Multiple Perspectives on Play in Early Childhood Education

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Chapter 2

Playing with a Theory of Mind

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In recent years children's understanding of the mind has become an extremely active area of research within cognitive development, and there have been pleas to extend its methods and concerns more into social development as well (Dunn, 1995). The broader reason for this interest and activity is that understanding the mind is central to human interaction. In most of our social encounters, we at least implicitly draw on our knowledge of minds, for example, whether someone hears something, why someone is surprised, or how to inspire someone to work harder. This body of social knowledge is often referred to as a theory of mind, for two reasons. First, mental states are theoretical constructs: their existence cannot be proven (hence philosophers like Stich [1983] can argue that they do not in fact exist). We have a theory that there are minds and mental states, and we impute these to ourselves and others accordingly (Premack & Woodruff, 1978). The second reason is that our knowledge about minds takes the form of a theory: it makes certain ontological distinctions, has a causal-explanatory framework, and defines its constructs in terms of other constructs in the theory (surprise is defined with reference to belief, for example) (Wellman, 1990).

This area of knowledge has of course long been important to human survival. The impetus for its recently being brought to center stage in developmental psychology is a particularly striking finding: that young children typically fail tasks assessing their understanding of false belief (Wimmer & Perner, 1983). Young children's responses to such tasks are very counterintuitive yet very robust. These factors combined with the importance of the knowledge under scrutiny—that people can believe things that are not true—places it among the seminal findings of cognitive development.

In the original false belief task (Wimmer & Perner, 1983), children are shown a doll (Maxi), who hides a piece of chocolate in a blue cupboard. Then
Maxi leaves the scene. During his absence, his mother arrives, moves the chocolate from the blue cupboard to a white one, then also leaves. Maxi returns. The chocolate is not visible as both cupboards are closed, and Maxi has clearly not seen his mother move the chocolate. Children are asked, "Where will Maxi look for his chocolate?" One should say, "The blue cupboard" since that is where Maxi left the chocolate, and he has no way of knowing that it has been moved. But what Wimmer and Perner found is that children under four years of age tend to fail the test by claiming that Maxi will go to the white cupboard, where his mother put it. Possible problems with the paradigm (the story is hard for young children to follow, children do not understand the question, and so on) have been examined, and while the issue is not entirely resolved, most would agree that young children do have a genuine problem understanding that people can have false beliefs. Like many of Piaget's classic tasks, the false belief task brings into sharp relief how truly different the world is in some ways for young children as compared with adults. Also like many of Piaget's classic tasks, one can push down the ages at which children "pass" by altering the test situation, but the result with the original version is easily replicable and remains compelling in its own right.

Wimmer and Perner's (1983) study is credited with having begun the avalanche of work examining how children understand the mind. Researchers have studied a range of topics, such as children's understanding of emotion, thinking, perception, and desire (see Flavell & Miller, in press). One topic that has been of particular interest in this realm is pretend play. Indicative of this interest, at the March, 1995 Biennial Meeting of the Society for Research in Child Development (SRCD), more than a dozen presentations directly concerned the issue of pretense and the child's theory of mind (Amsel & Bobadilla, 1995; Bruell, Davis & Thomas, 1995; Davis, 1995; Dockett & Smith, 1995; Gerow & Taylor, 1995; Hickling & Wellman, 1995; Lillard, 1995; Lillard & Seja, 1995; Mitchell & Neal, 1995; O'Reilly, 1995; Riblatt, 1995; Rutter & O'Reilly, 1995; Youngblade & Bandey, 1995).

