

## Different Relationships of Theory of Mind to Different Types of Social Interaction in Children with Autism Spectrum Disorder

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**Introduction/Rationale:** Theory of mind (ToM) deficit has been suggested to explain the social interaction deficit in children with autism spectrum disorder (ASD). However, children with ASD having better ToM do not always have better performance in social interaction. Whether ToM is related to social interaction in children with ASD remains to be discussed.

**Objectives:** The study explored the associations between ToM and social interaction in children with ASD with categorization of social interaction behaviors as ToM-related and ToM-unrelated.

**Method:** The Theory of Mind Task Battery and the Socialization domain of the Vineland Adaptive Behavior Scales (VABS-social) were used to measure ToM and social interaction, respectively. The VABS-social items were categorized as ToM-related and ToM-unrelated. Pearson correlation coefficients (*rs*) were used to examine the correlations between ToM and ToM-related social interaction, and between ToM and ToM-unrelated social interaction.

**Results:** A total of 128 children with ASD (mean age=93 months; SD=28 months) were recruited. The correlations between ToM and ToM-related social interaction ( $r=0.497$ ) were higher than those between ToM and ToM-unrelated social interaction ( $r=0.449$ ). Unexpectedly, ToM was more highly correlated with the "television and video ( $r=0.489$ )" and "responsibility ( $r=0.446$ )" subscales of ToM-unrelated social interaction. The correlations between ToM and ToM-unrelated social interaction decreased ( $r=0.400$ ) significantly when the two subscales were excluded.

**Conclusion:** The study revealed that children with ASD having better ToM have better ToM-related than ToM-unrelated social interaction. Therefore, ToM deficit may explain part, but not all, of the social interaction deficit in children with ASD.