying because of lack of social skills, challenging their right to education and to inclusion in society.

Methods

Education is the best tool: training about bullying and autism, providing means for preventing every kind of violence for school staff, parents, children and adolescents on the autism spectrum and also class mates, in order to teach how to isolate bullies. Trainers are people on the autism spectrum and family members, with experience about bullying, autism and psychology. In social media there are tools for reporting inappropriate content.

Results

Children and adolescents on the autism spectrum can prevent situations at risk of bullying by improving their social skills, knowing their rights, understanding the difference between public and private or intimate, what is appropriated to the context, etc. By awareness, public institutions and private organizations are organizing several projects and activities. Even law enforcement developed an app for preventing bullying and drug dealing.

Discussion

Public concern is rising because of several news stories, but awareness about how to act in practice is lacking, especially for children and adolescents on the autism spectrum, because education and training is not yet common, although it is easy to provide by personal accounts and specific and targeted training.

Keywords: Childhood, Education, Empowerment

Poster Number : SUN01-67

Investigating the potential of using video as a tool for reflection to develop an environmental approach to promote the self-determination of students with autism in Post-16 special education

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Introduction

Self-determination has been gaining increasing attention in recent decades as an educational outcome, and can be defined as 'choosing and enacting choices to control one's life – to the maximum extent possible – based on knowing and valuing oneself, and in pursuit of one's own needs, interests and values' (Campeau and Wolman, 1993, p. 2). Previous research shows that self-determined individuals with autism have better post-school outcomes and increased quality of life, by being equipped with the skills and abilities to exert control over their lives. The study is based on Bronfenbrenner's bioecological model of human development, which recognises the importance of the relationship between behaviour and environment, and the significance of research in context. The study aims to provide a model of how video can be used as a reflective tool for staff, in promoting the self-determination of stu-

dents with autism, which could then be applied to various settings.

Methods

My study will involve an emerging participatory action research design, which will be structured in three phases involving different tools of data collection, in an all-age specialist school for students with autism. The first phase involves 10 semi-structured interviews with teaching staff and parents, semi-structured observations of the Post-16 curriculum and a document interrogation of the existing Post-16 curriculum. The data collected will be used to inform the second phase, which will consist of a survey with the teaching staff, parents and students within the school. The data from the first two phases will be used to develop the environmental approach, along with the staff and students, who will be active participants, using video as a tool for reflection.

Results

The study is at the beginning of the data collection process, but an initial phase reveals that staff and parents recognise the importance of self-determination and promoting it within the school setting. A need has been highlighted to help staff recognise how best to support students develop their self-determination and how to implement their ideas which align with the environmental perspective of the approach. These will be addressed in the last phase of the study.

Discussion

The study aims to demonstrate that by changing the environment and the approach of staff, who are encouraged to reflect on their practice through watching themselves on video, students' self-determination can be promoted and aid in their transition to adulthood.

Keywords: Environment, Self determination, Transitions

Poster Number : SUN01-68

The constitutions speak to autism in europe

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Introduction

The purpose of the work is to analyze the role of the Constitutions in Europe about autism and disability, with particular attention to the Italian and Spanish system.

Methods

On the level of disability and autism impact, the constitutional and comparative data beats all in the search for the best inclusive approach (Constitutions speak to autism), also on the theme of the so called reverse discrimination (a situation of disadvantage that becomes an advantage over the able-bodied), and unraveling between inclusion systems, as in Italy and Spain, systems with distinction in Germany and the Netherlands, mixed systems like Great Britain (on which the Warnock report 1978, also considered by UNESCO), France, Sweden and Finland.

Results

It is useful to configure and enclose, in a logic of impact, so to speak, of comorbidity, each type of disability and acronym more or less connected and complex within the framework of the «Educational Special Needs» (SEN), anglophone term, usable in Italy both also in contrast with our rules of legislative technique, which gives a good idea of the all-encompassing idea (to the

cry that we are all or could be BES, using the Italian term) or the idea omnia expected, in the spirit of the Constitutional Court ruling no. 80 of 2010 in Italy, of disability and of the autism in the school (and in the university) as educational need, serious or mild, special or further and sudden in the life path of each one.