What might pretend play have to do with children's understanding of the mind? There are both theoretical and practical grounds for linking the two activities. On theoretical grounds, it has been claimed that both pretend play and understanding minds rest on understanding mental representation (Leslie, 1987). This has been the subject of most of the experimental work in this area, and it is taken up in the latter half of the chapter. On practical grounds, a number of studies have found positive correlations between pretending and social understanding. An underlying assumption in the field is that these correlations result from pretend play's improving social reasoning, such that pretending has a causal role in developing theories of mind (for discussion, see Harris, 1994; Lillard, 1996). Connolly and Doyle (1984), for example, found that preschoolers' social pretend play was related to affective role-taking and to other measures of social competence. Rubin (1986) reported that children who engaged in more sociodramatic play in kindergarten were rated higher on measures of perspective-taking and social problem solving in grades 1 and 2. More recently, Youngblade and Dunn (1995) found that children who engaged in more pretend role enactment at 33 months performed better on a standard false belief task and an affective perspective-taking task at 40 months of age. Taylor and Carlson (in press) found that 3- to 4-year-olds who scored high on a fantasy scale (have imaginary companions, prefer symbolic to functional toys, and so on) excel at false belief and other "theory of mind" tasks (such as the appearance-reality task described later). Finally, Astinosh and Jenkins (1995) found that making explicit role assignments in pretend play was significantly related to false belief understanding in a sample of 3- to 5-year-olds. These results held in each study even when factors like language ability, verbal intelligence, and age were controlled. What all these studies seem to have in common is pretending to be someone else. When one has an imaginary companion, one must act and speak for it. When one engages in social pretend, one also tends to take on roles. Supporting the possibility that these associations result from pretense role play having causal force in social understanding, Dockett (1994) found that children who are trained to engage in pretend play pass theory of mind tasks earlier than do those in a control group, corroborating an earlier training study by Chandler (1975) with respect to role-taking (but see Cole & LaVoie, 1985; Rubin & Maioni, 1975; and Rubin & Peppler, 1980).

The evidence weighs in favor of the notion that pretend play might facilitate mentalistic understanding. Below I consider five ways in which pretending might serve this end, focusing separately on its "within frame" and "out of frame" levels. Although this discussion refers to pretend play generally, some of the studies just mentioned found correlations specifically with fantasy predisposition, pretend role play, and social pretend play.

EXPLAINING THE RELATION

Pretending involves two levels: within frame and out of frame. At the out-of-frame level, children negotiate what they are going to pretend, for example, "You be the mommy, and I'll be the daddy," or "Let's say there was a fire in the house." The within-frame level is the level at which the pretense is actually carried out. Pretending and theory of mind are linked on both of these levels.

At the out-of-frame level, pretending might aid in the development of mentalistic understanding because pretending involves a sometimes intensive negotiating of different people's wishes. When pretending, children have mul-
Multiple opportunities to rub up against the fact that someone else has a different viewpoint: “No, I don’t want to be the mommy! I want to be the daddy!” As Garvey and Berndt wrote, “a great deal of speech is devoted to creating, clarifying, maintaining, or negotiating the social pretend experience” (1975, p. 10; see also Giffin, 1984). Negotiation is extremely important since the success of the pretense interaction is dependent on synchronizing the different players’ desires. Repeatedly coming up against and needing to resolve different desires in the context of creating a pretend play scenario could help to lay the foundation upon which understanding others’ minds might rest.

Particularly important here is that fact that of all the activities children engage in, play (including pretend play) is probably the one in which they are most left on their own to undertake such negotiations. As Piaget suggested, peer engagement might be an especially conducive circumstance for developmental advance. The intensive working-outs of pretending, in which another’s desires or concepts must be accommodated or altered to fit with one’s own program, therefore form a fine venue for learning about the fact that others do see the world differently (Garvey & Berndt, 1975; Matthews, 1977; Rubin, 1980. See Hartup, 1996 for more general discussion of the role of peers in social cognitive development).

However, although this negotiating of different desires might occur especially frequently in the context of developing pretense scripts, there is nothing in this out-of-frame level of pretending that is really unique to fantasy play. Children might as well be playing games with rules that they are inventing themselves. The really unique aspects of pretending come up at the within-frame level.

