

Examining Theory of Mind Differences Amongst Typically Developing Children, Low-Functioning and High-Functioning Children with Autism

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ABSTRACT

According to ASHA, the number of individuals with autism has increased to 1 in 68 individuals (2010). This causes implications for speech-language pathologists in several areas, including Theory of Mind deficits. The range of these deficit varies according to degree of diagnosis. Individuals with these deficits may benefit from intervention from a speech-language pathologist and collaboration with a multi-disciplinary team.

DEFINITIONS

Autism Spectrum Disorder

Autism spectrum disorder (ASD) is a neurodevelopmental disorder that impairs a child's ability to communicate and interact with others. It also includes restricted repetitive behaviors, interest and activities as well as significant impairment in social functioning. Individuals can be classified as high functioning (IQ >80) or low functioning (IQ <80).

Theory of Mind

Theory of Mind is the ability to infer to others' minds a range of mental states, including beliefs, desires, intentions, imagination, and emotions.

THEORY OF MIND

Theory of Mind (ToM) is the ability to infer to others' minds a range of mental states (beliefs, desires, intentions, imagination, emotions, etc.) Begin seeing development of ToM in preschool years. ToM is needed to understand the social world and help individuals to predict & control behaviors.

TYPICALLY DEVELOPING

- **Precursors of ToM:** joint attention, appreciation of intentionality, recognition that people have different views, use of mental state words and pretend play.
- **2 years old:** children begin to talk about their own mental states and engage in pretend play
- **3- 4 years old:** children begin explaining their own and other people's actions in terms of false beliefs. Children can reason about their own and other people's behavior.
- **5 years old:** children can predict what action would follow a false belief prediction.

LOW FUNCTIONING

Observable outcomes of an action are not sufficient enough to understand an action. A person's intention also needs to be understood or inferred to fully interpret why a particular outcome occurred. Children with low-functioning autism are able to understand that people are trying to reach an end state, thus their ability to perceive goals is preserved. However, these children are not able to attribute intentionality as to why someone is completing a goal. It is noted that children with LFA may use the strategy of imitating a whole sequence of actions they witness to produce a relevant and efficient action, particularly in social situations.

HIGH FUNCTIONING

Children with high-functioning autism are able to master the theoretical concepts of advanced mental state reasoning, but are unable to apply the concepts to everyday life. They are able to understand even higher order Theory of Mind tasks at hand and interpretation of why things happened. These individuals do not demonstrate advanced Theory of Mind impairments, but other factors, such as activation of social attention and motivation may impact individuals using their ToM knowledge in social interactions due to complexity of everyday situations.

IMPLICATIONS

Early identification and early intervention is key to ameliorating the effects of the abnormal brain development. The presence of a developmental condition will interfere with the development of all aspects of language because it interferes with brain development and alters the way the brain responds to environmental input. Theory of Mind is one of these aspects that may be altered. ToM deficits in children along the Autism spectrum cause implications for several health-care professionals, including Speech-Language Pathologists. It is the responsibility of the SLP and other health-care professionals to provide these individuals with the most effective intervention in order for them to live as functionally as possible.

ASSESSMENT

Individuals are presented with social stories, video vignettes, or real life objects and assess their interpretations of the stories or direct questions in different Theory of Mind areas, including false beliefs, sarcasm, faux pas, etc. These individuals are then asked a series of physical state and mental state questions to evaluate their interpretations of the situations.

INTERVENTION

- **Social stories:** which facilitate the understanding of social situations and allow to interpret the behaviors of others by taking their perspective;
- **Role playing:** taking on the role/perspective of individuals and acting to understand their emotions, desires, thoughts, and views.
- **Mind reading:** using video clips, faces, voices, stories and other multimedia technology are used to teach emotions to individuals in complex scenarios.
- These strategies help individuals understand mental states, expression of emotions, and understanding of emotions. Appropriate interventions should be targeted for individuals with Autism to promote social interactions for understanding and explaining other people's intentions, beliefs, and behaviors.

COLLABORATION

In order to provide the best services to these individuals, SLPs must collaborate with a multidisciplinary team which may include parents/ caregivers, teachers, pediatrician, psychologist and PT/OT.