

Behavior

It is argued that self-regulation skill is necessary both for displaying constructive behaviour and for controlling negative social behaviour, and self-regulation might affect social behaviours by increasing the ability to understand others' minds. Korucu et al, 2016



Discussion considerations:

- Children with hearing loss struggle with Theory of Mind
- Behavior requires that you judge your actions through another person's eyes, which requires Theory of Mind
- Children with hearing loss are often judged by teachers as having poorer behavior than typically hearing children
- What is our role in addressing behavior in therapy before it becomes a barrier to socialization and communication?

Children whose parents explain and discuss, rather than only punish unacceptable behavior, score more highly on false belief tasks.

Benson & Haith 2009



BEHAVIOR STRATEGIES:

MAKE YOUR EXPECTATIONS CLEAR

Don't make them guess how you want them to behave, tell them!

Routines allow a child to *predict* what will happen next by considering the contents of your mind

ESTABLISH ROUTINES EARLY

EXPLAIN HOW YOU HANDLE FRUSTRATIONS

"When I get mad I take a deep breath, count to three, and then think of the best way to solve my problem."

"I like when you wait for me to finish talking"

Vs

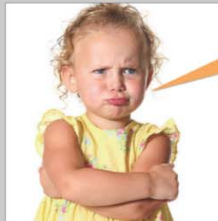
"Don't touch the phone"

STATE YOUR PREFERENCES

by describing desired behavior



LABEL EVERYONE'S FEELINGS



Sad?
Frustrated?
Disappointed?

This allows children to learn the words to describe how they feel rather than tantrum.

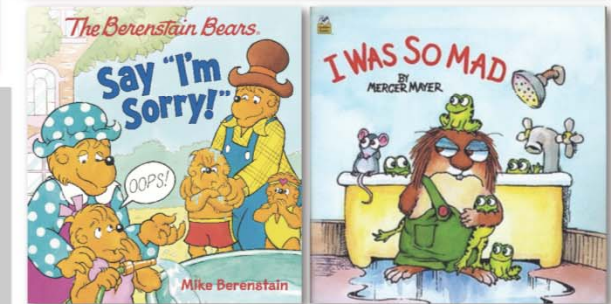
ToM + Misunderstandings

A misunderstanding occurs when you've had a false impression or have misread a situation.

Misunderstandings are common, but left unexplained, can do much damage. With strong ToM skills, an individual can view a situation from another person's perspective to more quickly resolve a misunderstanding before it escalates. How many times have you been angry, only to find out it was a simple misunderstanding? ToM played a critical role!



BEHAVIOR STRATEGIES: EXPLAIN MISUNDERSTANDINGS



Literacy and social stories are a great way to help a child understand acceptable and unacceptable behavior in a safe space. Talk about WHY events unfolded the way they did! [Landon Lacey, MS, CCC-SLP](#)

Cooperation & Collaboration



Cooperation is an important part of relationships, and children learn to respect others and to control their emotions through collaboration.
Parenttoolkit.com

In order to cooperate with family and peers, a child must know their own strengths and weaknesses, as well as the strengths and weakness of the other group members. This requires insight into how each individual person thinks and functions *differently* to maximize each person's potential contribution to a common goal.



Why is it important for adults to learn strong collaboration skills?

- Work/office projects
- Family finances
- Parenting children with spouse
- Friendships
- Higher education



Collaborating isn't always easy when mixing a variety of personality types and learning styles! Having strong ToM skills allows us to troubleshoot miscommunication and frustrations, and even have the foresight to prevent trouble before it occurs.

What can we do?

- Educate parents on importance of group play, and introduce common goals when appropriate. Especially important with only children!
- Provide ways a parent could expose their child to group play opportunities (i.e. local library days, interactive exhibits at children's museums, inviting the cousins over, group therapy).
- Coach parents that collaboration takes trial and error. There will be arguments as children learn!
- Show the caregiver how you can "turn the inside out" to expose the child to the mental work behind collaborating (i.e. I'm going to let your brother cut the petals because he's getting very good at using the scissors. You're excellent at using the glue stick, do you want to stick the petals down?).