There are at least four within-frame ways in which pretending might assist the development of a theory of mind (the first three of these are also discussed in Lillard, 1993a). First, there is the fact of dealing with a world that is not the real, present one. Take the pretense that a bracelet is a piece of cake. At one and the same time, one views the bracelet both as a delectable piece of cake to stuff into one’s mouth, and as a plastic bracelet. This is analogous to what one must do when entertaining others’ viewpoints, when one must in some sense entertain the idea (attributed to someone else) that the chocolate is in the blue cupboard at the same time as one holds it to be actually in the white cupboard. The ability to think of one situation in two ways at once—essentially decentering—is used both in pretending and in understanding minds (Flavell, Flavell, & Green, 1987; Rubin, Fein, & Vandenberg, 1983). Practicing this ability in pretending might facilitate a skill that could then be transferred to nonpretense domains like representing others’ viewpoints at the same time as one represents one’s own. This is congruent with the motivation for many pretend play training studies conducted in the 1970s, in which investigators sought to determine if pretend play training could enhance children’s conservation skills via decenteration (for a review of these studies, see Rubin et al., 1983).

Second, in pretend one thinks of one object or event as “representing” another. The bracelet is not simply a bracelet and a cake; the bracelet designates a cake. Exercising this capacity to see one thing as representing another might assist its use in the mental domain, leading to the (implicit) realization that my thought of a cake designates a real cake. As was mentioned earlier, much of the research on pretense and theory of mind is concerned with this parallel (although the factors described in both the previous and the next paragraphs are also central). Some have assumed that in pretend, children understand pretense mental representations as mental representations. As will be seen later, this assertion is controversial. But even if pretending does not involve seeing representations as representations, it nonetheless must involve using and manipulating one’s own and possibly one’s play partner’s representation of a situation. Perhaps this practice leads to mental flexibility in dealing with mental representations, which then assists more mature thought regarding others’ minds.

Third, pretend role play can involve social metarepresentation. A child pretending to be someone else may well represent the thoughts, desires, and perceptions of that other person. In pretending to be a firefighter, one both carries out the behaviors that a firefighter carries out and sees the world through the eyes of a firefighter: one hears the fire engine’s roar, feels the heat of the fire, thinks about how to rescue the burning man, and so on. Practice at taking on others’ perspectives by pretending to be them could assist in the development of a theory of mind (for similar ideas, see Bretherton, 1984; Harris, 1994; Miller & Garvey, 1984). This venue is congruent with one of the major theories of how children develop an understanding of the mind: the simulation theory (Harris, 1992). In this view, children come to understand minds by pretending they are in others’ situations.

Finally, pretending could (within frame) assist in the development of a theory of mind by virtue of its content. Children often pretend about conflictual situations (Giffin, 1984), leading to negotiations within the pretend frame. They might have two dolls get into a fight and then seek resolution, for example. Pretending could also lead to additional experiences in dealing with emotions (pretend ones, but emotions nonetheless) and in how different situations evoke different emotions (Garvey, 1990). Real life emotion talk has been shown to be positively associated with later theory of mind performance (Denman, 1994; Dunn, Brown, Slomkowski, Tesla, & Youngblade, 1991); pretend play emotion talk might be associated with such performance as well.

To summarize, there are five ways in which pretending might lead to more advanced social understanding. Outside of the pretend frame, joint pretenders must negotiate the topic and script of their pretense, what different
objects denote, and so on. This causes pretenders to face the fact that others have different views, and to go about synchronizing those views. Within the pretend frame, pretending involves seeing one entity as two things at once, seeing one entity as representing another, and representing others' mental representations by "being" another character. These are all skills that are involved both in pretending and in understanding minds, and practice at the one might facilitate the other. Finally, in pretending children often act out intense conflicts and other emotional situations, and this might also help develop the child's theory of mind. Whenever children engage in joint pretense activities there is potential for practicing all of these skills, which could lay the foundations for or exercise skills relevant to a theory of mind. In these ways, pretending might assist in the development of this foundation of social understanding.

**PRETENSE AND MENTAL REPRESENTATION**

This section expands on a theme touched upon in the previous one: that of understanding pretense mental representations as mental representations. It first discusses mental representation and its relationship to pretending and a theory of mind. Next it reviews three sets of studies examining whether children understand pretense (a) as a mental representational state, (b) as involving intentions, and (c) as involving the mind at all.

