characterized sample of youths with ASD. This study explores possible links between individual characteristics and CI as reported by parents.

Methods: The sample consisted of caregivers (n = 186) who completed the Autism Diagnostic Interview - Revised (ADI-R) as part of the Simons Simplex Collection. Caregiver responses on the “circumscribed interests” and “unusual preoccupations” items of the ADI-R were transcribed. Only participants who endorsed pervasive or disruptive interests on these items were included. Using qualitative methodology, transcriptions were coded by selecting dialogue that described CI (e.g., “obsessed with Pokémon”, “making repetitive responses into something”), Categories were derived from examination of the responses and considering existing measures of youth interests (e.g., The Interest Scale, Cambridge University Obsession Questionnaire). Individual phenotypic data were then associated with the various outcomes of interest for different characteristics of individuals with the purported interest.

Results: Interests were grouped into 31 categories, which were consistent with those found in other studies (e.g., Bodfish, 2003; Klin et al., 2007). Caregivers reported their child’s interests falling into an average of 2.8 categories. The most frequent interests reported were Strong Attitudes toward Fictional Characters (12%) and Televisions/Movies (10%). The least frequent reported were Mechanical Systems (0.4%) and Religion/Occult (0.6%). Youth with mean IQs in the average or above average range endorsed interests such as Building/Construction, Factual Information, and Biology, whereas youth with mean IQs in the impaired range endorsed interests in Rocks/Geology. Those with a high degree of core ASD symptoms by parent report had interests ranging from Religion/Occult, to Fictional Universes, Collecting, and Weather/Natural Disasters. Those with a high degree of core ASD symptoms by clinician report had interests ranging from the Signs, to Mechanical Systems, Reading/Writing, and Music. Older youth endorsed interests in Japanese Culture, Rocks/Geology, and Factual Information, whereas younger youth endorsed interests in Words/Letters and Math/Counting.

Conclusions: Youth with ASD endorse a broad range of CI. Specific interests are endorsed more frequently than others and certain types of interests appear to be associated with level of intelligence and core ASD symptoms, though this may differ based on parent or clinician observation. Further understanding of the etiology and types of CI and how interests relate to phenotypic characteristics will contribute to better evaluating and reducing impairment for individual youth.

146.180 Latent Constructions Underlying Sensory Subtypes: An Independent Components Analysis

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Background: Sensory features (SF) are typically observed as sensory stimuli that influence the functioning of children with neurodevelopmental disorders (NDD) including Autism Spectrum Disorder (ASD) and Attention Deficit Hyperactive Disorder (ADHD). Due to the heterogeneous nature of SF, there is a need to define clinically meaningful subtypes, which may differently respond to intervention. SF sensory features are highly relevant to the assessment of young people with ASD and remain important in their diagnosis in clinical settings.

Hypothesis: Distinct sensory subtypes have been identified in children with ASD through parent reports on the Short Sensory Profile (SSP) (Lane et al., 2014). Clinical profiles led to the hypothesis that two sensory dimensions underlie SF: 1) sensory reactivity (the intensity of a response to a stimulus), and 2) multi-sensory integration (the ability to process multiple concurrent stimuli). The purpose of this study is to use Independent Component Analysis (ICA) to identify distinct sensory subtypes within the SSP.

Methods: The present study is a retrospective analysis of data from a cross-sectional study investigating the efficiency of goal-directed actions in young adults with ASD. The sample consisted of 219 adults with ASD aged 18-29 years and 26 typically developing persons (TDP) aged 18-29 years. The study aimed to determine if eye movements can be used to predict social engagement in ASD. The study was approved by the local ethics committee and conducted according to the Declaration of Helsinki. Participants were recruited from the Autism Research Center at Hasselt University, Belgium. All participants gave written informed consent before participating in the study. The study was conducted in a quiet room with a comfortable chair and a computer screen. Each participant was asked to watch a video clip of a person performing a task, while their eye movements were recorded using an EyeLink 1000+ eye tracker (SR Research, Canada). The task involved watching a person performing a sequence of actions, while the participants were asked to predict the next action. The eye movements were recorded at a sampling frequency of 500 Hz. The data were analyzed using Independent Component Analysis (ICA) to identify distinct sensory subtypes within the SSP.

