

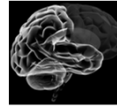


Teaching Theory of Mind Not Just for Autism Spectrum Disorder: Ramifications and Remediation

AET Webinar
March 14, 2018

Sheryl K. Pruitt, M.Ed., ET/P

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One Neuropsychological Definition from Research

“Theory of mind” is the ability of an individual to infer the feelings, motives, opinions, and emotions of another on the basis of that other’s expressions, however fragmentary or incomplete these may be. It is an indispensable ability for meaningful social interaction. Clearly, theory of mind (also designated by the acronym ToM) is closely related to empathy, which ToM can be said to include. Empathy refers specifically, however, to affective understanding (“emotional resonance”), whereas ToM in general extends beyond affect to include cognition.”

Pinker, J.M. (2015) *Human Neuropsychology, in The Prefrontal Cortex (Fifth Edition)*, Amsterdam, Boston, Heidelberg, London, New York, Oxford, Paris, San Diego, San Francisco, Singapore, Sydney, Tokyo: Academic Press.

Lacking Theory of Mind



- Cannot understand how my mind works
- Cannot understand how your mind is different than my mind
- Can exist as a problem outside of Autism

Mary, A. et al. (2016). Executive and attentional Contributions to Theory of Mind deficit in attention Deficit/hyperactivity disorder (ADHD), *Child Neuropsychology*, 22(3):345-65.

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Some Additional Thoughts on the Definition of Theory of Mind



- Some programs and definitions only talk about taking the perspective of others. It is important to note that there is a deficit in taking one’s own perspective as well.
- Theory of Mind needs to be separated from the impact of executive dysfunction and pragmatic language disorder but is also a social-emotional cognitive deficit.

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Characteristics of Students Who Lack Theory of Mind



- Do not act in their own best interest.
- Do not act in someone else’s best interest.
- Are clueless in understanding the impact of their actions on themselves and others.
- Are usually impacted further by their executive dysfunction and social pragmatic disorder.

“I can’t go to school because I don’t get other kids and they don’t get me and they are just annoying!”

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**Curiosity
vs
Judgment!**



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Theory of Mind Begins to Develop in Infancy

Early Skill Development:



- Pays attention to people and copies them.
- Recognizes others' emotions and use words to express them ("happy", "sad", "mad").
- Knows that they are different from other people and have different likes/dislikes from others.

"Tuning In" to Others: How Young Children Develop Theory of Mind by Lauren Lowry, SLP

Theory of Mind Begins to Develop in Infancy

Early Skill Development:



- Knows that people act according to the things they want.
- Understands the causes and consequences of emotions (If I throw my toy, Mom will be mad).
- Pretends to be someone else (like a doctor or a cashier) when they play.

"Tuning In" to Others: How Young Children Develop Theory of Mind by Lauren Lowry, SLP

Early Problems with Theory of Mind

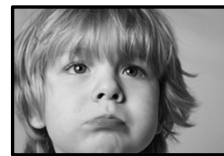
It is difficult to:



- understand why people do and say the things they do.
- have a conversation.
- tell a story.
- understand characters' perspectives in storybooks.
- make friends.
- engage in pretend play.

"Tuning In" to Others: How Young Children Develop Theory of Mind by Lauren Lowry, SLP

Theory of Mind Begins Major Development Between Ages 4 and 5



- I. Understanding "wanting" – Different people want different things, and to get what they want, people act in different ways.**

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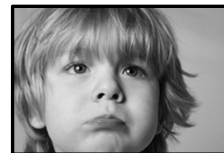
Theory of Mind Begins Major Development Between Ages 4 and 5



- II. Understanding "thinking" – Different people have different, but potentially true, beliefs about the same thing. People's actions are based on what they think is going to happen.**

"Tuning In" to Others: How Young Children Develop Theory of Mind by Lauren Lowry, SLP

Theory of Mind Begins Major Development Between Ages 4 and 5



- III. Understanding that "seeing leads to knowing" – If you haven't seen something, you don't necessarily know about it. If someone hasn't seen something, they will need extra information to understand.**

"Tuning In" to Others: How Young Children Develop Theory of Mind by Lauren Lowry, SLP

Theory of Mind Begins Major Development Between Ages 4 and 5



IV. Understanding “false beliefs” – Sometimes people believe things that are not true, and they act according to their beliefs, not according to what is really true.

“Tuning In” to Others: How Young Children Develop Theory of Mind by Laura Lowy, SLP

Theory of Mind Begins Major Development Between Ages 4 and 5



V. Understanding “hidden feelings” – People can feel a different emotion from the one they display.

“Tuning In” to Others: How Young Children Develop Theory of Mind by Laura Lowy, SLP



Theory of Mind Continues to Develop Throughout the Lifetime

For the next several years they learn to predict what one person thinks or feels about what another person is thinking or feeling. They also begin to understand complex language that relies on theory of mind, such as lies, sarcasm, and figurative language. Some experts argue that theory of mind development continues over a lifetime as one has more opportunities to experience people and their behavior.

