



ZERO TO THREE®

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The Developing Mind

How Scientists Investigate Social
Understanding

New Insight Into the Birth of
Social Intelligence

How Infants Learn About the
Minds of Others

Emotional Foundations of
Social Understanding

Also in This Issue:

Infant-Parent Psychotherapy

THIS ISSUE AND WHY IT MATTERS

For decades, students of early childhood development learned about the egocentric nature of the young mind. Theories of early cognitive development characterized young children as incapable of taking another’s perspective and unable to separate their own beliefs, thoughts, and ideas from others. Over the past 10 years, however, researchers have gained remarkable insight into how and what infants can understand about the minds of others. The result is a revolutionary new understanding of early social cognition.

Ross Thompson, guest editor for this issue and a ZERO TO THREE Board member, describes young infants as “begin-

Researchers have gained remarkable insight into how and what infants can understand about the minds of others.

ning psychologists” who enter this world as attentive observers, ready to absorb information and to be active participants in seeking to understand the social world. With remarkable speed and increasing sophistication, many of the essen-

tial foundations of social and emotional understanding are established by the child’s second birthday.

Leading researchers from the fields of developmental and social psychology contributed to this issue of *Zero to Three*. They describe elegant experimental designs that demonstrate how, far from being egocentric, infants and toddlers have a surprising awareness of the emotions, interests, intentions, and goals of others. From the first moments of life, infants show a preference for human faces and voices, and can even imitate adult facial expressions. These first signs of social interaction—mutual eye contact, attending and responding, exchanging vocalizations—mark the emergence of “emotion sharing” which is central to how infants experience the quality of their relationships with others. And it is clear that the quality of the relationships between children and the significant adults in their lives has a tremendous impact on how development unfolds.

A new understanding of how much infants are taking in and processing about others raises compelling questions about how adults influence children’s psychological development. If parents and professionals can better understand the many ways very young children strive to engage and understand others, they are better equipped to respond in ways that nurture and support their emerging skills.

I hope you find this issue of *Zero to Three* to be an exciting journey into the minds of infants and toddlers as they learn to navigate the complex world of human interaction.

Stefanie Powers, Editor
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National Center for Infants, Toddlers, and Families

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The Psychologist in the Baby

ROSS A. THOMPSON

University of California, Davis

An 18-month-old toddler sits at a table with a friendly experimenter. Before them are two bowls of food: one containing broccoli, the other Goldfish crackers. As the toddler watches, the experimenter samples each food and, to the child's surprise, the adult obviously dislikes the Goldfish crackers (frowning and saying "Ewww!") and likes the broccoli (smiling and saying "Mmmm!")—contrary to the preferences of nearly all young children. The next thing that happens is equally surprising. The experimenter reaches her hand to the child between the two bowls and says, "I want

some more. Can you give me more?" Toddlers overwhelmingly respond by giving the experimenter the food she prefers—the broccoli—even though it is the food that toddlers themselves dislike (Repacholi & Gopnik, 1997).

It has long been both common wisdom and scientific certainty that infants and young children are egocentric. As Piaget argued, they have difficulty thinking beyond their own subjective viewpoint to understand that other people have different perspectives, beliefs, and preferences. Yet the conclusion of this study and many others is very different. Far from egocentric, infants and young children have a remarkably early awareness that other people have different views, feelings, preferences, interests, goals, and desires—and understanding these mental states in others becomes their consuming interest. How they begin to comprehend the psychological world of human beings has been one of the fascinating topics of developmental science during the past 10 years, with practical implications for how we think about young children and nurture their development.

The articles of this issue of the *Zero to Three* Journal profile some of this new research and its applications. The authors are among the leading scientists in the field, and together they offer a portrayal of early psychological understanding that turns upside down earlier beliefs about the developing young mind. Rather than pondering, as past investigators did, why it takes young children so long to understand another's viewpoint, scientists today are trying to understand how infants and

young children so quickly achieve the insights they do, and how their earliest understanding of the social and emotional world of human interaction provides a foundation for later understanding and social relationships.

