

## **Social cognition and executive functions in adults on the autism spectrum**

### **Abstract**

**Problem:** the goal of this study is the evaluation of social cognition and executive functions as well as the evaluation of the connection between these processes in male adults with autism spectrum disorder. To date, research has approached these processes separately and the link between them is not clearly defined. Research on social cognition concerns the perception of emotion as well as more advanced functions, in other words the theory of mind (Nowogrodzka, 2014). Research on executive function, in turn, concerns conscious and intentional undertaking of various forms of activity (Jodzio, 2008). It has been hypothesized that men with autism spectrum disorder show lower levels of social cognition and executive function in comparison with a control group without ASD. Another hypothesis links the deficits in executive functions with the deficits in social cognition.

**Methods:** 60 participants took part in the study. 30 participants aged 18-61 made up the test group and the other 30, aged 21-47, made up the control group. Mini Profile of Nonverbal Sensitivity MiniPONS, Penn Emotional Facial Recognition - PENN ER40 and Hinting Task were used to assess social cognition. To assess executive functions the following tests were used: Controlled Oral Word Association Test (COWAT), Trail Making Test - TMT part B, sub-test WAIS-R(PL) - Digit symbol substitution test (DSST), The d2 Test of Attention and Wisconsin Card Sorting Test (WCST).

**Results:** the obtained results indicate that men with ASD are less capable of understanding the state of mind of other people as well as that they don't differ from the control group without ASD when it comes to executive functions. The only differences can be found in the statistical tendency. Links between social cognition and executive functions in the evaluated group have also been observed.

**Discussion:** this study indicates that there isn't a homogenous neuropsychological profile of people with ASD as well as that no differences were found between the test group and the control group when it comes to participants' capabilities to recognise emotions and emotional states through facial expressions and gestures. The study also points to the lack of empathy as observed among some research participants towards

others in the group. Links between social cognition and executive functions in the evaluated group have also been observed. Obtained results can assist in the processes of diagnosis and therapy.