A preliminary issue is that of defining mental representation. Unfortunately, the term "mental representation" does not have a clear, well-defined meaning: philosophers and psychologists are not far along in explaining how objects can also be ideas or how to characterize the relationship between real world objects and ideas. However, for the present purposes the term can be glossed as a mental model of some entity or idea, literally its "re-presentation" inside the mind. That mental model need not match a real world situation or object; there can be cases of misrepresentation, or of representations that are made up from fantasy objects never seen to exist in the real world.

Mental representations are subjective: One person's mental representation of something will undoubtedly be somewhat different from another's. This subjectivity is an important feature of minds. People's interactions with the world are based on their subjective mental models of how the world is rather than on direct knowledge of reality. Because of this, a politician can make one group think she is for a certain law while making another group think she is against it, in effect creating two different representations of her position on a single issue. Understanding representational diversity, both between people and within the same person over time, is fundamental to social knowledge. For this reason, it is often seen as being at the core of a theory of mind. The understanding is not only important to passing the false belief task; it is vital to the basic understanding that everyone has their own realities. And it is also the point at which pretending and theory of mind have most commonly been linked by social cognitive theorists, because both skills appear to rely on understanding mental representational diversity.

Pretense clearly involves using mental representations. When one pretends, one projects one's internal, mental representation of something onto some real situation or object (Lillard, 1994). While pretending a pencil is an airplane, I mentally represent it as both these objects. I see it as an airplane and might make it fly, but in keeping with its actually being a pencil I do not try to enter it to fly to Hawaii. And were I to suddenly need a real pencil, I probably would not reject this one on account of its being an airplane. This maintenance of two representations for one entity is cognitively not a simple business, as Leslie (1987) pointed out. In order not to get confused about pencils and airplanes I must keep the pretense representation cordoned off or "decoupled" (Leslie's term) from that to which my airplane representation normally refers: a real airplane. Otherwise I might begin to expect real airplanes to be wooden and filled with lead. This keeping separate of the mental representation used in pretend and the real entity (to which that representation normally refers) necessitates, in the minds of many theorists, understanding that our pretended mental representations are only representations, that we can apply them to different objects, and that we can apply multiple representations to the self-same object.

Pretense and understanding false beliefs—a benchmark for understanding the mind—are in a sense conceptually parallel (Leslie, 1987). When one pretends, one keeps a view of a situation in one's mind that is different from reality. For example, if I pretend my backyard is a beach, then I map a pretend representation of a beach onto the reality of my backyard. The pretense representation is a false one, and I entertain it with reference to a real situation: my backyard. Likewise, if I were confused about my whereabouts and I really believed that a beach was just out my back door, then I would be yet again mapping a false representation of a beach onto the reality of my backyard. This parallel has intrigued theory of mind researchers, for the simple reason that children appear to understand pretense long before they appear to understand false belief.

To summarize, then, pretending appears to rely on understanding mental representation. The mystery is that although by two years of age most children are ready and willing pretenders, not until age four do they appear to understand mental representation, at least in the belief domain. How is it that children appear to understand mental representation in pretense but not in belief domains?

The claim that children fail to understand mental representation in belief domains prior to age four is widely held (e.g., Astington, Harris, &
Olson, 1988; Flavell, Flavell, Green, & Moses, 1990; Frye & Moore, 1990; Lewis & Mitchell, 1994; although there are exceptions such as Chandler, Fritz, & Hala, 1989; Winner & Sullivan, 1993). The Maxi paradigm was described earlier; another popular test is the “Smarties” or “deceptive box” task (Gopnik & Astington, 1988; Perner, Leekam, & Wimmer, 1987). A child is shown a bandaid box and asked “What is inside here?” Most children say “bandaid.” The box is opened, revealing that it actually contains a toy cow, and the child is asked, “When you first looked at this box, what did you think was inside?” Four-year-olds usually say “bandaid,” but 3-year-olds usually claim they thought it contained a toy cow even when they first saw it. Further, they claim that anyone who saw that box, even for the first time, would initially think it had a cow inside (Lillard, 1993b). Many different versions of the so-called “false belief” experiment have been used over the past decade and the great majority have replicated the result that most of the time children under four fail such tasks. Most theorists believe that the reason for their failure is that young children do not understand diversity of representation, neither in themselves over time, nor across individuals.