Looking Into the Mind of an Infant

STUDYING THE THINKING of an infant or toddler is like an anthropological expedition: You do not speak the same language; you have different skills, interests, and background experiences; mutual understanding can be hard to achieve; and misunderstanding comes easily. One of the reasons there has been a revolution in our understanding of the minds of young children is that current researchers, like anthropologists, are relying on responses from their young subjects that are simple and easy to interpret. As in the broccoli study described earlier, simple behaviors like handing an adult the food she prefers are straightforward ways of revealing what that toddler understands about the adult's preferences. By contrast, earlier researchers tended to underestimate the thinking of infants and young children because they required responses that were too difficult. For example, asking a young child what would be a good snack for Mommy, as did early investigators of role-taking, was a conceptual challenge for young children who may not have been readily aware of adult food preferences (and who may not have had the vocabulary to describe them); so young children simply described what they would like to eat themselves.

In the articles of this issue and throughout research in this field, there are many examples

of simple but informative behaviors by which infants and toddlers reveal what they understand about the social world. One of the most powerful and early responses is looking. At an age when other behaviors are not well coordinated, newborns and young infants can regulate their gazing at objects, and they seek novelty and easily get bored with familiarity. Based on this, researchers like Henderson, Gerson, and Woodward (this issue, p. 13) present young infants with various carefully designed situations to determine which the infants look at the longest—indicating which is the newest and most interesting of the events they have seen—to reveal what they understand about what they observe.

Other research approaches are more sophisticated and creative. Developmental scientists observe a toddler's imitation to determine whether the young child imitates the specific behaviors of the partner or that person's intended action, as a way of understanding how well toddlers comprehend the intentions underlying behavior. If you are interested in knowing whether greater skill at

Abstract

Far from egocentric, infants and toddlers advance significantly in their understanding of others' feelings, desires, goals, intentions, preferences, and views during the first 2 years of life and, in so doing, establish the foundation for later social and emotional understanding. This article surveys those accomplishments, speculates about how they occur so effortlessly, describes advances in psychological understanding of the preschool years, and highlights the significance of these insights from developmental science for how we interact with very young children and nurture their social cognitive development and self-awareness.



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grasping objects might enable young infants (who have limited fine motor skills) to better comprehend others' reaching and grasping, equip 3-month-olds with "sticky mittens"—tiny gloves with Velcro surfaces that can pick up toys that are also lined with Velcro—as did one research team whose work is described later in this issue (Sommerville, Woodward, & Needham, 2005). These studies reveal the creativity of research into the infant's developing mind, and also researchers' reliance on simple, readily interpretable responses.

We can see similar creativity in studies of young children. Scientists studying preschoolers' emotion understanding, for example, ask children to put pictures of facial expressions that have been previously identified as "sad," "mad," "happy," and "scared" onto puppets in response to short story prompts, rather than require children to provide complex verbal responses to the stories. Even when scientists use children's verbal behavior in their investigations of social understanding, they commonly examine casual mother-child conversations about children's feelings or peer interactions that have been recorded in the lab or the preschool. Or they examine how readily toddlers pick up new vocabulary (e.g., that an unfamiliar toy is called a "mog") that has been introduced in an experimental procedure that requires the child to understand the connection between what an adult says and what the adult is looking at or feeling.

Taken together, these studies illustrate how, in order to understand the minds of infants and young children, developmental scientists have learned to be sensitive observers of their behavior, careful not to require more of them than they are capable of. Researchers have also learned to be thoughtful in their interpretations. In these ways,

developmental scientists are just like anthropologists or, for that matter, those who care for young children.

Becoming a Baby Psychologist

TRY TO IMAGINE the challenge faced by a young infant who is carefully watching the behavior of the interesting people around her. What these people do is fascinating, important, and mysterious. One of the earliest things she learns is that people are different from other things in the world: They act on their own initiative, communicate, and most important, respond to her. But why people have these characteristics (in contrast with her stuffed bear) and why they act as they do become preoccupations of the infant. In a sense, babies are fascinated by the task of reading the minds that underlie the behavior of people—or in another sense, they are acting like young psychologists.

