# Tutorial: Cognitive Egocentrism Theory of Mind
(See Tutorials on <u>Social Perception</u>; <u>Social Competence</u>; <u>Friendship and Peer Acceptance</u>)

## <u>WHAT ARE EGOCENTRISM AND THEORY OF MIND?</u>

Egocentrism is often understood as a moral concept: morally egocentric people regard their own thoughts and needs as most important and willfully fail to account for the needs and intentions of others in making their decisions about how to act. Quite distinct from this moral concept is egocentrism as a cognitive limitation: people with cognitive egocentrism have neurologically-based difficulty "reading" others' mental states and considering events from another person's perspective. In this sense, toddlers and young preschoolers are egocentric in that they lack the cognitive resources to see the world from alternative perspectives, but saying that they are egocentric is not a moral judgment. The same can be said about older children and adults with brain injury related egocentrism: their difficulty perceiving the world from alternative perspectives is a cognitive impairment, not a moral failing.

In recent years, themes related to cognitive egocentrism have increasingly been discussed under the concept of *theory of mind*. To say that a person has a fully developed theory of mind is to say at least the following:

1. She knows that she and other people have minds, that is they have thoughts, beliefs, feelings, desires, intentions, and the like.
2. She is able to understand her own thoughts and feelings, and infer other people's thoughts, beliefs, feelings, desires, and intentions from their behavior (including what they say) with reasonable accuracy.
3. She is disposed to use this information about other people's thoughts, beliefs, feelings, desires, and intentions in making decisions about how to act in social contexts. In particular, she is able to see the world from the perspective of other people.

Discussions of theory of mind have centered around autism as a disability population; however, controversies persist about the centrality of theory of mind in understanding autism.

## Development of Theory of Mind

Theory of mind develops slowly in childhood, beginning in infancy when infants become aware that people, but not inanimate objects, are worth sending messages to. Infants interact reciprocally with adults, jointly attend to the same objects and events, associate facial expression with emotion, and imitate the behavior of others. All of these behaviors indicate early development of their theory of mind.

Toddlers and young preschoolers slowly come to be able to understand their own mental states and interpret mental states of others (e.g., happy versus sad versus angry), and modify their own behavior in response to these interpretations. However, theory of mind (egocentric) mistakes continue to be common, as when a father asks his two year old on the telephone, "Where's your mom?" and the two year old points to her mom, not recognizing that her dad at the other end of the phone line will not benefit from her pointing.

Theory of mind development (i.e., moving beyond cognitive egocentrism) is gradual and continues into the adult years. Even mature adults often make theory of mind errors, for example mistaking a subtle satiric comment for an insult because of inadequate attention to subtle cues, such as a twinkle in the eye of the conversation partner. Typically developing adolescents are famous for a peculiar and serious theory of mind error, namely believing that people around them, especially peers, are thinking about and making judgments about them when in fact there may be no such thoughts or judgments and no evidence that those judgments are being made. Even mature adults may have difficulty understanding and appreciating

the perspective of others when those others hold opposing views on religious, political, or other sensitive topics.

Developments in the domains of social perception, empathy, reciprocal emotional bonds of friendship, and self-awareness are all closely related to development of theory of mind. Without the ability to "read" ones own and others' mental states, it is hard to empathize with others or engage in related behaviors characteristic of friendship. The clinical population most often singled out in discussions of impaired theory of mind is autism. In recent years, researchers have also shown that TBI can produce impaired theory of mind and related social perception deficits as well.

Neuropsychological studies of theory of mind phenomena have isolated specific areas of the brain that tend to be activated when thinking specifically about persons or when perceiving and interpreting social messages in others' verbal and nonverbal interaction. These areas notably include medial prefrontal cortex, both ventral (bottom) and dorsal (top)(including the anterior cingulate gyrus), the amygdala, the temporal lobe poles, and the junction between the temporal and parietal lobe in the right hemisphere. Some of these areas of the brain are vulnerable in TBI.


## WHY IS COGNITIVE EGOCENTRISM/IMPAIRED THEORY OF MIND IMPORTANT FOR MANY STUDENTS AFTER TBI?

As stated above, areas of the brain that are vulnerable in TBI include some of the areas associated with impaired theory of mind (or cognitive egocentrism) phenomena. Children and adults with TBI often show symptoms of cognitive egocentrism: their difficulty perceiving the world from alternative perspectives is a cognitive impairment, not a moral failing. While it is rare for students with TBI to demonstrate symptoms as severe as those seen in many students with autism, more subtle forms of cognitive egocentrism are commonly observed. For example, it is rare for a student with TBI to treat other humans as objects (sometimes seen in autism); however, it is common for the student with TBI to have difficulty understanding why others can engage in activities that are prohibited for him.