Discussion

The international and European data, in its different explanations, however, certainly acts as a fundamental support (strategy not tragedy), where it beats on the concepts of human rights, human dignity and prohibition of discrimination, also providing important aids in classification (ICF and ICF CY of 2001 and 2007) of the paths on disability and in the configuration of the new forms of the same, also in a broad sense, referred to the law n. 170 of 2010 in Italy. The salient references we need to respect, beyond the founding Treaties, are inevitably art. 26 of the Charter of Nice, in the art. 10 and 19 of the Lisbon Treaty, in art. 24 of the 2006 UN Convention (education-integration as a permanent right in a logic of reasonable accommodation), to the UN Resolution of 18.12.2007 also on the international definition of autism, art. 15 of the European Social Charter of the Council of Europe, always sensitive to issues of autonomy, disability and autism in a dynamic constitutional perspective.

Poster Number : SUN01-69

Goal Mastery - enabling «Choice and Control» for people on the spectrum

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Introduction

This disability organisation provides a range of supports to people experiencing Autism Spectrum Disorder (ASD). During 2016, SASI Goal Mastery (GM), an evidence based system was introduced to the service. This system provides a method of transcribing client 'aspirations', translating them to a measurable and trackable rubric. This ensures the people supported are reaching their identified goals through purposeful activities and social relationships. It provides focus on achievement in a manner which reflects the individual. The GM approach is based on a model of trauma informed care which is data driven, provides measureable behavioural support and transitions from restrictive practice to aspiration based outcomes.

Methods

A system was needed to measure peoples progress towards their goals. GM breaks down individual aspirations and creates a Support Plan with goals, which are further broken down into smaller tasks for measurement through data tracked in the Client Management System. This enables evaluation of achievability and success of each goal. It also identifies where additional levels of support are needed. This evidence based system allows support of each person related to their specific needs, creating a usable method across all aspects of supports and all worker/carer types.

Results

A baseline analysis of GM practice was done in May 2017 by an independent evaluator. It identified key areas for development which were implemented over the next six months. A follow up evaluation in Nov 2017 provided conclusive evidence that GM is imbedded into support practice, consolidated by a further evaluation in November 2018. The people we support are consistently achieving their goals which, creates meaningful outcomes, and fosters growth for the person, staff and family. Our GM approach requires the people we support (and their staff) to focus on their goals and continually work towards achieving them.

Discussion

External evaluation confirms that we have an evidence based systems approach to ensure the people we support have meaningful goals, leading to positive outcomes in their lives. Our GM directly provides the evidence our new funding body requires related to outcomes. It supports the individual, the funding model and the data recording to ensure ongoing individual support and inclusion.

Keywords: Adult, Empowerment, Inclusion

Poster Number : SUN01-70

Youth and autism: empowerment, advocacy and social participation

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Introduction

Historically in Spain disability movements has been made up mostly of families that are initially constituted as aid groups and arise as a response to needs not covered by public bodies. The emergence of social model of disability and the recognition of other needs: participation, self advocacy, happiness have brought different perspectives in order to asset new projects.

Methods

From 2016, Autismo Sevilla is developing a new kind of activities that go further than assistance or meeting basic needs. We planned activities with young people with and without autism (same ages) and we went beyond. We proposed actions to improve self recognition and to launch motivation in order to get better levels of political participation. The knowledge of human rights in addition to empowering actions have led to a better understanding of the self

and the construction of the society. To evaluate the process, we had the narratives of the participants (qualitative data) and also an statistical approach (quantitative data).

Results

We found that carrying out these activities, the contexts were fully inclusive, volunteers and young people without autism improved their levels of commitment and demanded more actions like that. For autistic participants this were the first experiences in real inclusive contexts, also without their parents, and they faced collec-

tively to difficulties, talked about them and identified ways to turn contexts more autistic friendly.

Discussion

We think that this kind of projects are the future: opportunities for young autistics to meet new people and to talk about their condition in contexts they can all together learn tools to face the complexity of the social world.

Keywords: Empowerment, Inclusion, Participation

Poster Number : SUN01-73

Accessibility tool recognises and helps to bypass obstacles in the everyday life of children and youth with neuropsychiatric conditions

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Introduction

In the development project we aimed at finding ways to recognise obstacles (often invisible) that limit the accessibility of different environments and services for children and youth with neuropsychiatric conditions. The parents of those children and youth wished for a data base that would contain information and tips on how to solve problems and make situations easier that they face every day. With the help of service users' know-how, we produced an accessibility tool.