Collaboration Activities for Group Therapy and Sibling Play:

- Make PlayDoh together
- Make a tall block tower
- Make a joint craft (i.e. paper flower garden) and share supplies
- What else fosters collaboration?



EMPATHY

QUESTION:

Do children with hearing loss demonstrate reduced empathy compared to normal hearing children?

STUDY:

Empathy and Theory of Mind in Deaf and Hearing Children
Peterson 2016



30 prelingually deaf children using a TC approach
31 matched typically hearing peers
4-12 years old

Task battery:

- 3 False Belief tasks to assess ToM
- Empathy questionnaire (Robert & Strayers) completed by teacher
- Empathy questionnaire (Robert & Strayers): 6 point scale; teacher rated.

RESULTS

"Hearing children displayed more frequent empathetic behavior than deaf children their age."

	Normal Hearing	D/HOH
Highest Empathy Scores	41%	30%
Lowest Empathy Scores	10%	40%

Pretend Play & Empathy



Children are two times more likely to refer to inner state words during pretend play than non-pretend play. Hughes & Dunn 1997



Discussion considerations:

- Early pretend play and the ability to infer intentions and desires develop around the same time
- Advanced pretend play often makes use of first and even second order false beliefs
- Pretend play can be a safe way to empathize with someone else (i.e. role playing as a mother, baby, etc)
- Pretend play allows you to explore another person's mind (i.e. pretending to be a shop keeper)

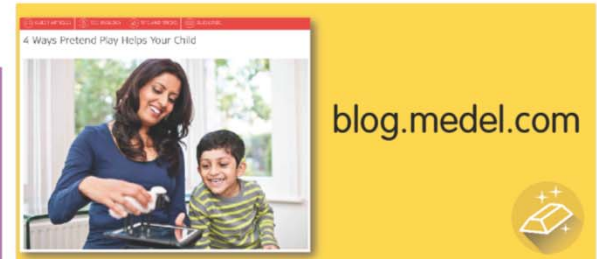
Preschoolers' false belief scores are often found to correlate with their frequency of engaging in pretend play. Taylor & Carlson 1997

Guiding caregivers to engage in pretend play:

- What do they know about PP?
- Are they comfortable engaging in PP?
- Empower caregiver with information
- Brainstorm activities child & caregiver enjoy
- Implement activities
- Reflect on activities



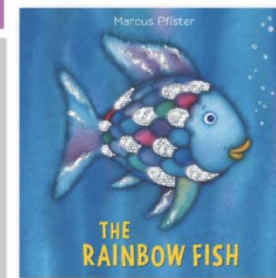
em·pa·thy: the ability to understand and share the feelings of another



Pretend Play & Literacy

Discussion considerations:

- Books provide many opportunities to empathize with characters!
- Coach parents to point out different peoples' perspectives in a book (how do you think Ernie felt when his kite got stuck in the tree? How did Big Bird feel after he helped Ernie?)
- Try reading an old book from a fresh perspective!
- Use the Mental State Word List to target new words while reading



"What good were the dazzling, shimmering scales with no one to **admire** them? Now he was the **loneliest** fish in the entire ocean."

"The rainbow fish shared his scales left and right, and the more he gave away the more **delighted** he became."

Landon Lacey, MS, CCC-SLP

Humor

Another cognitive skill that helps children develop humor is an understanding of how the mind works. Knowing that different people can have access to different knowledge or mental states – and that some can have false beliefs or be deceived – is important... Indeed, some research has shown that this knowledge is crucial for children to understand more complicated jokes involving sarcasm and irony.

Dr. Paige Davis



Double meanings
Situational Comedies
Unpredictable endings
Sarcasm/
Irony
Social Faux Pas



Double meanings:

A horse walks into a bar and the bartender asks "why the long face?"