They begin this task early. Newborns enter the world with brains that are ready to absorb information and that have inborn preferences for the sight of human faces and the sound of human voices, and this makes them responsive to social stimulation (Mondloch et al., 1999). For example, newborns imitate adult facial expressions (Meltzoff & Moore, 1977) and are reinforced by the sound of a familiar voice, even though they are not yet ready for social interaction. To some developmental scientists, they are already exhibiting a simple awareness that other people are "like me" (Meltzoff, 2007).

By 2 to 3 months, infants are awake for longer periods and are more alert, and this affords opportunities for face-to-face interaction with an adult. In these social contexts, infants exchange with their caregivers animated facial expressions, vocalizations, gestures, mutual gazing, and other behaviors and, at the same

time, are learning some of the skills of social interaction: reciprocal turn-taking, mutuality in gazing and affect, and attending and then responding (Fogel, 1993). As noted by Markova and Legerstee (this issue, p. 26), emotional sharing is central to the infant's experience of the caregiver's attunement, and the responsiveness of the adult contributes to the baby's sense of efficacy as a social partner (e.g., "When I smile, Mommy smiles") and the pleasure that results.

Although these episodes of early face-to-face interaction are often described as a well-choreographed minuet, the reality for most parents is that they are more like a beginning dance class with missed cues and stepped-on toes. Developmental scientists have also recognized that well-synchronized interaction occurs less than a third of the time in face-to-face play, with the remaining time in uncoordinated interaction because infants become fussy, adults are distracted, or for other reasons (Tronick, 1989). Yet early social skills and understanding are also built from mistimed or nonsynchronous interactions as infants learn what they can do to repair interactive activity and put it back on track (Gianino & Tronick, 1988). In early social play, therefore, infants are faced with a more complex activity than merely responding to sensitively scaffolded social interaction. They are also learning that social interaction is dynamic and changing and are acquiring the skills to co-manage its course.

What else do infants learn from this activity? As attentive observers of their partners' emotional expressions, they are learning about the organization and meaning of these emotions. They understand, for example, how a mother's grin goes with a melodic "happy" voice and a pout accompanies a flat, low-pitched "sad" voice (Kahana-Kalman & Walker-Andrews, 2001), and they respond in an emotionally resonant manner to a mother's facial and vocal emotional expressions (Fernald, 1996; Haviland & Lelwica, 1987). During these early months, infants also expect that other people will respond to and interact with them, that different people (such as mothers and fathers) have different ways of interacting, and that people will provide assistance as needed (see Thompson, 2006b). Concerning the latter, distressed 6-month-olds begin quieting in apparent anticipation of the arrival of their mothers when they can hear her approaching footsteps—and protest loudly if she approaches but does not pick them up (Gekoski, Rovee-Collier, & Carulli-Rabinowitz, 1983; Lamb & Malkin, 1986). These expectations are the foundations of the internal working models that attachment theorists believe are the basis for secure or insecure attachments.

As the infant matures, interest in face-to-face interaction wanes naturally as something

exciting enters the picture: moving around on one's own. As a result, infants continue communicating emotionally with their caregivers, but now they do so across a distance, and this changes everything. Now it becomes necessary for an infant to understand what others are referring to when he hears an affirming voice or sees a warning expression, and he must also ensure that others understand what he is referring to when he shares an exciting discovery, wants something, or needs to find out more about something he has discovered. Parents are similarly motivated as they find themselves monitoring the whereabouts of their young offspring and using communication across a distance to do so and to ensure the child's well-being. Much of this back-and-forth communication and signaling is about other objects and people, whether a toy that attracts mutual attention, a stranger about whom the baby needs reassurance, or a DVD player that attracts prying little fingers (and a parent's cautionary warning).

