

## **A Psychometric Evaluation and exploration of the Danish Versions of three Theory of Mind tests for 8–14 Year-Old Children.**

Theory-of-Mind (ToM) is believed to keep on developing in late childhood and early adolescence, but little evidence are found to support this assumption. Since most standard ToM tasks are passed by the age of 5 years, ceiling effects are presumably obscuring the observation of any further development, as these tests do not measure more complex abilities. Therefore, more comprehensive and challenging ToM tests that are sufficiently sensitive to challenge more mature children have been developed

The current study aimed to investigate the psychometric properties of the Danish versions of the Strange Stories task; Animated Triangles and of the more recently developed Theory-of-Mind Storybook Frederik (ToM-Frederik) in a group of typically developing (TD) children and a group of children with High Functioning Autism Spectrum Disorder (HFASD) aged 8-14 years.

The findings provide overall support for the validity of the Danish version of all 3 tests, as they were able to identify, at the group level, the expected ToM deficits in this sample of older children and young adolescents with HFASD. Also, convergent validity were supported by significant positive inter-correlations. However neither ToM-Frederik nor Animated Triangles were significantly associated with Social Responsiveness Scale (SRS) in neither group, and Strange Stories was only significantly associated with SRS in the TD group.

ToM deficits in HFASD are expected, but ToM deficits are widespread among psychiatric populations and not only ASD. It has been suggested that while general alterations in ToM may be a general vulnerability marker, more specific types of deficits may have a mediating role in the development of different types of specific symptoms. According to the Diametric Model of the Mind and Mental Illness, all mental disorders can be located along a dimension of ToM ranging from Hypo- to HyperToM and it has been hypothesized that individuals with ASD and individuals with psychotic disorders may be located at the extreme ends of this dimension of ToM impairments

The scoring system of the ToM-Frederik is based on a highly nuanced scoring which allows for a detailed categorization of different types of ToM deficits including HyperToM. This allowed us to conduct the first study of HyperToM and Psychotic Experiences (PE) in children and we found HyperToM to be consistently associated with PE and subclinical paranoid delusions in particular, in 11-12 year-old children from the general population in Denmark and 13-14 year-old children from a population-based high-prevalence sample in the Netherlands.