

Do Young Children Understand What Others Feel, Want, and Know?

Angeline Lillard and Stephanie Curenton

Very young children can show surprising awareness of what other people feel, want, and know. By the time they are seven or eight months old, babies pay special attention to the emotional expressions of adults. By the second year of life, toddlers are beginning to know when others are feeling happy, angry, or sad. They may even try to comfort someone who is distressed. Toddlers also assume that others have desires and goals and may clutch a toy they are holding or try to hide it behind their backs when they see another child eyeing it.

From a very early age children appear to develop an intuitive or "folk" psychology in which they attribute wants and beliefs to others to account for people's actions. Young children, as well as adults, are very interested in what others are doing and feeling and why they do what they do.

Background

Learning to understand the feelings and intentions of other people is a critical part of becoming a functioning member of society. To get along well with others, interact cooperatively, and develop close social relationships, this learning must take place. The development of social understanding is so important to human development and it begins so early that psychologists are beginning to think of it as an innate potential, like the ability to learn language. This view differs from Piaget's theory that young children do not develop the ability to "take the perspective" of others and understand their feelings and intentions until at age six or seven they enter the "concrete operational" period of mental development.

People's understanding that others have mental states is a very interesting feat. When we see someone fall down

and cry, we assume the person is *sad*, and *wants* comforting. When we see a child crouched over a piece of paper with a pencil in hand, sounding out letters, we guess that child is *trying* to write letters. An amazing aspect of these understandings is that mental states are usually not accompanied by any hard evidence of their existence. We have to make it up. It appears that even very young children, as early as 18 months of age, also make it up, inventing mental states in others (Meltzoff 1995).



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Research suggests that humans are unique in this regard, since animals do not appear to invent mental states

(Povinelli & Eddy 1996). Animals simply respond to facial expressions, vocalizations, and body postures. People, on the other hand, attribute mental states with gusto, even applying them to cars and ovens and other entities in which they obviously do not belong.

Many observant toddler and preschool teachers know how sensitive some of these very young children can be to the thoughts and feelings of others.

The study of how and when we acquire an understanding of other's minds has taken developmental psychology by storm, with a tenfold increase over the past decade in the number of publications discussing these issues. The reason for this attention is that knowledge about minds has consequences for so many areas of human functioning. Human interactions from the nursery onward are often about what we think others are thinking.

For example, when children learn the meaning of new words, they need to notice the focus of attention of the adult who is supplying the new word. Even by 18 months, children who are busy playing with a new toy will look to an adult's face when she sounds like she is supplying a new word label ("It's a cyclops! Look at the cyclops!"). Further, children will assume the new word refers to whatever the adult is looking at rather than simply assume it refers to their own toy (Baldwin 1991). This suggests that children have some perspective-taking ability even in Piaget's sensorimotor stage.

Another example of how understanding minds is fundamental to human interactions concerns intentions. Dodge and Price (1994) have shown that boys with very aggressive behavior attribute mean intentions to others, while nonaggressive boys who are in the same situation do not. Other research has shown that children with delinquency problems have trouble taking others' perspectives, and that training them in role-taking by discussing how others view the world is associated with reductions in their aggressive behavior (Chandler 1975).

Children with autism also show marked deficits on many tasks requiring an understanding of minds. Some researchers have even claimed that "mindblindness," the inability to understand others' mental states, is the fundamental deficit of autism (Baron-Cohen 1995). Talking about others' intentions and mental states helps very young children, even those who are not abnormally aggressive or delinquent, to understand mental states. For example, when parents talk more with their children at age two about others' emotions, the children by age four have a better understanding of others' minds.

What do young children know about minds, and when do they know it?

Studies of young children developing understanding of mental states have focused on four areas: children's understanding of (1) the relationship between information from the senses (perception) and what people know, (2) the emotions of others, (3) others' desires, and (4) others' beliefs.

Perception

Three-year-olds have some rudimentary understandings of how sensory experience is related to what people know. Even before three years of age, a child knows to behave differently toward his mother if she is out of the room when a coveted item is hidden (and therefore needs some clues about where to find it) than if she is in the room when the item is hidden (O'Neill 1996). By four or five years of age, children realize how they learned something.