“Tuning In” to Others: How Young Children Develop Theory of Mind by Laura Lowy, SLP

Perspective Taking Learning Disability Difficulty Determining the Needs, Intelligence, and Motives of Others



- A. Difficulty gauging how to respond to others' needs.**
- B. Difficulty recognizing and accounting for other person's expectations about how one should participate or behave.**

Michelle Garcia Winner, M.A., CCC-SLP

Perspective Taking Learning Disability Difficulty Determining the Needs, Intelligence, and Motives of Others



- C. Difficulty completing obligatory tasks not of their own choosing.**
- D. Limited knowledge of what it means to participate in a relationship (formal or informal).**

Michelle Garcia Winner, M.A., CCC-SLP

Impact on Behavior and Socialization



- Lacks anticipation.**
- Cannot predict outcomes.**
- Does not learn from experiences.**
- Does not comprehend expectations.**
- Does not understand own feelings and those of others.**

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Impact on Behavior and Socialization



- Cannot distinguish differing personalities.
- Does not understand the goals and desires of others.
- Cannot understand that my mind is different from your mind.
- Lacks affective understanding.

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Impact on Behavior and Socialization



- Does not understand how to respond to others.
- Is not flexible in pretend play.
- Fails to pay attention to and understand facial gestures and other's body language.

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Impact on Behavior and Socialization



- Does not catch auditory nuances in communication, e.g., hearing impaired children.
- Lacks reciprocity.
- Has an inability to utilize empathy and fails to understand the internal states of others.

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Impact on Behavior and Socialization



- Does not grasp causal relationships between expressions, desires, opinions, outcomes, emotions and actions.
- Cannot understand lies, sarcasm or figurative language.
- Does not comprehend deception.

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Impact on Behavior and Socialization



- Lacks perceptual perspective.
- Does not utilize inferences.
- Lacks awareness of intentionality.
- Does not always know that speech can be internal.
- Does not understand beliefs of others can differ from one's own.

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Impact on Behavior and Socialization



- Does not utilize curiosity as opposed to judgment.
- Cannot think that others can have plans.
- Does not understand how to act in own best interest.
- Is unable to act in the interest of others.

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Impact on Behavior and Socialization



- Does not understand why they should do something that they do not want to do.
- Lacks social flexibility.
- Lacks reciprocity.
- Lacks understanding for the need to self-regulate.
- Appears uncaring.

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Impact on Behavior and Socialization



- Acts ego-centered but not egotistical.
- Has false beliefs.
- Cannot learn from dissonance.
- Lacks use of metarepresentation.

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Theory of Mind Impact on Employment



- Dresses inappropriately for job interviews.
- Does not understand the need for manners.
- Is unable to match the needs of the interviewer.
- Misunderstands the need to know about the company when applying for work.

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Theory of Mind Impact on Employment



- Does not have all the skills needed for the job.
- Does not fit into the culture of the workplace.
- Has trouble with the impact of social deficits at work.
- Unable to work with others.
- Does not understand social hierarchy.

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Theory of Mind
impacts every aspect
of human interaction!

Birch, S.A.J. et al, Perspectives on Perspective Taking, *Advances in Child development and Behavior*, 2017

Certain Groups of Children Have Difficulty with Theory of Mind Development

Children with:

- Autism Spectrum Disorder
- Social Communication Disorder
- Attention Deficit Hyperactivity Disorder
- Obsessive-Compulsive Disorder

Tuning In™ to Others: How Young Children Develop Theory of Mind by Lauren Lowry, SLP
Kern, H., et al(2003). Theory of mind deficits in bipolar affective disorders. *Journal of Affective Disorders*.



Signing deaf children who have hearing
parents who do not use sign language.

Tuning In™ to Others: How Young Children Develop Theory of Mind by Lauren Lowry, SLP

Certain Groups of Children Have Difficulty with Theory of Mind Development



Just as brain regions involved in theory of mind are reported to be structurally abnormal in depression, it appears that impairments in theory of mind ability may be apparent in Major Depressive Disorder patients.

Kumar, P. et al(2013). Neuroimaging approaches to the understanding of depression and the identification of novel antidepressants, Translational Neuroimaging.

Certain Groups of Children Have Difficulty with Theory of Mind Development



Bipolar affective disorder patients often show cognitive deficits similar to those found in schizophrenia patients. Theory of mind is compromised in currently ill schizophrenia patients. Impaired performance on theory of mind was found for both bipolar-depressed and bipolar-manic patients.

Kerr, N. et al(2003). Theory of mind deficits in bipolar Affective disorder, Journal of Affective Disorder.

What Tools Do You Need in Your Toolbox?



- Teach developmental stages of Theory of Mind
- Teach feelings vs. thoughts
- Learning disability strategies
- Curriculum-based social skills groups
- Resource materials, e.g., Thinking About You, Thinking About Me

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"Studies have shown that when mothers (parents) use words that refer to thinking and feeling when they talk to their child, it helps their child's theory of mind development."

Parents can:



- Follow your child's lead – This will help the child pay attention and tune-in to facial expressions. Give up your ideas of what the child should do or how the child should play, and join in his/her play by copying the child's actions and adding to his or her play ideas.
- Use "tuning-in language" – This means putting your own and your child's perspective into words, "Oh, you want a cookie." You can also explain why other people do the things they do – for example, "Sally looks happy. She must really like her present".