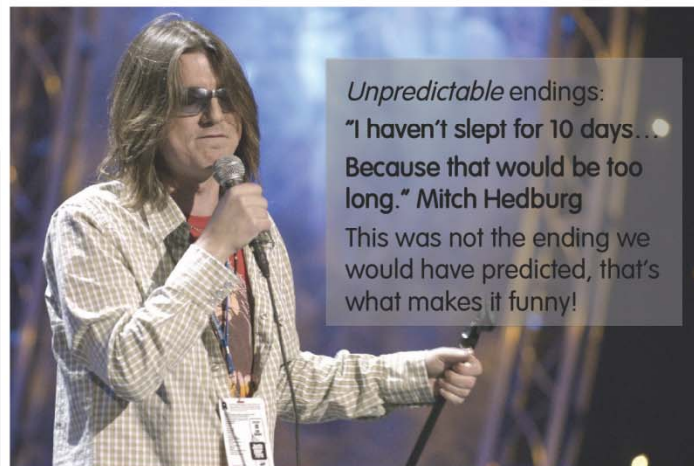


In order to understand this joke, the brain must quickly see the word from two **points of view**. Most puns require this kind of cognitive flexibility. A child with poor Theory of Mind may have trouble seeing the second meaning.



Situational comedies require layers of social understanding to find them funny. Many first and second order **false beliefs** are also employed (i.e. Miranda thought Big was at lunch cheating on Carrie, but it was really his sister). **Sarcasm** is frequently used, and social dynamics evolve over time.

Above, the dinner is funny because of the dynamics of the characters in the show, but it's funnier that both men are "romantically" connected to Jennifer Aniston.



Unpredictable endings:
"I haven't slept for 10 days...
Because that would be too long." Mitch Hedburg
This was not the ending we would have predicted, that's what makes it funny!

When people use **sarcasm**, they say the *opposite* of what they mean through the use of irony. Sarcasm can be funny but is often hurtful. It's necessary to read between the lines to understand whether or not a speaker is communicating candidly or using sarcasm.



What can we do to lay the foundation for children to understand higher level humor? Be **explicit!**

- Explain the double meanings of words
- When you're laughing, tell the child why
- Explain social faux pas (i.e. Jerry called Sam's mom his grandmother, so everyone laughed, but it may have hurt her feelings because she doesn't want to seem old).
- Explain sarcasm (i.e. he said he loved the restaurant, but he couldn't eat most of the food on the menu. He was being sarcastic and said the opposite of what he meant. He didn't enjoy lunch.)

Landon Lacey, MS, CCC-SLP



Likability

QUESTION:

Does Theory of Mind affect popularity in school aged children?

STUDY:

Meta-Analysis of Theory of Mind and Peer Popularity in the Preschool and Early Years
Slaughter et al, 2016



- Analyzed 20 studies
- Significant association between Theory of Mind and popularity ($r=.19$)
- The association was stronger for girls than boys

"Preschool and school-aged children who have a good understanding of others' mental states are at the same time liked or seen as popular among their peers, and those with a relatively poor ToM are concurrently disliked or rejected."
Slaughter et al, 2016



One possibility is that mastery of more advanced ToM concepts, for instance, recognizing what one peer thinks another peer is thinking, is itself linked to children's peer popularity as they enter and progress through the increasingly complex social world of primary school.
Slaughter et al, 2016



... preschool children's rates of mastering concepts of false belief and of lying are each enhanced by high verbal ability, general popularity within peer group, and stable mutual friendship.
Peterson & Siegal 2002



LIKABILITY & POPULARITY

SO WHAT CAN WE DO?

- Target ToM early
- Transfer your new knowledge to parents
- Highlight mental state words
- Discuss other peoples' feelings
- Increase **connectedness** of conversation



THERAPY IDEA

- Make a baby-friendly picture book of their friends.
- Add their friends' names to your weekly vocabulary targets.
- Talk about baby's friends' likes and dislikes.
- Use elaborative reminiscing to talk about past experiences together.