Two other tasks, developed independently of the false belief work, appear to support the possibility that children fail the false belief task due to a failure to understand mental representation. One is the appearance-reality task (Flavell, Green, & Flavell, 1986). In this task, children are shown a deceptive object such as a candle that looks like an apple. The child is asked what the object looks like to their eyes, and what it really is. The child has to juxtapose two representations of one object: its appearance (apple) and the reality (candle). Children begin to pass this task around age four; prior to that age most children respond that the object appears to be and is a candle. The other task is a Level 2 visual perspective-taking task (Flavell, 1990). A drawing of a some object, say a turtle, is placed on a table so its feet face the child and its back faces the experimenter. The child is then asked how it looks to each of them, upside down or right side up. Again, the task requires that the child juxtapose two alternative conceptions of the same reality (the turtle). Children must appreciate that our minds hold models of the world that are subjective, and hence might be unique to the individual. Again, children do not tend to pass until they are about four. Not only do 3-year-olds tend to fail all these tasks while 4-year-olds tend to pass them, but performance on the tasks is actually intercorrelated (Gopnik & Astington, 1988; Taylor & Carlson, in press), so that a given 3-year-old who passes one is quite likely to pass the others, and vice-versa. This lends support to the possibility that all three rely on the same underlying understanding, and that underlying understanding is commonly supposed to be mental representation.

Against this depiction of why children fail these tasks is the case of pretense. As reviewed earlier, to pretend is knowingly to represent reality as other than it is. Leslie (1987; Roth & Leslie, 1994) claims that engaging in pretense is tantamount to understanding mental representation, and that therefore children must be able to understand false belief when they engage in pretense. But if children do not understand mental representation until four, how is it that even younger children so freely and frequently engage in pretend play?

Three reasons have been given. Leslie (1987; Roth & Leslie, 1994) claims that even 3-year-olds must understand mental representation, because of their success at pretend play. He claims that children fail false belief tasks for other reasons, namely due to difficulty drawing inferences about what a person who had never seen a given box would think it contained, or difficulty following the story in the Maxi task. For Leslie, the problem is in the experimental procedure, not the child. However, Leslie appears to ignore that many of these tasks do not require that children draw inferences or follow complex stories. For example, in the Smarties or deceptive box task described earlier, children only need to recall their own past statement. Second, it is unclear how appearance-reality tasks require making an inference. Third, Flavell and his colleagues have found that children cannot pass a false belief task even when it requires only that they repeat back what both the experimenter and the child just said about someone else’s belief (Flavell, Flavell, Green, & Moses, 1990; Lillard & Flavell, 1992). Lillard and Flavell (1992) showed 3-year-olds a doll and told them, “He thinks there is juice in that [closed] cupboard.” As a control, they immediately asked, “What does he think?” The cupboard was then opened revealing a teddy bear to the child. Importantly, the doll was unable to see inside the cupboard. When asked again, “What does he think is in the cupboard?”, 3-year-olds typically changed their previous answer and said “a teddy,” failing to attribute a false belief. No inference is required to pass such a task; children need only repeat back what they just heard and said in response to the first control question: “juice.” However, 3-year-olds do very poorly on such tasks, incorrectly claiming that the person’s thoughts reflect reality. Furthermore, when given the exact same scenarios but with the word “pretend” substituted for “think,” 3-year-olds are significantly more likely to correctly claim he is pretending there is juice. The task demands in these two conditions, aside from the demands created by the mental state in question, are identical, so one cannot make claims that the young child’s failure is due to extraneous task demands. Because of these factors, Leslie’s explanation for the pretense-belief décalage lacks force.

A second explanation is that children understand pretense prior to understanding belief because they are precociously able to understand “joke” or nonserious false mental representations—in other words that pretense mental representation is easier because pretenders do not truly believe in their alternative mental representation of reality (Flavell, Green, & Flavell, 1990; Ferguson & Gopnik, 1988; Wellman, 1990). In line with this, Woolley (1995)
finds that young children are able to attribute imaginings that do not coincide with reality earlier than they are able to attribute beliefs that do not coincide with reality. Perhaps children understand pretending similarly to how they understand imagining.