It is not surprising, therefore, that developmental scientists describe the second half of the first year as the emergence of *secondary intersubjectivity* or *triadic interactions*. These terms describe infant-parent interaction about objects or events of mutual interest, such as food, toys, or other people, and these new experiences are associated with new discoveries about people's minds. As described by Henderson and her colleagues (this issue, p. 13), for example, infants at this age begin to understand how people's actions and feelings are related to what they are looking at. They begin to create joint attentional states with adults by looking in the direction of the adult's gaze or by looking from a toy to the adult's face and back to the toy again (Carpenter, Nagell, & Tomasello, 1998). They also follow the direction of an adult's pointing or gesturing, and they begin to use pointing to direct an adult's attention to something of interest (Tomasello, Carpenter, & Lizzowski, 2007). These months are also when social referencing emerges, when infants enlist an adult's attentional and emotional cues while responding to an ambiguous or uncertain event. Understanding that what Mommy is looking at influences her feelings, 12-month-olds will hesitate to explore a motorized robot when their mother looks at it with a wary expression but will easily approach the robot when she looks at it in a relaxed, unconcerned manner. In short, infants are beginning to understand how attention conveys what is "on your mind" which, in turn, affects emotions and behavior.

The ability to move about changes the infant in another important way. Every parent (including Piaget) notices how much more intentional and goal-oriented infants become when they are capable of independently reaching what interests them (a favorite toy, the

cat-food bowl, etc.). They persist in reaching for what attracts them, they angrily resist being deterred, and they will sometimes find alternative means of accomplishing their goals (such as trying to climb up on a shelf where the forbidden vase has been relocated). At the same time—perhaps as a consequence—infants also begin to perceive others' actions as similarly goal directed. The articles in this issue by Goodman and Tomasello (this issue, p. 21), and by Henderson and her colleagues (this issue, p. 13), document how infants' understanding of other people as intentional, goal-oriented actors blossoms during this period.

To Tomasello (1999), this is the beginning of the "9-month revolution," during which infants become capable of shared intentionality as they understand and participate in the goal-directed activity of other people. Understanding that other people are also motivated by their goals, 1-year-olds begin to act cooperatively when rolling a ball back and forth, pointing to something interesting (e.g., a puppy the adult has not seen), and participating in small ways as the adult dresses the child. In these and other instances, infants exhibit a remarkable psychological insight: People have mental goals that guide their actions, and they can participate in those goals.

These remarkable achievements in social understanding begin with the 9-month revolution, and continue into the second year and beyond. As toddlers become capable of doing more, shared intentionality becomes manifested in their efforts to complete the unsuccessful goal-directed actions of others (Meltzoff, 1995; Warneken & Tomasello, 2006). Having watched an adult accidentally drop a marker he has been drawing with, 18-month-olds will retrieve it for him, and they will imitate the intended actions of an adult they have observed even if the adult has been unsuccessful at completing their actions (see Henderson et al., this issue, Box 2, p. 16). As Goodman and Tomasello point out (this issue, p. 21), understanding an adult's intentions is also a catalyst for the explosion in language development during the second year that depends, in part, on a toddler's judgments about the adult's attention and intentional behavior when using new words. By the time of the second birthday, in short, many of the essential foundations of social and emotional understanding have become established. Infants have begun implicitly to grasp the basic mental events that underlie human action—attention and perception, goals and intentions, feelings and preferences—and to understand their interconnections (e.g., attention leading to emotion). The baby has become a beginning psychologist.

It is interesting to remember that this is the period when attachment security is



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taking shape, and one of the important (but unanswered) questions is how the infant's developing psychological awareness of other people influences the growth of attachment security. In their exploratory forays, for example, how do 1-year-olds perceive the goals and intentions underlying the caregiver's sharing discoveries, soothing distress, or deterring wayward activity (while often eliciting the child's anger)? As they interpret an adult's attention and emotions toward unfamiliar objects, do 1-year-olds similarly use social referencing to interpret the caregiver's emotional expressions about themselves? How are social expectations of nurturant care or assistance in distress colored by an infant's growing awareness of an adult's intentions underlying these behaviors? New discoveries about early achievements in psychological understanding during the first year provoke questions like these for those concerned with attachment relationships and the internal working models with which they are associated.