Everyone wants a communication partner with good turn-taking skills! Unfortunately, individuals with poor ToM often demonstrate disjointed turn-taking skills in conversation (either talking too little, too much, or at the wrong times about the wrong subject). This is also true of many individuals with hearing loss. Targeting turn-taking skills at a young age can prepare a child to be a great conversation partner in the future, which will make it easier for them to socialize with their peers!

Coach caregivers to:



- Talk about the *child's* interests
- Pause longer than comfortable
- Give an expectant look
- Stay on the same topic for longer
- Provide positive reinforcement



BUILDING TURN-TAKING AND CONVERSATIONAL SKILLS



THE IMPORTANCE OF TURN-TAKING AND CONVERSATIONAL SKILLS

Turn-taking is a basic requirement of conversation. It does not always occur automatically and for some children must be taught by parents and teachers. Many children with language delays will have poor conversational skills. They may shift rapidly from topic to topic. They may fail to take their turn, and when they do, they may provide the wrong information or not enough information for the listener to understand what they mean.

<https://www.tcdsb.org/ProgramsServices/SpecialEducation/Speech/Documents/Building%20Turn%20Taking%20and%20Conversational%20Skills.pdf>



Make conversational turn-taking a therapy goal! Tally each time the caregiver and child take a turn vocalizing. Use the strategies above to coach!



Landon Lacey, MS, CCC-SLP



Literacy & Education

On average, median scores of 17-year-old students who are D/HH on the Stanford Achievement Test have been at the fourth-grade level and have not improved significantly in more than 40 years despite significant changes in deaf education.

Promoting Language and Literacy in Children who are Deaf or Hard of Hearing



INFERENCE

"Would you like some tea?"
"Tea would keep me awake."
Does he want any tea?

The ability to make inferences requires a well-developed Theory of Mind. The author isn't telling you all the information – you have to infer what people are going to do based on what you know about their mind. Many hard of hearing students have trouble understanding inference.

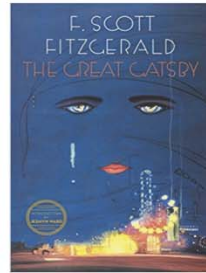
Reading abilities of students who are D/HH with and without cochlear implants cannot be explained by their hearing levels, phonological processing skills, and measured language skills alone.

Promoting Language and Literacy in Children who are Deaf or Hard of Hearing



Can you infer what this author is trying to say?

Landon Lacey, MS, CCC-SLP



Harry Potter is written for a 5-6 grade reading level. Consider the layers of Theory of Mind involved in the following sentence:

"Indeed, from the tone of his voice when he next spoke, Harry was quite sure that Mr. Weasley thought Dudley was quite as mad as the Dursleys thought he was, except that Mr. Weasley felt sympathy rather than fear."
Harry Potter and the Goblet of Fire

A child could potentially understand all of these words, yet not comprehend what Harry is thinking without a well-developed Theory of Mind.

Consider the complex figures of speech, hidden meanings and diverse perspectives of the books above.



"Skills in social cognition also play a role in understanding many aspects of history, social and cultural studies, art, and politics. For example, when learning about the concepts of civil disobedience that were the foundation for the American Civil Rights movement in the 60's, one has to understand the beliefs that surround concepts of nonviolence, discrimination, equality, and fundamental concepts of human rights. Much of what we learn is embedded in the beliefs and understandings of people at that point in time, in contrast what we currently know." Brenda Schick, PhD, for Hands & Voices

Students who are D/HH produce narratives that are less complete, focus more on descriptions than *causal* relationships, and have fewer mental state and evaluative words.

Promoting Language and Literacy in Children who are Deaf or Hard of Hearing



Discussion considerations:

- Understanding literary narratives, current events and history require perspective taking, which is the foundation of ToM!
- Many children with hearing loss have a language delay, but even the children with typical language *still* struggle with ToM-based skills such as perspective taking and inference.
- Syntax and vocabulary is not enough! We must target ToM to prepare children for academic success.

So what can we do?