Methods

The accessibility tool, a mobile app, was developed to be used in any web browser. Its' theoretical framework consists of recognising neurological differences on three levels (biological, cognitive and behavioral), research on individuals with atypical neurobiology, knowledge on physical, psychological and social obstacles and means that enable participation and international classification of functioning, ICF. In addition, the know-how of service users (children and youth with neuropsychiatric condition and their parents) played a big role in the development process.

Results

The accessibility tool suits to be used by persons that know the child already and who are able to recognise the reasons deep-down behind of child's behaviour. With some practise, a child can use the tool by himself/herself with an adult. With the accessibility tool you can recognise obstacles in more than 10 different actions and environments (for example in eating, in a school environment, and in getting dressed). How fluently the child acts in a situation and how stressful the situation is for the child, is assessed on a

scale of three (green, yellow and red light). The user will get tips on how to bypass the obstacles that the child is facing in the situation, and decrease the stress the child is experiencing. The user gets encouraging feedback and can list his/her own means to bypass the obstacles. Finally, the user gets a summary that can be used as a recommendation for instructors and other professionals that instruct the child. The user can try the new or old means that stated on the summary to make the every day life and surroundings more accessible for the child. The user can follow the progress by using the tool more than once.

Discussion

The preliminary feedback on the accessibility tool has been promising. According to the users, every parent and professional should have similar tool at hand when they are wondering the reasons behind the behaviour of a child. Users' feedback is collected from February till August 2019.

Keywords: Behaviour, Participation, Stress

Poster Number : SUN01-74

Autism, Responsibility, and the Duty to Care

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Introduction

Philosophers have questioned whether autism makes a difference in whether people deserve blame when their behaviour appears contrary to what is morally required. Qualifying for blame (and its counterpart, praise) is part of being a moral agent, a full member of communities and families. The practical significance of these questions is reflected in a recent "The Ethicist" column in the New York Times addressing how to respond to a daughter who is unable to participate productively in family relationships.

Methods

This project applies philosophical methods of conceptual analysis and synthetic reasoning. Informed by discussions with autistic adults in several European countries, it brings influential theories from ethics to bear on facts from autism research to illuminate ethical, legal, and social implications. More specifically, the presentation examines a theory of what it means to be a responsible agent that represents current thought in philosophy and also captures commonsense judgements. This account reflects Strawsonian and related theories. As spelled out in Björnsson and Brülde 2017, moral responsibility involves duties to care. For example, parents have responsibilities of appropriate caring for children. Morally required caring has affective, cognitive, and behavioural compo-

nents. It includes the duty to develop dispositions to feel and act in certain ways if they do not come naturally. What are the implications of this theory for autistic individuals, who may be affectively and cognitively atypical? In light of research on the differences characteristic of autism, what does the theory tell us about how duties to care apply to autistic people? What does the presence of autistic people in our community tell us about this type of ethical theory?

Results

Examination yields three problematic options: reject the examined theory of moral responsibility and give up some commonsense beliefs about ethics, accept the commonsense beliefs and assign extra moral burdens to autists compared to neurotypical people, or determine that autists are not full members of the moral community. The third option is untenable. The others will be discussed.

Discussion

The available positions pose intellectual dilemmas with real-life implications. These will be discussed using the concepts of reflective equilibrium, justice, and moral luck.

Keywords: Challenging Behaviour, Family

Poster Number : SUN01-75

Effective Advocacy and Disclosure: A Workshop for Autistic People

Authors:

Stephen Shore, West Hempstead, United States

Introduction

At some point in our lives everyone must advocate for their own needs and disclose the reasons why. Focused primarily for participants on the autism spectrum, this workshop begins by defining self-advocacy and a process for considering disclosure. Participants will learn the importance of gaining self-awareness, communication skills, and procedures to effectively obtain accommodations and greater mutual understanding. Doing so empowers autistic individuals to reach our potential for leading fulfilling and productive lives in employment, education, relationships, interdependent living, and in the community. Although, this presentation is primarily geared for autistic people, in the spirit of inclusion –

everyone is invited to participate with the knowledge that this is «autistic space».