Even more common are difficulties interpreting others' words and behavior correctly. For example, a student with TBI might interpret good natured teasing as an insult, or a friendly comment from a member of the opposite sex as an invitation. Misinterpretations of this sort – "misreadings" of others' intent – interfere with social relationships, including friendship. Many students with TBI state that their most troubling problem after the injury is social isolation and the absence of good friends. Cognitive egocentrism is a contributor to this problem in many cases.

Quite separate from cognitive egocentrism as a neurologic impairment is the "self-centeredness" that is naturally associated with any crisis in life. When seriously ill or injured, most people tend to focus on themselves and their own needs and not those of others. Furthermore, the family focus on the injured member tends to increase this self-focus. Because TBI can be an ongoing crisis in the lives of the student with TBI and her family, some degree of self-centeredness is therefore understandable. Nevertheless, efforts should be made to help the student correctly "read" others' intent and focus on others' needs because this is critically important in developing satisfying social relationships. **(See Tutorial on Social Perception.)**

Two distinct dynamics that can lead to a downward spiral of egocentrism. First, environmental factors (e.g., the intense focus on the child) and neurologic egocentrism can interact to heighten the phenomenon. Second, negative misreadings of others' behavior can lead to their negative reactions which then lead to additionally negative and exaggerated misreadings of their behavior. Thus, egocentrism is an important issue for many students with TBI.

<u>**WHAT ARE THE MAIN THEMES IN INSTRUCTION AND SUPPORT FOR STUDENTS WHO ARE EGOCENTRIC AND/OR SEEM TO HAVE A POORLY DEVELOPED THEORY OF MIND?**</u>

Understanding the problem

As always, the first task for teachers and parents is to correctly understand the problem. Symptoms of cognitive egocentrism can easily be misidentified as moral egocentrism, which naturally elicits a negative response from others. Or cognitive egocentrism may be misunderstood as a lack of social knowledge or of social skills, followed by inaccurately chosen packages of social skills training. Conversely, cognitive and self-regulatory problems, such as impulsiveness and initiation impairment, can be misidentified as egocentrism. Similarly, emotional problems, such as depression or anxiety disorder, can be misidentified as egocentrism. Therefore, efforts to sort out the relative contributions of these potential contributors to the perceived problem may be required.

When cognitive egocentrism is found to be a contributor to the student's difficulties with social interaction and relationships, its role must be recognized and relevant intervention and support strategies designed and implemented.

Environmental Strategies

Success in social interaction for students with cognitive egocentrism difficulties may require environmental supports, such as the following.

Competent and Sensitive Social Partners: For students with cognitive egocentrism, it is critical to have knowledgeable, understanding, and competent communication partners who therefore do not misinterpret and react punitively to neurologically based awkward behaviors that result from misreading social cues or failing to account for the needs of others. In addition, competent social communication partners take their interaction with students with TBI as an opportunity to highlight "mind reading" in the interactions, which is explicitly interpreting the thoughts and feelings of others (e.g., "Did you see the look on his face? That told me that he was just kidding"). Therefore education and training for everyday communication partners, including peers, family members, and school staff, may be critical to social success.

Explicit Clues to Partners' Mental States: As with social perception impairment, interactions with students with cognitive egocentrism may need to include explicit statements about communication partners' mental states. For example, a communication partner may need to say "Let me tell you a joke..." rather than just telling the joke; or the communication partner may routinely add "Just kidding" after a tease rather than leaving it up to the student with social perception impairment to figure out that it is teasing. In these and other ways, communication partners explicitly make their mental states known to the student with cognitive egocentrism or theory of mind deficits.

<u>**Instructional Strategies to Assist Students with Cognitive Egocentrism/Theory of Mind Impairment (See Tutorial on Social Perception.)**</u>

Context-Sensitive Social Perception Training: Social perception training and coaching can occur as the adult discusses the student's inner life, the adult's own inner life, and the inner lives of others. A first step in perceiving others' mental states is to accurately perceive ones own inner states. For example, young children need to be able to perceive whether they are happy, sad, mad, or scared (the four earliest identified emotional states) and then use available evidence to make judgments about others' mental states. Adults can identify the state that the child is in and say why they think so (e.g., "You're smiling and jumping around; I think you must be happy"; "You're crying; you must be very sad about something; let me give you a big hug").

The same judgments along with the evidence can be made by the adult about the adult's mental state or about others' mental states. For example, "As you can tell by looking at my face, I am upset. I am upset

because ....... So please ................." The point is to attach words to mental states, and to associate the mental state words with evidence that the person is in such a state, the reason for being in such a state, and what to do about it. For older children and adolescents, the inner state words can be progressively more refined and abstract (e.g., jealous, resentful, excited, ambitious, etc).

Sometimes this training is done in therapy sessions, using photos or videos of people to illustrate emotion words. Decontextualized training is not as effective as actual situational coaching because of problems with transfer of training. (See Tutorial on Transfer.) However, decontextualized presentation of this sort may be useful at the beginning of the intervention in order to explain the problems a student is having understanding mental-state language.

