Theory of Mind
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Agenda

- Theory of Mind Definition
- Requirements to Obtain Theory of Mind
- Understanding Levels of Perspective Taking
- Impact on Skills
- Skill Building Activities
Theory of Mind

- Dr. Baron-Cohen (2001) describes Theory of Mind:

  - “being able to infer the full range of mental states (beliefs, desires, intentions, imagination, emotions, etc) that cause action”

  - “able to reflect on one’s own thinking and other’s thinking too”
Theory of Mind

- Our ability to accurately assign cause and effect or motivation of another person’s thought, words, or deed or to the events around us.

- Our ability to connect the dots between the events that happen to us and the reasons why they happen.

- When a person has difficulty correctly perceiving life events or someone else’s thoughts, words, or deeds on a consistent basis, it causes misunderstandings during social interactions.

- Significant barrier for future behavior changes, if perception is skill deficit
Multiple Terms

- Theory of Mind
- Perspective Taking
- Mindreading or Mind-Blindness
- Social Cognition
Requirements for Theory of Mind

- First-Order False Beliefs
- Seeing Leads to Knowing
- Recognizing Mental State Words
- Pretend Play
- Understanding Emotions
- Eye-Gaze Direction
- One’s Intentions
- Deception
- Metaphors, Sarcasm, Irony, Jokes
- Pragmatics
- Imagination
- Second-Order False Beliefs

(Baron-Cohen, 2001)
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(Baron-Cohen, 2001)
First-Order False Beliefs

- The belief that people can have different thoughts about the same situation.

- Usually develops around 4 years of age.

First-Order Theory of Mind Tests
  - Sally-Anne study
    - Children diagnosed with autism have not been able to pass the First-Order tests.

- Most children with autism report on what they know and are unable to think about what another person might ‘think’

(Baron-Cohen, 2001)
Seeing Leads to Knowing

- Understanding where knowledge comes from

- Typically developing 3 year olds can identify who know what and who doesn’t know something.

- Children with autism generally guess at who knows something vs. who doesn’t know it.

(Baron-Cohen, 2001)
Recognizing Mental State Words

- Mental words: think, know, dream, pretend, imagine, favorite, etc
- 4 year olds can determine which words (from a list) are related to what goes on in the mind.
- Non-mental words: sleep, eat, jump, drive

- Children with autism
  - Find this task difficult
  - Are not successful
  - Do not use mental state words in spontaneous conversations
  - Have difficulty comprehending mental state words

(Baron-Cohen, 2001)
Pretend Play

- Children with autism often require pretend play skills to be taught.

- If unable to develop spontaneous pretend play skills, it may lead to a lack of imagination, which is required for Theory of Mind.

(Baron-Cohen, 2001)
Understanding Emotions

- Emotions are caused by events (falling, getting a good grade, etc).

- Emotions are also caused by mental states (desires and beliefs).

- Typically developing 4-6 year olds recognize where emotions come from.

- Children with autism have difficulty understanding that emotions are linked to mental states.

(Baron-Cohen, 2001)
Eye-Gaze Direction

- By the age of 4, children can look at someone’s eyes and figure out what a person might want, think, or is referencing.

- Eye-gaze does not come easy to children with autism. Often times, this has to be taught.

(Baron-Cohen, 2001)
One’s Intentions

• Intentions is a mental state.

• Following other’s intentions (why person does something).

• Following other’s actions (what person does).

• Children with autism have difficulty answering Why or What a person did something.

(Baron-Cohen, 2001)
Deception

- Deception ≜ “making someone believe that something is true, when in fact it is false”. Baron-Cohen (2001).

- 4 year olds learn to realize deception and try to use it on others.

- Children with autism have difficulty comprehending deception. They aren’t able to know when someone is trying to deceive them.

(Baron-Cohen, 2001)
Metaphors, Sarcasm, Irony, & Jokes

- Children as young as 3 often can answer a simple question about a statement by saying the person was ‘joking’.

- Metaphors, sarcasm, and irony are beginning to develop around 8 years of age.

- Children with autism struggle with these concepts due to their literal thinking skills.

(Baron-Cohen, 2001)
Metaphors, Sarcasm, Irony, & Jokes

- Figurative speech requires a conception of the speaker’s point.

- Sarcasm
  - “Wow, you did a good job of cleaning up your toys” said a parent in a negative tone of voice.

- Metaphor
  - It’s raining cats and dogs.
Pragmatics

- Figurative speech and humor
- Use of language to the social situation
- Reciprocal conversation skills
- Staying on topic
- Tailoring speech to the person you are talking to
- Being aware of the other person’s participation in the conversation
- Overall awareness to the speaker and listener mental states

(Baron-Cohen, 2001)
Imagination

- Imagination includes an unreal world that only exists in one’s mind and allows one to be in the real world.

- Real world includes one’s mental state of imagining.

- Children with autism have difficulty grasping this concept of imagination and the virtual world.

(Baron-Cohen, 2001)
Second-Order False Beliefs

- There have been a number of children with autism or Aspergers that have passed the first-order tests. The children that have passed this test are much older than 3-4 years of age.

- Second-Order False Belief Tests include nested mental states.
  - What does Chris think that Kate thinks?