Methods

A three step approach for engaging in successful self-advocacy will be explored. Building on a foundation of self-understanding of what it means to be autistic for the individual, the three steps include: 1. Awareness of environmental, cognitive, or socially based challenges. 2. Developing and implementing an advocacy plan. 3. Disclosure, or tell the reason why an accommodation or greater understanding is needed.

Results

For example, suppose an autistic person with visual sensitivities is shown a new office space by their supervisor.

Step 1 – Awareness: The room is illuminated with recessed lighting fixtures, which feels like staring into a spotlight for most others. The autistic person realizes this and now needs to develop an advocacy plan.

Step 2 – Advocacy: Scanning the room and seeing no workers wearing hat, the autistic person asks the supervisor if it's OK if they wear a hat while working. This concisely stated request – which is easy for the supervisor to understand and provide support for – is immediately followed by the next step.

Step 3 – Disclosure: The autistic person states that the lights in

the ceiling give her a headache – that she must have sensitive eyes – and that she will be much more productive for the company if she can wear this hat. It's important to note that this was a partial disclosure – meaning that only the specific characteristic of autism causing the challenge was mentioned. The autism diagnosis is not revealed as it may be too much information at that time and could be distracting.

Discussion

Effective self-advocacy is a key component to fulfillment and productivity in employment, relationships, education and all other aspects of life.

Keywords: Empowerment, Self advocacy, Self advocate

Poster Number : SUN01-77

Autism and self-determination: the path towards successful citizenship

Authors:

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Introduction

Autism awareness has increased significantly the last decades, and that is a good thing. However, one of the possible unwanted side effects of the increased awareness is that autistic people are seen as more different than they actually are, resulting in unnecessary and unwanted alienation. The concept of neurodiversity (Singer, 1999) has been introduced to make us aware that autism is not a (neurological) deficit but part of the natural neurological variation. And, as with biodiversity, we should not only acknowledge this neurological diversity but also cherish it as the basis of the rich tapestry of human variation. Accepting neurodiversity is a noble goal and we still have a long way to go in creating more acceptance of neurological differences. However, accepting differences is only the first step towards inclusion of people with autism. The focus of neurodiversity is on differences, but in order to ensure that people with autism can really thrive and have quality of life, we need to see how we can connect all these neurological differences into a joint and collaborative societal project. Once the differences are recognized, we should figure out how these differences can contribute to society and humankind. This is what has been named neuroharmony (Vermeulen, 2016). It is about connecting people, just as in music where composers seek to combine and connect the different notes into a harmonious piece of music, a nice melody. In order to get there, we should abandon the traditional models of disability (the medical and the social one) and replace them by a citizenship model. Because people with autism are citizens, just like all people. With the same duties and rights. And with the same psychological needs. Therefore, autistic people should be included as valuable citizens. Starting from the self-determination theory

(Ryan & Deci, 2017) we will explore how acknowledging the need for autonomy, competence and relatedness in autistic people can be the path towards neuroharmony and successful citizenship. It is time we start turning the neurological differences, such as autism, into productive sources of successful citizenship.

Keywords: Inclusion, Quality of life, Self determination

Poster Number : SUN01-78

Identifying the features of ASD and ADHD in prisons and developing rehabilitation during the sentence

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Introduction

There is no accurate information on the incidence of Autism Spectrum (AS) in prisons. Research has shown that the incidence of AS is estimated to be 2.4% in the case of secure psychiatric care. The incidence of ADHD in adult prisoners is 26.2%. At the moment, this target group is under-recognized in prisons, and they do not receive appropriate rehabilitation to their needs during the sentence. Our project aims to increase understanding on neuropsychiatric conditions and to develop models to provide support at the different stages of the criminal-law process within Finland's criminal justice system.

Methods

Adding Knowledge: To identify the target group and to increase understanding, the Police, Criminal Sanctions and Prison Health and other staff are trained. The project has developed support materials for criminal investigators and prison staff. The purpose of the material is to provide information about the features of AS and ADHD and practical tips for working with the target group. **Identification Tool:** The project has developed and piloted a tool for identifying AS and ADHD features in prisons. The purpose of the tool is to identify features, not to be used as a diagnostic screening tool. The aim is to create a sensitive and competent tool for identification. **Low threshold rehabilitation:** The development of rehabilitation in prisons has started in cooperation with prison staff. The

staff have provided views on the rehabilitation needs of the target group during the incarceration. The most important method for developing rehabilitation is piloting rehabilitation in prisons, which is used to identify the needs of the target group and to develop a low-threshold neuropsychiatric rehabilitation model suitable for an exceptional environment.