The Making of a Psychologist

WE ALSO WANT to know why these conceptual achievements occur so early and apparently so effortlessly for young infants. Although the answer is still unclear, developmental scientists agree that part of the reason is the nature of the infant mind. In many areas of developmental science, researchers are awed by the enormous capacity of infants to learn from early experience. Babies seem to be amazingly adept at figuring out how things go together on the basis of their everyday observations of objects, people, and the events around them and, equally remarkably, of distilling broader inferences—of gravity, of causality, of human



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mentality—on the basis of these observations. Infants also create for themselves valuable learning opportunities through their interactions with objects and people. Scientists' respect for the power of the infant mind is, of course, consistent with much of what we have been learning about the explosive growth of the brain during the early years.

Beyond the young mind's powers of induction, is more explanation needed? It is on this question that scientists disagree (Tomasello, 1999). Some point to the newborn's innate preference for human faces and voices, and to the baby's early sensitivity to human emotion, as reflecting intrinsic preparation of the brain to learn from and interact with a human world. Others point to neonatal imitation of human faces as the dawning of an enduring awareness that others are "like me" that provides the basis for achievements in psychological understanding (Meltzoff, 2007). In a sense, the young infant's ability to denote an identity between the social behaviors she observes and her own capabilities creates a conceptual bridge that fuels self-awareness as well as social cognition.

The final piece of this puzzle is the baby's interaction with other people. Indeed, social interaction contributes to a developing awareness that others are "like me" when caregivers, for example, respond in an emotionally resonant manner to the baby's emotional expressions. Moreover, when adults respond to the intentionality they perceive in the infant's efforts—punctuating their verbal responses to the baby's goal-directed activity with sympathetic grunts or affirmative exclamations when the goal is achieved—they not only convey "like me" but also highlight the goal-oriented structure of human activity. Care-

givers who are so attuned to the psychological orientation of infant behavior have been called "mind-minded" (Meins, Fernyhough, Fradley, & Tuckey, 2001; Meins et al., 2003), and much more remains to be discovered about how the everyday experiences of social interaction help to scaffold early developing understanding of the psychological world.

Later Achievements in Psychological Understanding

THE INSIGHTS INTO the psychological world achieved by infants and toddlers provide a foundation for later social and emotional understanding. This special issue, although focused on early social cognition, also draws attention to what follows. As noted by Warren, Denham, and Bassett (this issue, p. 32), for example, even complex social problem-solving skills used by older preschoolers have their basis in the growth of emotion knowledge during the first years of life.

As language develops, young children's explicit knowledge of mind and emotions becomes more apparent (see Thompson, 2006b, for a review of this research). By age 2, for example, toddlers can be overheard making spontaneous verbal references to emotions, their causes, and even emotion regulation (e.g., "I scared of the shark. Close my eyes," at 28 months; Bretherton, Fritz, Zahn-Waxler, & Ridgeway, 1986). By age 3, they have begun to appreciate how emotions are connected to thoughts and expectations, such as the surprise a visitor feels after seeing giraffes on a farm (Wellman & Banerjee, 1991). They also understand how emotions are associated in predictable ways with fulfilled and frustrated desires. Somewhat later they comprehend the social purposes

of hidden or false emotions, such as showing delight when given underwear as a birthday gift by your grandmother (Banerjee, 1997).

The latter may not seem like a very desirable achievement, especially as it emerges at the same time that preschoolers become more capable of hiding the truth or lying. But discovering the privacy of personal experience is part of a much larger achievement in psychological understanding: the discovery that thoughts may be mistaken (Harris, 2006). A 3-year-old appears to believe that thoughts are a copy of reality: The mind's contents duplicate what is true in the real world. Hand him a candy box and, without opening it, ask him what is inside. Like anybody else, 3-year-olds expect to find candy. But when you open the box, the child will be surprised to find not candy, but pencils. Now ask: "What did you *think* was in the box before we opened it?" The 3-year-old will reply matter-of-factly: "Pencils." "What will another child think is inside the box before it is opened?" "Pencils." It is as if to a child of this age, mental events simply cannot be inconsistent with reality. The mind's contents are a copy of the world outside.

