Theory of Mind:  
Going to the Heart of Autism Spectrum Disorder and Social Communication Disorder  
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**Classic Definition of Theory of Mind**

- The ability to attribute mental states—beliefs, intents, desires, pretending, knowledge, etc.—to oneself and others and to understand that others have beliefs, desires, and intentions that are different from one’s own

**Cognitive Theory of Mind**


**Affective Theory of Mind**

- Affective cognitive ToM: awareness and reflection on one’s own emotions; ability to recognize or infer what others are feeling (understanding the emotions of others cognitively)
- Affective empathy: drive to respond appropriately to others’ emotions

**Affective ToM**


Cognitive False Belief

Joe and Anna are setting the table for a festive dinner at the dining room. Anna pours Joe a glass of water, but some water spills on his new shirt. Joe says: “It’s nothing, I will change the shirt later.” Anna puts the glass on the table and goes to look for a paper towel to dry Joe’s shirt. When she leaves the dining room, Joe takes his handkerchief and dries the shirt and the table. Anna peeks into the dining room, sees what Joe is doing, and so she doesn’t bring a paper towel. Anna returns to the dining room.

1. What does Joe think that Anna thinks about the shirt’s condition, when she returns to the dining room?
2. What does Anna think of the shirt’s condition?
3. What is the shirt’s condition?
4. What were Joe and Anna doing?

Affective False Belief

Joe and Anna are setting the table for a festive dinner at the dining room. Anna pours Joe a glass of water, but some water spills on his new shirt. Joe says: “It’s nothing, I will change the shirt later.” Anna puts the glass on the table and goes to look for a paper towel to dry Joe’s shirt. When she leaves the dining room, Joe gets furious about the wet shirt and kicks the table. Anna peeks into the dining room, sees what Joe is doing and feels guilty. Anna comes back to the dining room.

1. What does Joe think that Anna feels about the wet shirt, when she returns?
2. What does Anna think Joe feels about the wet shirt?
3. How does Joe feel?
4. What were Joe and Anna preparing for?

Types of theory of mind


Interpersonal Cognitive ToM

- Mary plays a trick on Sam, whose favorite snack is M&Ms. Mary puts M&Ms in toothpaste box and puts box on Sam’s table.
- What will another kid think is in the box before opening it?
- What did Sam think was inside the toothpaste box before opening it?

Intrapersonal Cognitive ToM

- Ask child if he/she prefers for a snack M&Ms or toothpaste. C says M&Ms and is then handed a wrapped box. C unwraps and sees toothpaste box. C opens box and finds M&Ms.
- What does it look like is in the box? What is really in the box?
- What did you think was inside the toothpaste box before opening it?


Interpersonal Affective ToM

- How did Sam feel about what was inside the box before opening it?

Intrapersonal Affective ToM

- How did you feel about what was inside the box before opening it?


Metacognition: Intrapersonal Cognitive ToM


ToM in Communication Disorders

- All aspects of ToM significantly affected
- Cognitive ToM tends to develop in children with high-functioning autism or Asperger
  - Language impairment
  - Delays in development of most aspects of ToM
  - Fewer mental state & emotional words than typical children
  - Attention deficit-hyperactivity disorder
  - May have delays in ToM development
  - Higher levels of inter- and intrapersonal ToM affected
  - Particular deficits in intrapersonal ToM for self-regulation of behavior and emotions

- Delays in ToM (particularly for Deaf of hearing parents)
- Delays associated with language but greater than expected from language levels
- Poor identification of emotions and recognizing causes of emotions
  - Blindness
  - Delays in cognitive ToM
  - Difficulties identifying emotion in tone of voice
  - Children who experience abuse/neglect
  - ToM deficits in affective empathy often most marked

ToM in Communication Disorders

- Likely deficits primarily in affective empathy in bullies
- Others may have ToM deficits in any or all areas
  - Children & adolescents with disruptive behavior disorders
    - Callous/unemotional traits
      - Callousness; lack of empathy,
      - Lack of personal affect
      - Remorselessness
    - Machiavellian traits

- Persons with degenerative brain conditions
  - Alzheimer’s disease
  - Frontotemporal dementia
  - Amotrophic lateral sclerosis
  - Parkinson’s disease
- Persons with psychiatric diagnoses
  - Psychopaths
  - Borderline personality disorders
  - Narcissists

Interpersonal Affective ToM

- Story with character who really feels one way but looks another way on face, e.g., Diana falls and gets hurt, but tries to hide how she feels so that the other kids will not laugh at her.
- How does Diana really feel?
- How does Diana try to look on her face?

Intrapersonal Affective ToM

- Same stories, but child is inserted as the character, e.g., you fall and get hurt, but try to hide how you feel so that the other kids will not laugh at you.
- How do you really feel?
- How do you try to look on your face?