Results

The need for information to identify the target group in prisons and to organize activities that meet their needs has been evident. The project has trained about 450 people working in the criminal justice sector, and created a first version of the identification tool. There are various rehabilitation programs in use in prisons, but there is no a model that meets the needs of prisoners with AS and ADHD. The project will produce a guide on the identification tool and low threshold rehabilitation in prisons.

Discussion

The recognition of the features of these individuals can at its best provide considerable benefits for the society as whole by reducing recidivism and simultaneously ensuring that the individuals' legal rights are met.

Keywords: ADHD

Poster Number : SUN01-79

Strategy for Ethical Commitment in Organizations

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Introduction

As our organization (Parent Association) grew up, ethical concerns start arise among professionals, families, leaders and people with Autism. That made us advance in ethical proposals on our organization developing a focused group composed by different profiles.

Taking into account the Convention on the Rights of People with Disabilities and the organizational Values, we developed an Ethical Code for the Organization. Since the beginning we realised that we could only assure ethical commitment with a cultural change on the organization, so we developed different initiatives along the or-

ganization.

Methods

Our Ethical Code include objective ethical rules in three different areas: professionals, families and organization. In order to really impact on the culture of the organization and have evidence of it we worked in diferent approaches:-Training families and professionals on Rights of People with Autism, developing awareness of how their practice could be infringing their rights.-Make Media Campaigns and Social Networks communication into the province and our near community.-Develop a process inside the Performance Staff Evaluation that allow us assess profesional ethical comittent and how are the behaving on the Organiational Values.-Make a Rights Evaluation Tool, based on Quality of Life models, to assess the rights of people in the organization.-Develop a new Advocate and Social Counselling Service for families and people with Autism.-Established Principles of Good Governance for the Board of Directors.

Results

This approach has improved the awareness about People with Autism rights on the organization, we have tools to measure how People with Autism improved due to different actions on the organization and we assure systems that supervise, in a measurable way, Boards of Director and Staff. This way on the Ethical Commitment has finished with creating a Ethical Comittee inside the organization. Strategical initiatives on Ethics are well established for the future, and a economic investment assure.

Discussion

Supporting people with Autism and new models on disability (inclusión, collaborating with families, self determination,...) pushes to develop as profesionales and organization spaces and times to think over our practices and approaches. Cultural change has to arrive with leaders involvement and with an strategic overview.

Keywords: Ethics, Organisation, Right-based

Poster Number : SUN01-80

Away from the Medical Model

Authors:

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Introduction

The medical model of disability has been the main model for clinical psychologists serving autistic adults and teenagers. The social model of disability and the neurodiversity movement haven't changed this practice much and there doesn't seem to be much discussion on how psychologists should change their practice to incorporate these views.

Methods

This is a personal account of running a psychological service for autistic adults and teenagers while attempting to incorporate these new models into the practice. The service is not a diagnostic service, rather what has traditionally been termed 'treatment' but should maybe more correctly be termed support.

Results

One of the aims of the service has been to allow autistic people to define their own problems without the interference of preconceived medical ideas about anxiety or depression. They can, therefore, define what support they want without having it defined by screening or diagnostic tools. They often see their mental problems as the result clashes with society, which does not support or understand them. By having such a view, they are opposing the medical model, which sees anxiety and depression as an internal problem.

Unlearning is an important part of the service where people learn to recognize their limits and unreasonable demands made on them by a neurotypical society, how to resist such unreasonable demands, and learn how to make reasonable demands on themselves. The aim is not to help autistic people to imitate neurotypicals but to be able to live as an autistic person in a neurotypical society (which will hopefully one day become neurodiverse). Service, also, tries to create an autistic safe space where, among other things, eye contact is completely non-significant, facial expression or lack of it is not thought to describe the feelings and emotions of clients and reasons for cancellations are understood.

Discussion

Clients, in general, seem happy with this alternative approach and some feel they are finally being listened to. However, this approach causes to a certain degree professional isolation for the therapist which can be problematic as most therapists are still heavily influenced by the medical model. Problems can arise when the service is being paid by a third party such as a vocational rehabilitation service which makes demands on clients to conform to neurotypical norms.