- Transfer your knowledge about ToM & literacy to the caregiver
- Move away from pointing and labeling
- Describe characters' thoughts & feelings
- Ask questions that target *inference*
- Read the same book from different characters' perspectives
- Let the child take the lead in choosing and manipulating the books
- Ask open ended questions (how do you think he felt?) vs closed questions

How many toddler-friendly books we have in the house:			
0-5	5-10	10-50	more than 50
How many days/week we read:			
0	1-2	2-5	Almost every day Daily
How many minutes we read each day:			
0-5	5-10	10-20	20-30 30-50 More than 50
How many people read with my child?			
1	2	3	4 More than 4
Who reads with my child? _____			
Where do we read? _____			
Circle which kinds of books we have:			
Board books	Rhyming books	Story books	
Books with texture	Books with flaps	I spy books	

FAMILY READING PLAN



Moral Decisions

QUESTION:

Do children with CI's react to pride, shame and guilt triggering situations the same way as typically hearing children?

STUDY:

Preliminary Findings on Associations Between Moral Emotions & Social Behavior in Young Children with Normal Hearing & Cochlear Implants, Ketelaar 2015



METHODS:

184 children with typical hearing
60 children with CI
14-61 months old
Administered guilt- and pride-inducing events, and rated child's reactions to the events (i.e. child breaking examiner's toy; child completing a difficult task).



Results:

"...the children with CI showed moral emotions to a lesser degree than children with normal hearing."

Guilt



Pride



What does ToM have to do with moral decision making?



We want this face:

Not this face:



In order for a personal set of moral standards to develop, children need to be able to judge their own behavior through other people's eyes. Ketelaar 2015



Moral emotions such as shame, guilt and pride are important determinants of social competence, reflected in being liked by others. Ketelaar 2015



The data demonstrate that enhanced moral reasoning may entail that young children combine their understanding of cognitive states (ToM) with their understanding of emotional states. Lane et al 2010



What can we do? Be explicit!

- Explain your moral decisions (i.e. I brought dinner to the woman) because I knew her husband was sick and wanted to help her.
- Discuss the child's moral decisions
- Ask open-ended questions
 - i.e. why did you make this decision?
- Reserve negative judgment
- Provide opportunities to take the perspective of others
- Provide opportunities to "redo" a bad decision and make the right choice

Landon Lacey, MS, CCC-SLP

Social Skills

Children and adolescents with prelingual, severe to profound HL more often experience social difficulties than normal hearing peers. Ketelaar 2015



Words describing individuals with strong social skills also involve ToM!

- Trustworthy
- Thoughtful
- Empathetic
- Intuitive
- Concerned
- Altruistic
- Negotiator
- Ethical
- Compassionate
- Dependable
- Considerate

Perspective Taking:
Draw the child's attention to the way others may feel in a variety of emotional situations. This can include family members, friends or even characters in books.

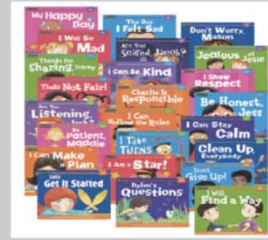


- Strategies to use:**
- Elaborative reminiscing
 - Turn the inside out
 - Be explicit



Landon Lacey, MS, CCC-SLP

Many children's books are great resources for being explicit about expectations!



Hands & Voices
Social Cognition



... delay in understanding the beliefs of others and in understanding the distinction between lies and mistakes may directly undermine children's abilities to forge lasting friendships and limit their capacity to secure acceptance by the peer group. Peterson & Siegal 2002



Discussion considerations:

ToM is intricately linked to social communication, and we know ToM deficits originate in the first few years of life, so what is our role in targeting ToM in EI?

How can you use disruptive events (i.e siblings tantruming, group therapy participants exhibiting bad behavior) to your favor in exposing a child to others' feelings and appropriate behavior?

What is your comfort level discussing social development with parents of children in EI? How can you grow your comfort level?

...preschool and school-aged children who have a good understanding of others' mental states are better liked or seen as popular among their peers. Slaughter et al 2015



What can we do?

Be **explicit** about:

- What's expected socially
- What the child did well
- How others feel

