

**Two types of lie-telling behavior, Executive functions and Theory of Mind among children with intellectual disability and autism spectrum disorders**

Abstract

There are extensive studies examining the lie-telling behavior and its corresponding cognitive correlates among typically developing (TD) children, however, intellectually disabled (ID) children and low functioning children with autism spectrum disorders (ASD) were omitted in these extant literature. 53 TD, 38 mild ID and 42 mild ID children diagnosed with ASD, aged from 6 to 11, participated in the present study and completed temptation resistance paradigm and undesirable gift paradigm. Both tasks were designed to test antisocial-lie telling (to conceal a transgression) and prosocial-lie telling (to tell white lie for the sake of politeness) respectively. Results showed that ID children displayed no significant difference with TD children in telling and maintaining semantic leakage control regarding both antisocial-lie and prosocial-lie. On the other hand, ASD children performed significantly weaker in telling initial antisocial lie and maintaining semantic leakage control over prosocial lie, whereas they showed much stronger inclination to tell initial prosocial-lie. The results suggested that initial prosocial-lie telling and typical lie-telling may share different underlying mechanisms among ASD children while initial prosocial-lie may require their scripted knowledge acquired through socialization instead. Furthermore, Theory of Mind (ToM) was

traditionally thought to be the only cognitive correlates to prosocial-lie telling, our present findings raised that working memory also played a role.

*Keyword: Lie-telling, Intellectual Disability, Autism spectrum disorders, Executive functions, Theory of Mind*