In one study, two objects identical except for their color were shown to children. One of the objects was placed in a tunnel, and the children felt it but did not see it. When asked what color it was, children under five tended to positively assert that the object was one of the colors ("It's blue!"). When asked how they knew, children often responded with the impossible: "It felt blue!" (O'Neill, Astington, & Flavell 1992). By age five, most children realized they could not know an object's color by feeling it.

Emotions

Simple emotions are understood very early. Happiness is usually the first emotion children master, followed by anger and sadness (Borke 1971) and fear (Michalson & Lewis 1985). Repacholi and Gopnik (1997) had 18-month-olds observe a woman looking at broccoli, smiling at it, and saying, "Mmm! Broccoli!" Next she made an ugly face and said, "Yuck!" while looking at the children's preferred food, Goldfish crackers. When asked to give the experimenter some food, most toddlers chose to give her broccoli instead of the crackers. Fourteen-month-olds, in contrast, tried to give her the Goldfish crackers.

This study suggests that by 18 months of age children realize that others' desires might differ from their own and they can use emotional expressions to interpret those desires. Children also learn early how situations relate to emotions. For example, by age three most children assume that people are happy at birthday parties and sad when a dog bites them (Harris 1989).

Now, new research
validates what we see.

Although young children can understand emotions based on desires, they have difficulty understanding

emotions, such as surprise, that are based on beliefs. Understanding surprise is difficult because the emotion is a mismatch between a person's beliefs and reality. Most children do not understand surprise until they have mastered belief, which occurs usually at age five (Hadwin & Perner 1991). They also find it hard to understand the notion that emotional expressions might not represent true feelings. For example, until age five or six, children do not seem to realize that one might smile upon receiving a gift even if one does not like the gift (Saarni 1984). Preschoolers also have difficulty understanding ambivalent feelings, such as being happy about getting a new bicycle but disappointed because it is the wrong color (Kestenbaum & Gelman 1995).

Desires

Children's earliest understanding of the mental states of others has been described as desire psychology (Wellman 1990), because they interpret someone's actions in terms of what that person might want. By age three children understand that desires are positive attitudes toward something outside of themselves. They can also understand the differences between what is wanted and what is reality. For example, when talking about ice cream, one young child said, "I don't want it cold. I wanted it warm" (Bartsch & Wellman 1995, 71).

Similarly, children realize that although one person might like something, another might not. They also have a grasp of how desires relate to actions. Three-year-olds predict that if someone wants something and does not succeed in finding it, the person will keep looking. Furthermore, they understand the link between desires and emotions: that if someone gets what she wants, she will be happy, and if someone does not get what she wants, she will be sad (Wellman & Woolley 1990).

Beliefs

A major development of the preschool years is an understanding that others have beliefs about the world that affect what they do. Until about age four, children have a tendency to act as if everyone knows and believes what they themselves know to be true. If a child falls down at school, she expects her mother to know about the event because she herself knows about it. If a child knows that the ladder on the slide has a broken rung, he believes that his friend knows it too (and will be careful without being told).

One way psychologists have studied children's understanding of belief has been by using *false-belief tasks*. In one such task, children are shown a doll and told that the doll has left a treasured candy bar in a drawer and gone out to play. Children see the doll's mother move the candy to a cupboard. The doll returns, and children are asked where the doll will look for his candy. Until they are four or five years old, children usually predict that the doll will go straight to the cupboard to retrieve the candy bar (Wimmer & Perner 1983). Older children usually un-

derstand that the doll would falsely believe the candy was in the drawer.

This error holds even in greatly simplified circumstances and even when the child herself is the actor. For example, in another type of false-belief task, children first are shown a cracker box and asked what is inside. Most respond, "Crackers!" Then the children are shown that the box actually contains leaves, not crackers, and they now are asked what they had thought was inside. Although the task is very simple and other children are asked about their own mental states rather than someone else's, until age four or five a child will usually respond, "Leaves!" (Gopnik & Astington 1988).

This outcome is not due to a problem with the word *think*, because the same error applies when the word *say* is used. It is not due to embarrassment, because the error holds if children are asked what a friend or parent would think. It is not due to misunderstanding the temporal aspect of the question, because when asked what someone else would think was inside if they were seeing the closed-up box for the first time, three-year-olds still usually say, "Leaves!"