(Baron-Cohen, 2001)
Additional Theory of Mind Tests

• Tests target the following areas:
  ✷ Inferring bluffing
  ✷ Double bluff in stories
  ✷ Decoding complex mental states from non-verbal and facial expressions

(Baron-Cohen, 2001)
Levels of Perspective Taking Deficits

Marcia Garcia Winner’s Levels:

- **Level 1:** Severely Impaired Perspective Taker (SIPT)
- **Level 2:** Emerging Perspective Taker (EPT)
- **Level 3:** Impaired Perspective Taker (IIPT)

(Garcia Winner, 2007)
Severely Impaired Perspective Taker (SIPT)

- Dual diagnosis: autism & intellectually challenged
- Inability to take perspective of others
- Verbal communication is functional (wants, needs)
- Transition challenges
- Lacks problem-solving skills
- Mostly non-verbal
- Lacking abstract language / thinking skills
- Limited attention span
- Lacks ability to acknowledge others
- Sensory challenges
- Limited social motivation

(Garcia Winner, 2007)
Severely Impaired Perspective Taker (SIPT)

- Requires functional life skills setting.
- Requires strong applied behavioral analysis focus for teaching.
- Requires concrete rules, expectations in each setting.
- Difficult for them to generalize across settings.

(Garcia Winner, 2007)
Emerging Perspective Taker (EPT)

- Range of intelligence
- Lacks ability to take other’s perspective efficiently
- Learning disabilities
- Language disabilities
- Requires help for critical thinking
- Lacks understanding of abstract concepts
- Lacks cognitive verb understanding
- Lacks organizational skills
- Reading comprehension difficult

(Garcia Winner, 2007)
Impaired Perspective Taker (IIPT)

- Poor writers
- Lacks problem solving skills
- Distracted
- Sensory Challenges
- Transition challenges
- Lacks critical thinking skills
- Behavioral challenges
- Quirky
- Behavioral labels
- Difficulty with initiating social interactions

(Garcia Winner, 2007)
Impaired Perspective Taker (IIPT)

- Look normal
- Normal to high intelligence
- Aware others have different perspectives
- Able to describe emotions, intentions of others
- Does not have a ‘filter’; says what is on their
- Uses fluent communication skills
- Expanded vocabulary

(Garcia Winner, 2007)
Impaired Perspective Taker (IPT)  

- Difficulty following ‘hidden rules’  
- Difficulty with complex academic skills  
- Lacks organizational skills  
- Difficulty forming friends and working in a group  
- Hard to engage in reciprocal conversation and observe non-verbals  
- Mental health challenges  

(Garcia Winner, 2007)
Impaired Perspective Taker (IIPT)

- Competitive
- Not always aware of own and others’ emotions
- Weak problem-solving skills
- Sensory challenges
- Disability labels
- Weak self-advocacy skills
- Maturity delayed
- Weak social networks

(Garcia Winner, 2007)
Example

Situation:
Jamie had her hands full with her belongings for camp. She was in a hurry to get to the pool to swim. Becky bumped into her and Jamie dropped all of her swimming gear and belongings.

Jamie’s Response:
Jamie assumed that Becky ran into her on purpose so she got agitated and went to talk to the supervisor in charge. Her perception was that it was internal (personal to her) and out of her control because she is always the target from peers.
Impact on Skills

- It impacts one’s ability to attribute / assess their circumstances well in order to self-regulate or modulate their behaviors at the same time.

- Perception is directly related to theory of mind.

(Garcia Winner, 2007)
Example

Situation:

Dave was told that he was going to a music assembly with his friends.

Dave’s Response:

Dave’s only experience of going to a music assembly involved really loud music that hurt his ears. He becomes agitated, yells, “I’m not going”, and runs away.
Skill Building Activities

- Several activities will enhance Theory of Mind skills:
  - “Think, Know, Guess”
    - Showing a picture or written scenario
    - Asking questions about deception
    - Asking questions about what the people might be thinking
  - Use of Videotapes
    - While watching videotape, therapist can ask questions about “what the child knows”, “what the character is thinking”
    - Helps to facilitate conversations of concepts
      (Garcia Winner, 2007)
Skill Building Activities

- “Thinking About You” game
  - All of the kids, except one, get “thinking of you” cards
  - The card resembles that the child has to “think” of the other people while playing a cooperative game.
  - The child without the card is the “Just Me” person who does not get to play. This child can do whatever he wants, but is not allowed to talk or interact with the other kids.
  - All children in the group get a chance to be the “Just Me” person.
  - Teaches children to observe and describe other’s behaviors, their own feelings and actions.
  - Game described in more detail in Garcia Winner (2007).

(Garcia Winner, 2007)
Skill Building Activities

- **Whole Body Listening**
  - Teaches children to listen with their entire body (shoulders, hips, feet, chest, hands, ears, brain, etc)
  - Teaches children to think what others are “saying, doing and thinking”.

- **Pantomime or Charades**
  - Teaches children to “read” body language and how someone is using non-verbal communication.
  - Teaches children how to interpret another person’s message.

(Garcia Winner, 2007)
Skill Building Activities

- **Group Videotaping**
  - After videotaping the group, have the children detect and analyze the video.

- **Literature to Teach Theory of Mind**
  - Fairy Tales allow the children to think about the character’s motives, intentions, or deceptions.
  - Explore choices characters made and what clues they could have looked for in the story.

- **Guessing**
  - Have children “guess” what might happen next in a social situation.
  - Pretend to be a detective

(Garcia Winner, 2007)
Skill Building Activities

- **People Have Thoughts About Others**
  - Making Impressions on others (appearance, verbal communication, and actions).

- **Reading Other’s People’s Reactions**
  - Use visual drawings to help child perceive how another person might respond.

- **Files In Your Brain**
  - Teach older child the brain holds all the information you think and know.

(Garcia Winner, 2007)

Autism Services, Education, Resources, and Training (ASERT)

- ASERT is a statewide initiative funded by the Bureau of Autism Services, Pennsylvania Department of Public Welfare.