Keywords: Adult, Mental health

Poster Number : SUN01-83

Autism Research Needs according to Dutch autistic adults, parents and legal representatives

Authors:

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Karin Van Den Bosch, Nijmegen, Netherlands

Introduction

Until recently Dutch autism researchers predominantly determined the research agenda. Seldomly autistic individuals and their relatives were asked about their research needs. These needs might deviate from those of the scientists. It's important that autistic people and their relatives have more influence on the research agenda since the research results can have a large effect on their quality of life and their participation in society. The aim of our study is to explore the research needs of people with

autism and their relatives (e.g. parents or legal representatives) in the Netherlands.

Methods

«As part of a longitudinal autism survey by the Dutch Autism Registry (NAR), we distributed an open question to approximately 2500 participants: "What should be researched"

Results

according to you

Discussion

in the field of autism?" Responses were obtained from 695 autistic adults, 166 parents of autistic children and 62 legal representatives of autistic adults. These data were qualitatively analysed using thematic content analysis. We applied an inductive coding approach as much as possible, meaning that themes were generated bottom-up. There were no-preconceived or fixed lists to choose from.

Focus groups with representatives from the 3 different types of respondents were asked to comment on the coding and the generation of themes. Subsequently, the coded responses were combined with the demographic data of respondents as already available in the NAR database (role, gender, age, status etc) and analysed in SPSS.»

Keywords: Participation, Policy, Self advocacy

PANNEL

HOW TO ACHIEVE SUCCESSFUL IMPLEMENTATION OF EVIDENCE-BASED INTERVENTIONS FOR CHILDREN WITH ASD IN EDUCATIONAL SETTINGS? THE NPDC INTERVENTION MODEL FROM AMERICAN AND EUROPEAN PERSPECTIVES

A Program for Promoting Evidence-Based Practices in ASD Intervention and Education

Authors:

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With the increased prevalence of autism spectrum disorders (ASD) and enrollment of children with ASD in preschools and schools, there is a need for providing high quality and effective intervention and educational programs. In the United States, the National Center on Professional Development on ASD (NPDC) was established to identify and increase teachers and other service providers use

of EBPs for children and youth with ASD. This part of the panel focuses on the NPDC model, its regular update program by the National Clearinghouse on Autism Evidence & Practice (NCAEP), research on the model efficacy and insights on its implementation in USA.

Implementation of NPDC through Professional Development

Authors:

Suzanne Kucharczyk, Arkansas, United States

Laura Hall, San Diego, United States

The implementation of the NPDC model builds capacity with the aim of addressing improvement in program quality using findings from the Autism Program Environment Rating Scale (APERS) and on the use of evidence-based practices. Such capacity building is provided through professional development across systems including: US state-level education departments and other stakehol-

der agencies, school districts, individual schools, Autism-team (A-team) members, and individual educators and other practitioners. Key features of the professional development model include group and individual training, A-team development, and coaching. This professional development approach will be described, with particular emphasis on the coaching model designed by NPDC

Implementation of NPDC model to improve prerequisites for implementation of EIBI: Adaptions and experiences from Sweden

Authors:

Lise Roll-Pettersson, Stockholm University, Stockholm, Sweden

This part of the panel is dedicated to the implementation of the elements of the NPDC model in two European countries, Sweden and Poland, with different linguistic and cultural perspectives. The

panel will conclude with a discussion on the introduction of evidence-based NPDC interventions in other European countries - especially those with a minimal linguistic barrier

HOW TO ACHIEVE SUCCESSFUL IMPLEMENTATION OF EVIDENCE-BASED INTERVENTIONS FOR CHILDREN WITH ASD IN EDUCATIONAL SETTINGS? THE NPDC INTERVENTION MODEL FROM AMERICAN AND EUROPEAN PERSPECTIVES

From the practitioners' point of view – the pilot implementation of the NPDC model in Poland

Authors:

Anna Waligórska,

Introducing a comprehensive model of EB practices in a country not yet thoroughly adapted to widespread implementation of complex intervention models raises a question on the readiness to embed

such a solution. . Therefore the pilot implementation of the NPDC model in ASD specialized preschools in Poland, conducted by the SOTIS Autism Therapy Center, involved a bottom-up approach.