Results: The results indicate that there are three distinct sensory subtypes that can be identified within the SSP. The first subtype is characterized by high levels of sensory reactivity and low levels of multi-sensory integration. The second subtype is characterized by low levels of sensory reactivity and high levels of multi-sensory integration. The third subtype is characterized by intermediate levels of both sensory reactivity and multi-sensory integration.

Conclusions: The results suggest that there are distinct sensory subtypes within the SSP that can be identified using Independent Component Analysis (ICA). These subtypes may be relevant to the assessment and treatment of ASD.

146.181 Less Efficiency in Execution and Observation, but Not Imitation, of Actions in High-Functioning Young Adults with an Autism Spectrum Disorder

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Background: Autism spectrum disorders (ASDs) are often accompanied by problems in planning and execution of goal-directed actions. The concept of planning movements in order to attain comfort at completion, though sacrificing initial comfort, is known as end-state comfort (ESC) (Rosenbaum et al., 1990). Hence, the application of ESC points for Movement Control and Neuropsychology, Katholieke Universiteit Leuven, Leuven, Belgium, (3)Transportation Research Institute (IMOB)-School for Mobility Sciences, Hasselt University, Diepenbeek, Belgium, (4)Transportation Research Institute (IMOB)-School for Mobility Research - Leuven University, Diepenbeek, Belgium, (5)Faculty of Psychology and Educational Sciences - Parenting and Special Education, Katholieke Universiteit Leuven, Leuven, Belgium

Objective: To determine the latent constructs that underpin sensory subtype classification.

Methods: Three datasets were analyzed in the present study. The first is a sample of 229 children with ASD aged 2-10 years. The second included 155 children aged 4-10 years with ADHD, Autism Sensory Processing Disorder or ASD and typically developing controls. Parents of study participants completed the SSP, which measures behaviors associated with responses to everyday, environmental sensory stimuli in children aged 3–10 years. Parents report to each item using a 5-point ordinal scale, with higher scores indicating more typical performance.

Results: A three-component model best explained the data for both samples, with each major contributions from one of the following domains: 1) taste/smell sensitivity, 2) low energy/weak, and 3) underresponsive/seeks sensation and auditory filtering. Key items from those domains that heavily contributed to the corresponding latent components were identified.

Conclusions: We propose that components one and two represent specific facets of SF, vis a vis taste/smell sensitivity and low energy/weak. Component three represents the construct of severity. Indeed, the Lane et al.’s sensory subtypes can be mapped onto these components in a conceptually meaningful way. The present study presents a novel conceptual framework of constructs (focus and severity) that underlie sensory subtypes to guide future research and clinical practice on SF in ASD.

146.182 Motor Ability and Oculomotor Function in Children with an Autism Spectrum Disorder

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Background: Eye movements provide a window into cognitive processing. Deficits in oculomotor control (i.e. suppressing reflexive saccades) have been shown to relate to language ability in ASD. In addition to language problems, an increasing number of studies have highlighted motor difficulties in this population. Of note, research supports a link between motor skill and aspects of oculomotor control, such as smooth pursuit (e.g. the ability to track an object), as reported in a population of children with a co-existing diagnosis of TD, ASD and ADHD. However, at present it is not known about the relationship between motor and oculomotor function in ASD.

Objectives: The present study set out to measure motor ability and the integrity of the oculomotor system in ASD. The study aimed to determine if eye movements can differentiate between children with ASD and controls; and to investigate the relationship between motor skill and oculomotor function.

Methods: Twenty-nine children with ASD, aged 7-10 years, were compared to 22 typically-developing children matched by age. ASD diagnosis was confirmed using the Autism Diagnostic Observation Schedule (ADOS-2), and Full Scale IQ (WISC-IV) and motor competency were assessed (using the Movement Assessment Battery for Children, MABC-2). Children were instructed to perform four short tasks designed to assess oculomotor function: fixation, smooth pursuit, pro- and anti-saccades. Eye movements were