But 4- and 5-year-olds have a very different idea. They can appreciate that they earlier had mistaken expectations about the candy box. Furthermore, they can imagine that someone else might be similarly fooled. In concluding thus, they have made a fantastic discovery that mental events are a representation of reality, not reality itself. In a sense, the mind has its own rules for functioning that are different from those of the reality it thinks about. And because of this, people can be mistaken about the world they are reasoning about because they misunderstand, or are fooled or deceived. Once this idea sinks in, after a couple of years children begin to grasp how mental interpretations, biases, and expectations can also alter how we perceive reality. And they can begin to grasp how emotional influences are also important to social understanding, such as our tendency to assume hostile intent in the behavior of those we dislike.

As young children achieve more complex social and emotional understanding, the differences in their emotional competence also become apparent. Some preschoolers develop considerable sensitivity to the feelings of other children. Others find themselves in conflict with peers owing to their difficulties in comprehending the motives and intentions of other children. Still others have difficulty becoming part of the social group because of their shyness and its impact on their social initiatives. Early emotional understanding is a significant ingredient to early social competence and, as Warren, Denham, and Bassett (this issue, p. 32) note, provides the foundation for the social

and emotional skills of middle childhood. The programs they profile to promote emotional competence in young children are one way of building on the science of early social cognition to enable preschoolers to better understand and respond to the feelings of others.

Parent–Child Conversation and Psychological Understanding

WITH LANGUAGE, researchers have another means of understanding how young children think, and parents have another means of guiding their thinking. Almost as soon as young children can be conversational partners—sometimes by contributing little more than a few words and sounds of agreement or inquiry—parents engage them in all kinds of conversations: discussions about the day’s events, descriptions of anticipated visits to the playground or the dentist, reminiscences about shared experiences in the recent past (e.g., getting an ice cream cone or visiting the zoo), arguments during conflict (e.g., about going to bed), or commentary about the child’s drawing, a storybook, or a television program. Parent–child conversations increasingly become part of the fabric of everyday life as young children become better conversational partners and use these discussions to learn about the wide variety of things that interest them. Among the most important things that interest young children are people’s feelings, thoughts, motives, traits, and other psychological processes.

Conversation with a parent can offer a revealing window into the mental and emotional experiences of other people, and even of the child herself (Thompson, 2006a). One reason is that adults have long lived in a world that is informed by their psychological inferences and judgments, so it is natural that they would impart these inferences to young children when they converse about everyday events (e.g., “Why did Daddy kick the wall, dear? Because he was mad at your older brother”). Another reason is that language provides an explicit lexicon that concretizes the variety of complex and elusive mental states that young children are trying to comprehend. For example, emotions are named as they are discussed, whether they are another’s feelings or the child’s own. In doing so, conversation becomes a forum for emotion understanding, especially of negative feelings like anger, fear, or sadness that young children may find disturbing or confusing. Moreover, *how* a parent talks about the psychological world can influence how children think about mental and emotional experience. Developmental scientists have shown that when parents speak in a rich and elaborative manner about shared experiences in the recent past,



PHOTO: MARILYN NOLT

for example, young children develop deeper memories of those experiences and acquire greater insight into people’s feelings and other psychological influences (see Thompson, 2006a, for a review). Two examples of how this occurs can be found in Box 1.

In research in our lab, my students and I have studied hundreds of parent–child conversations about different topics: recent shared experiences, occasions when the child felt sad or angry, situations when children misbehaved or were cooperative, and so forth. We have been interested in what mothers say, how they say it, and the broader relational context of their conversations with young children (Thompson, in press; Thompson, Laible, & Ontai, 2003). One discovery from this research is how much psychological knowledge is imparted by these simple conversations. In one study we analyzed the conversations of mothers with their 3-year-olds about shared events and storybooks depicting emotion. We found that when mothers spoke frequently about emotions in the event or the story they also described the causes and outcomes of emotion; they defined emotions for the child (e.g., “furious is when you are really, really mad”); they linked events in the child’s life with those emotions (e.g., “that’s how you felt when Molly knocked over your blocks”); and they requested information from the child about emotion to engage the child’s understanding (Ontai & Thompson, 2002).