It seems that until children are about four years old (perhaps a year later in children from families with low incomes ([Holmes, Black, & Miller 1996])), they have difficulty with the notion that our beliefs about the world are sometimes false. What appears to underlie this error is a failure to understand that our minds represent a version of the world, like a photograph represents some state of affairs at the time it was taken. Perhaps children view minds more like photographs that are updated to match reality.

Most young children act as if there is only one way to represent the world, an object, or a situation, and other lines of research support this. In *appearance-reality tasks*, for example, children are shown fake objects, like a candle that looks just like an apple. After discussing its appearance and reality, children are asked both what it is (really and truly) and what it looks like "to your eyes right now." Children older than four will give two answers: it is really a candle, but it looks like an apple. Younger children, however, give just one answer, usually claiming that the object looks like what it really is: a candle (Flavell, Green, & Flavell 1986).

Children do not understand that one reality can be represented in two different ways. This misconception about minds presumably has important effects. For example, children's lies before age four may be told only to influence behavior rather than with full understanding of the consequences for belief.

Psychologists' studies have suggested ages at which most children acquire certain understandings about minds. The fact is that even a two-year-old might make a comment that reflects a grasp of false belief. At age two, after answering the phone, one author's elder daughter announced, "I thought it was going to be Dad, but it was Sally!" What this suggests is that under highly supportive

conditions children might occasionally evidence early insight about some concept, like mental representation, but mastery of that concept might be years off. Development is rarely all or none (Siegler 1998). Most children appear to have a pretty solid understanding of mental representation around age four or five.

How parents and teachers can support the development of children's understanding of others, and how culture might be important

When children have developed a *theory of mind*—an understanding that others have feelings and desires and beliefs—they are likely to engage in more positive interactions with others (Leekam 1993; Lalonde & Chandler 1995; Happe & Frith 1996). Since an ability to understand other minds is related to positive social relations, a major goal in both home and school settings becomes supporting this development. Researchers believe that to some degree the capacity for understanding other minds comes with biological maturation and accompanying increases in cognitive ability. In addition, studies suggest that engaging in pretend play (Youngblade & Dunn 1995) and having conversations about mental states (Dunn, Brown, & Beardsall 1991) may support the development of children's social understanding.

Encouraging pretend play

One reason that pretending may help children understand the mental states of others is that in social pretense the child must negotiate the pretend world and come face-to-face with others' representations of it. Piaget would endorse such a view, in which intense peer interaction promotes social understanding. Another aspect is that, in pretending to be other people, the child takes on others' views of the world. Regardless of why pretend play appears to help, it does seem that facilitating social pretense in children close to age four could helpfully boost them over the edge to understanding that people mentally represent their worlds.

Talking to children about minds

A second way of helping young children understand others' minds is by talking to them about minds and mental states. Dunn has found that talking more about emotional states in natural contexts to children at 33 months is associated with better performance on false-belief tasks at 40 months (Dunn, Brown, & Beardsall 1991).

Many children's books center on changes in feelings, and reading such books and discussing the feelings may also assist children's understanding that minds represent the world. Additionally, reading such books and discussing the feelings may also aid children's understanding of how other people think and feel.

Researchers have also found that younger siblings understand false beliefs earlier than do older siblings (Lewis

et al. 1996). Perhaps this is because the more siblings a child has, the more feelings there are to talk about, and younger siblings might be particularly influenced by such talk.

There is evidence that children who are deaf, whose parents do not use sign language, are delayed in passing false-belief tasks, whereas those children whose parents do sign pass tasks at the usual age. This finding further supports the role of conversation in developing social understanding.

Finally, although we may balk at the idea of organized lessons around mental states, some researchers have found that both explaining thoughts by using cartoon-type "thought bubbles" and discussing false beliefs with children after watching carefully constructed false-belief videotapes assists them in understanding false beliefs. Such methods are not being used to help children with autism.

The role of culture

Another powerful influence on children's growing understanding of others' minds is most likely culture, but research on this topic is relatively scarce. Most psychologists who have studied children's theories of mind have been guided by mainstream cognitive development approaches that pay little attention to the impact of culture. It has been generally assumed that certain basic understandings occur in children at about the same age everywhere in the world with only minor variations due to cultural practices. One study did find that children of Baka pygmies of Cameroon passed false-belief tasks at about the same age as did most of their European and American peers (Avis & Harris 1991).