Practice During Book Reading and Dinner Time Conversations: With young children, practice of this sort can be ideally implemented during evening book reading time. For older children, dinner time conversations are an ideal time to talk about daily events and explore the mental lives of people, their beliefs, emotions, desires, motivations, and the like. For example, description of a daily event in the student's day might include parental queries like, "I wonder what you were (or he was) feeling at the time.... I wonder why you were (he was) feeling that way.... I wonder if there is something else that you (he) might have done about that...."

Risk of Error in Attempting to Read Other's Mental States: It is important that these conversations about inner states (e.g., emotions, feelings, thoughts, beliefs, desires, etc.) emphasize the ease with which one can misperceive others' true feelings, intentions, motivations, and the like. In this case, the targeted script for the child is, "Do I know what he is feeling or thinking?" Younger and older children alike can be trained to ask others what they are thinking or feeling, rather than relying on their fallible perception and inference.

Requesting Verification: "Am I right?": When students know that they are frequently mistaken in their readings of others' mental states, it may be important for them to get into the habit of requesting validation. For example, the student may be taught to say, "You seem angry about something; am I right about that?"

**Learning to be a successful actor in a world that is poorly understood**

Individuals with impaired theory of mind may never acquire the "savvy" needed to easily read others' mental states. They may not understand why others find certain jokes funny, insults upsetting, and compliments uplifting. They may not understand why certain behaviors are socially expected and others forbidden.

Nevertheless, these students may learn to be a successful actor in this world that they lack a "gut-level" understanding of. They can learn to tell jokes that others consider funny, offer compliments that others find uplifting, and avoid insults that upset others. It may be helpful for adults to think of their job as being much like that of a person who trains actors. Students with theory of mind impairment need to learn many roles, the scripts that go with those roles, and why those roles and scripts are important. This requires a great deal of context-sensitive coaching in these roles and scripts.

One of the social interventions for young children with autism, Carol Gray's "Social Stories", offers a useful approach to theory of mind problems that can be useful also for young students with similar problems after TBI. Ideally social stories are written with or at least customized for the child. They should be short and to the point, focusing on a specific social difficulty faced by the child. The story is comprised of sentences, some of which describe the situation (descriptive sentences), others offer the perspective of social partners (perspective sentences), and one or two at the end state a successful course of action (directive sentences). Reading the social stories should have the same warm and comfortable context as parent-child joint book reading and, like parent-child book reading, the same story should be read several times.

A conceptually similar approach that has been used with adolescents is called "self-coaching" to capitalize on a potentially attractive sports metaphor. The student with impaired theory of mind is taught "plays" that are called under specific social conditions. The play includes the conditions under which it is called (analogous to the descriptive sentences of social stories), the reason for the play (analogous to perspective sentences), and the actions that the play calls for (analogous to the directive sentences). Ideally there is a close analogy with a play from a sport familiar to the student. To heighten its attractiveness, the social play might even be given the same name as the play in sports or be named after a heroic sports figure.

For example, the effort needed to read others' intentions could be named the "Payton Manning Play" after the quarterback for the Indianapolis Colts who is famous for reading the opponent's defense at the line of scrimmage and then changing his team's play as a result of this reading.

Conversational scripts:

Connected with the theme of "being an actor in a world that is poorly understood" is the need for conversational scripts. Conversational competence requires considerable "mind reading" – knowing what others are interested in, for topic initiation, and knowing how others might make connections, for topic maintenance. This is an area of special weakness for students with cognitive egocentrism. Therefore, they might need to learn a small set of conversation starter scripts (e.g., "How's your day going?"; "Do you have any tests or projects coming up? "; "Are you doing anything fun this weekend?") and conversation maintenance scripts (e.g., "Are you ready for the test?"; "Was your trip fun? What did you do there?"). These scripts are designed to get inside the conversation partner's head as opposed to restricting conversation to ones own interests, which is the tendency of students with cognitive egocentrism. As always, real-world coaching is critical because of problems with transfer of training from a training context to a functional application context. **(See Tutorial on Transfer of Training.)**

Turning the tables: Helping students with impaired theory of mind to help others:

One of the most helpful procedures for students with cognitive egocentrism is to engage them in the process of helping others. For example, a speech-language or social work therapy group might develop a project designed to create materials that could help other students with social skills deficits. In the process of creating the materials, the students necessarily process a great deal of perspective taking: Why is this student having these difficulties? How will others react? Why? How could the first student have known that the others would react in that way? What could the first student do about it? How will that be received by the others? Why? And so on.

In these projects, the students with cognitive egocentrism are in effect declared experts in their greatest area of deficit, but acquire competence as they create their intended product. These project-oriented activities can be engaging and fun while also teaching important perspective taking and "mind reading" competencies. **(See Tutorial on Project-Oriented Intervention.)**

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