It is not surprising that when mothers engage in conversations that are richly elaborative in this manner, their preschool children have greater emotion understanding (Thompson, 2006b). But emotion-rich conversations are also associated with other important outcomes of early social development. Laible and Thompson (2002) found

that maternal references to feelings during conflict episodes with children at age 2½ predicted children’s conscience at age 3, perhaps because references to people’s emotions put a human face on the reasons for cooperating and the consequences of misbehavior. Box 2 describes other research from our lab that illustrates the importance of the broader family climate in which these emotional conversations occur, especially for children in at-risk family environments.

What mothers say is important in the context of the broader quality of the mother–child relationship. We have found that mothers in secure attachment relationships with their children are more likely to initiate these kinds of rich, elaborative, emotion-related conversations than are mothers with insecure attachments (Raikes & Thompson, 2006; Thompson et al., 2003). Their behavioral sensitivity toward their children may be expressed, during the preschool years, in deep and thoughtful conversations with their offspring about the child’s feelings and the emotions of other people. Several of our studies have found, in turn, that securely attached children are more advanced in emotion understanding than insecure children (Laible & Thompson, 1998; Raikes & Thompson, 2006; Reese, 2002) and are also more advanced in conscience development (Laible & Thompson, 2000). Taken together, these findings raise the possibility that, during the preschool years, relational security is created and maintained for young children through the richly elaborative, sensitive conversations that children share with their mothers about significant events in their lives (Oppenheim & Koren-Karie, in press; Thompson et al., 2003).

These findings indicate that considerable understanding of the psychological world

BOX 1. CONVERSATIONS ABOUT SHARED EXPERIENCES

Here is an example of a brief conversation between a 21-month-old toddler and his mother in London, where Weetabix is a popular (but bland) breakfast cereal (from Dunn & Brown, 1991, p. 97). It occurs late in the morning in the kitchen following a breakfast confrontation:

- Child:* Eat my Weetabix. Eat my Weetabix. Crying.
Mother: Crying, weren't you? We had quite a battle. "One more mouthful, Michael." And what did you do? You spat it out!
Child: (pretends to cry)

This shared reminiscence is, in most respects, simply a recounting of the morning's confrontation over breakfast. Researchers who study memory development note that the mother's sequential description of events and causal representation of the outcome are likely to strengthen Michael's subsequent memory for that experience. But incorporated into the mother's description of events are also several psychological lessons. By the mother's account, for example, Michael's crying results from his misbehavior (not from having to eat bland breakfast cereal). Mothers and toddlers get along better when little boys cooperate. When boys do not, there is likely to be a battle and crying may result. In addition to providing a memorable representation of the event, therefore, the mother has also discussed the child's feelings in a manner that conveys a moral lesson but also understanding of relationships and cooperation. Although it is unclear how many of these concepts are likely to be learned by a 2-year-old from a single discussion, as conversations like these become part of the landscape of parent-child interaction in the early years, these and other forms of psychological knowledge are likely to become incorporated into Michael's developing social and emotional understanding.

By comparison, here is an excerpt of a conversation in our lab between a 4½-year-old and his mother over a visit to his grandmother:

- Mother:* And what happened, honey, when Mom said we had to go?
Child: I felt awful.
Mother: And what did you do, do you remember?
Child: Cried and fussed. . . .
Mother: Yes, you did. And what did Mom say?
Child: "I don't want you up there screaming."
Mother: Right. 'Cause when we're a guest at someone else's house, the polite thing to do is to say thank you before we go, not to kick and scream, isn't it?
Child: Yeah.
Mother: Now when you kick and scream, what happens to other people? How do you think Onia felt then?
Child: She felt a little sad.
Mother: You think so? I bet you're right. What did she do?
Child: I don't know.
Mother: She took the girls and went upstairs so we could be by ourselves, so we could work out our problem.

In this conversation, the mother takes the child through the sequence of events in order to provide lessons about appropriate conduct when visiting a relative. But in so doing, she lingers to describe the feelings of the grandmother and others who witnessed their filial confrontation and to explain why they acted as they did. The associations between the child's feelings and behavior, the mother's response, and the feelings of the observers are explained in order for her preschool son to understand the consequences of his behavior on others—a more complex, sophisticated psychological lesson than for Michael.

is achieved when young children converse about everyday experiences with their caregivers. Just as important may be the benefits for young children's understanding of themselves and the close relationships they share with significant people.