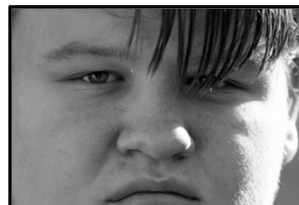
Tuning In" to Others: How Young Children Develop Theory of Mind by Lauren Lowry, SLP



- Role play with your child when you pretend together – Role play helps develop theory of mind because it encourages children to think about and act out other peoples' perspectives.
- Use books to talk about the characters' thoughts and feelings – Talking about the characters' thoughts and feelings, their different ideas and reactions, and what characters might do next in the story helps promote early theory of mind. Research shows that it is also important to connect these ideas to the child's own experiences

Tuning In" to Others: How Young Children Develop Theory of Mind by Lauren Lowry, SLP

Help Identify Feelings vs. Thoughts



Do my feelings match my face?

- Mad
- Sad
- Glad
- Scared
- Hurt

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Case Study



- Teenager, who like her brother and father, did not get emotions.
- She joined them in thinking that her mother was a problem because her mother reacted with emotions to things!
- The mother was the only person in the family with Theory of Mind.

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Obstacles to Remediation



- Low intelligence
- Negative family impact
- Unable to trust
- Too little emotional pain
- Unable to push through unpleasant work
- No Guts!

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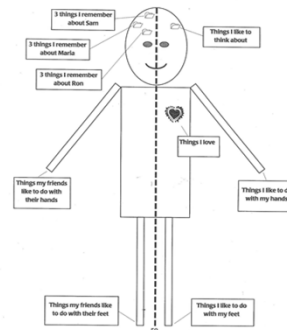
Learning Disability Strategies



- Find the last place developmentally where the student has mastered the material and teach the next step.
- Teach the skill until mastery is achieved, 9/10 occurrences over several months.
- Use cognitive modification strategies to increase the ability to understand and retain the material.

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Figure 2
Body Drawing to Teach Children about Memory and Storing Information
About Others and Themselves



©Thinking About You, Thinking About Me by Michelle Garcia Winner

Social Stories can:



- demonstrate different social situations.
- utilize events to teach one's own perspective.
- show the perspective of others..
- try to train curiosity towards social situations.
- allow for demonstrations of others thinking differently.
- help them learn to predict some outcomes of own behavior.
- assist with learning to predict the behavior of others.

Carol Gray

Social Skills Groups



A curriculum such as Superflex-
A Super Hero Social Learning Curriculum
or Navigating the Social World

Social Difficulties



- **One of the leading causes of teenage depression is social failure.**
- **The impact of social failure can be deadly!**
- **Cyberbullying is one of the leading causes of depression and suicidal ideation and execution!**

© Daniel G. Pruitt, PCC, SCAC, Sheryl K. Pruitt, M.Ed., 2009

Resource Material

Navigating the Social World: A Curriculum for Individuals with Asperger's Syndrome, High Functioning Autism and Related Disorders by Jeanette Mc Afee

Pediatrician Jeanie McAfee originally created this user-friendly social curriculum for her daughter Rachel, who was diagnosed with Asperger's at age ten. Since then, it has become a staple for parents and educators. It addresses the most urgent problems facing those with Asperger's Syndrome, high-functioning autism, and related disorders.

Superflex...A Superhero Social Thinking Curriculum by Stephanie Madrigal and Michelle Garcia Winner

This book provides educators, parents and therapists with fun and motivating ways to teach students with Asperger Syndrome, high-functioning autism, ADHD and other diagnosed and undiagnosed social difficulties how to build social thinking skills.

The New Social Story Book, Revised and Expanded 15th Anniversary Edition: Over 150 Social Stories that Teach Everyday Social Skills to Children and Adults by Carol Gray

These short stories describe different scenarios which allow individuals to better understand themselves and others. These stories may motivate them to start asking questions about other people and at least recognize that different individuals think in unique ways and have different abilities.

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Resource Material

Comic Strip Conversations by Carol Gray

Comic strip conversations use visual supports to improve the understanding and comprehension of social situations.

Relationship Development Intervention with Children Adolescents and Adults: Social and Emotional Developmental Activities for Asperger's Syndrome, Autism, PDD and NLD by Steven Gustein and Rachelle Sheely

This volume contains over 200 enjoyable and stimulating activities and exercises ranging over the entire gamut of social and emotional development. It is applicable to anyone, regardless of diagnosis, but will be particularly valuable for those on the autism spectrum.

Thinking About You, Thinking About Me by Michelle Garcia Winner

This book addresses the different ways this problem, can present itself, the current thinking on how to approach the problem, and a wealth of exercises and activities that can immediately be applied to the student. This book is illustrated with clear diagrams and tables, and contains photocopyable handouts.

Zones of Regulation by Leah Kuypers

The Zones of Regulation is a curriculum geared toward helping students gain skills in consciously regulating their actions, which in turn leads to increased control and problem-solving abilities.

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