Until about age four children have a tendency to act as if everyone knows and believes what they themselves know to be true. A major development of the preschool years is an understanding that others have beliefs about the world that affect what they do.

Yet different cultures do have different ways of understanding minds (Lillard 1998), and cultural understandings may well influence children. One prominent difference is how much attention is paid to minds. Although Northern Europeans and Americans (at least middle-class, more highly educated families) tend to focus a lot of attention on how minds and mental states cause behaviors, people from Asian cultures pay more attention to how the situations people are in dictate behavior.

Perhaps a subtle difference in the concept of the person underlies this distinction, some viewing the person as an autonomous unit seeking to fill her own desires and oth-

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ers considering the person as part of a larger social whole whose actions are dictated by the needs of the group, not the self. Such concept differences appear within the United States as well, with rural American children (whose parents most likely have no more than a high school education and a working-class income) resembling Asian children in that they refer more to context-based reasons for behaviors than to mental-state reasons (Lillard, Zeljo, & Harlan 1998; Lillard in press).

Cultures also differ in their attention to certain types of mental states. One study suggests that African American children engage in more emotion talk than do European American children (Blake 1994). Japanese families also talk more to their children about emotions, engaging in what could be seen as intensive empathy training (Azuma 1994). As one example, instead of telling children to eat their dinner so they will grow or because they are lucky not to be starving like children in some other part of the world, Japanese parents are apt to emphasize that a poor farmer worked hard to grow the food and that the children will hurt his feelings if they do not eat it. When a single sock was found in a classroom during a visit one author made to a Japanese preschool, the teacher said to the class, "This poor sock has no partner. Poor sock. Can we help the sock?"

Such cultural practices train children to respond with feeling to those around them as behooves one in Japanese society. Indeed, Japanese adults are not supposed to talk about mental states. References to mental state are taboo, because a truly sensitive person should know others' mental states without being told about them. These adult conventions may necessitate a great deal of talk about mental state with children, so they learn to be very good at making inferences about mental states before they become taboo topics.

Another apparent cultural difference related to how we understand minds is the extent to which children are allowed to live in mentally constructed worlds as opposed to a single-objective world. Middle-class European American parents appear to socialize children to see the priority of personal views over reality. One recent study reports that middle-class European American parents even accept their children's false statements, apparently to protect their children's self-esteem (Wiley et al. 1998). For example, when a child asserted that Santa Claus comes at Easter, her mother yielded, "Oh, I'm confused," rather than correcting her. Working-class European American parents, in contrast, tended to correct their children, expecting them to get the story right.

Such cultural differences probably lead children to think differently about minds and behaviors. Indeed, researchers have found that children from working-class rural homes tend to explain behaviors as being mandated by circumstances, while children from middle-class urban homes tend to explain them as arising from desires and emotions (Lillard, Zeljo, & Harlan 1998). If reality can be any way that you imagine it, minds become more im-

portant. Such views have implications for classroom behavior. In Mexican culture the teacher is revered, and children are expected to learn the teacher's way as the one right way (Delgado-Gaitan 1994); Asian culture is purportedly similar. In contrast, European American children are expected to learn to think critically and challenge the teacher, imposing their own reality on the topic.

Summary

Generally, research suggests that children who understand others' minds at an early age may be more able to get along well with others and that parents and teachers can support the development of this understanding by encouraging pretend play and discussing mental states with them from storybooks or real-life encounters. It is probably not worth discussing the concept of thoughts with toddlers because it may be beyond their understanding. However, some research suggests that by age three, discussions of what other people are thinking may be helpful.

The fact that discussion leads to understanding aspects of the mind, coupled with different approaches to minds across cultures, suggests that we need to be sensitive about minds and behavior. Every child develops ideas about minds and behaviors, but the ideas individual children have may be different depending on their cultural milieu.

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Angeline Lillard, Ph.D., is assistant professor of psychology at the University of Virginia in Charlottesville. She has conducted many studies on children's theories of mind and was recently awarded the American Psychological Association's (Division 7) Boyd McCandless Young Scientist Award for distinguished contribution to developmental psychology.

Stephanie M. Curenton, M.A., is a graduate student at the University of Virginia. Her research interests include the development of theory of mind in low-income and ethnic minority populations.

This is one of a regular series of Research in Review columns. The column in this issue was edited by Martha B. Bronson, Ph.D., professor of early childhood education at Boston College.