Conclusion

UNDERSTANDING THE PSYCHOLOGIST in the baby can provoke the kind of "gee-whiz" response that often accompanies new discoveries about the developing mind. But the authors of these articles are also convinced that these discoveries have practical significance for how we nurture early psychological development. As adults become aware of the striving of infants and toddlers to unlock the mysteries of the human mind, we act in ways that participate in the child's discovery of the psychological world, whether through emotional sharing in face-to-face play, supporting the blossoming of goal-directed activity, sharing simple cooperative tasks or activities, or engaging in psychologically informative conversations. When infants point and we look, engage in social referencing and we emote, or call from a distance and we respond,

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J. Shonkoff & D. Phillips (Eds.) (2000)
 Washington, DC: National Academy Press.

EMOTIONAL DEVELOPMENT IN YOUNG CHILDREN

S. Denham (1998)
 New York: Guilford.

THE EMOTIONAL LIFE OF THE TODDLER

A. F. Lieberman (1993)
 New York: Free Press.

we help infants make conceptual connections between our actions and the underlying mental states they are discovering.

On a broader level, according to these contributors, the discoveries of psychological understanding in the early years provide a foundation for the skills of social problem solving of later childhood, cooperative activity with other people, and (according to Goodman & Tomasello, this issue, p. 21) the capacity to fully participate as a member of the cultural community. Although much more goes into these sophisticated accomplishments, at their core is the ability to understand other people as mentalistic and emotional beings that is an achievement of the earliest years of life. ♣

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Box 2. EMOTION UNDERSTANDING IN FAMILIES AT RISK

In middle-class families, discussion of emotion might focus on relatively benign encounters with mean siblings or scraped knees. In families at socioeconomic risk, the circumstances in which young children experience and observe emotion can be much less benign, and might include domestic violence, a depressed caregiver, or threats to the child. We sought to investigate the development of emotion understanding for children in these circumstances.

The sample was recruited from Early Head Start, an early intervention program designed to provide family support and promote child development among families living in poverty (Raikes & Thompson, 2006). When children were 2 years old, mothers completed questionnaires concerning their depressive symptomatology, and the security of parent-child attachment was assessed. When children were 3 years old, children completed a measure of emotion understanding, and they were observed with their mothers discussing recent events when the child felt happy, angry, or sad. From transcriptions of these conversations, the frequency of references to emotion in their conversation was counted. We also obtained from mothers information concerning emotional risk factors (e.g., alcohol or drug abuse in the family, domestic violence, a family member with anger management problems).

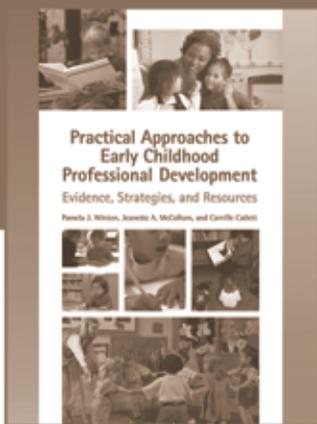
We found that maternal depression when children were 2 was associated with lower emotion understanding a year later. Young children whose mothers were depressed performed more poorly in their identification and description of others' feelings, perhaps because sad emotion was such a pervasive aspect of their family experience. In other analyses, we found that heightened emotional risk factors in the family environment were also negatively associated with children's emotion understanding. By contrast, a secure attachment was a benefit to children in these families. We found, as have studies in middle-class families, that securely attached children were stronger in emotion understanding than were insecure children. One reason is that securely attached mothers and their children talked more about emotion in the conversations we observed.

There were, in sum, both risk and protective factors in the growth of emotion understanding for children in at risk families. Emotional problems for the mother or in the broader family environment were clearly detriments to the growth of emotion understanding for young children. But a secure attachment could buffer these risks, especially through its influence on the richness of emotion knowledge attained through parent-child conversation.

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