A third possibility is that there is no décalage in understanding mental representation in these two domains because in fact children do not have a mental representational understanding of pretense (Harris, 1991; Lillard & Flavell, 1992; Perner, 1991). Perner claims that young children construe pretending as a person’s relating to an alternative external situation, rather than a mental situation (Perner, Baker, & Hutton, 1994). Harris has said children might understand pretending as acting as if something else were true, but again pay no heed to the mental aspects of pretending. Likewise, Lillard (Lillard & Flavell, 1992; Lillard, 1993b, 1994) has proposed that young children might construe pretending simply as its external manifestations, like actions and costumes. (For a discussion of these three positions, see Harris, Lillard, & Perner, 1994.) Some recent experimental evidence supports the position that children do not see pretense as a mental representational state, and even suggests that it is not until they are over 8 years of age that children appreciate that everyday acts of pretending are primarily mental processes (Lillard, 1996). (For discussion of the mental components of pretense, see Lillard, 1994.)

Prelude: Pretense With Action

Lillard and Flavell (1992) suggested that young children might understand pretense as action or acting-as-if rather than as a mental state. In this study, mentioned earlier, the experimenter presented children with dolls that were described, for example, as pretending or thinking there was juice in a cupboard, when in fact the cupboard contained a teddy bear. After the teddy bear was revealed to the children, they were asked what the doll had pretended or thought. For the think cases, children usually said the doll thought there was a teddy bear. In contrast, in pretense cases, children tended to say that the doll was pretending there was juice. This suggests, among other things, that children understand that pretenses can differ from reality earlier than they understand that beliefs can.

However, of critical importance here are two different conditions under which children were presented each mental state. For two of the four trials involving each mental state, the doll was shown to be carrying out an action consistent with the mental state. In the example just described, the doll was (for half the children) getting a cup. The hypothesis underlying this condition was that having an external reality for the child to “anchor” the mental state content would help children to perform better on all of the action cases. However, the action manipulation in fact only improved children’s performance for pretense; for the nonaction cases of pretense, children performed no better than they performed on either of the think (action or nonaction) cases. Thus although statistically pretense scenarios were easier overall, in fact that result was carried by the action pretense scenarios.

This was a puzzling finding. Why should action be helping children to relate that a pretense differed from reality, when that same action did not help them to see that a thought differed from reality? One explanation is that children do not see pretense as a mental state at all. In the action condition, upon hearing “She’s pretending there’s juice in the cupboard,” children equate the juice-pretense with the action, “getting a cup.” In contrast, in the nonaction condition, when the doll was not getting a cup, children perhaps could not process the pretense statement, because they could not conceive of pretending as simply mental representing one thing as another. This would lead to poor performance on the nonaction pretend condition and on both think conditions, which is exactly what was found.

Act I: Does Pretense Require Mental Representation?

Lillard (1993b) set out to address whether young children conceptualize pretense as action, without regard for mental representation. One method used to test this was to present children with dolls who were unable to mentally represent something (by virtue of their out-and-out ignorance of it), but who were nonetheless acting like that thing typically acts. In one experiment, a troll doll named Moe, described as being from “The Land of the Trolls,” engaged in various actions, for example, hopping. Children were told that Moe did not know anything about rabbits, not even that rabbits hop, but that he was nonetheless hopping like a rabbit. Control questions were asked to ascertain that children accepted these premises: “Does Moe know that rabbits hop?” and “Is Moe hopping like a rabbit?” (in counterbalanced order). Children were then asked, “Would you say he is pretending he’s a rabbit, or he’s not pretending he’s a rabbit?” Notice that the troll lacked the ability to mentally represent his own behavior as rabbit-like hopping, but he was engaged in the sort of action one would perform if pretending to be a rabbit. Given these circumstances, 4- and even many 5-year-olds tended to claim Moe was pretending to be a rabbit: the action was more important to their judgment than the mental representational information. Additional experiments addressed various concerns, for example whether children were confused by the troll (since trolls are used to pretend with) and whether children simply could not understand lack of knowledge. The results converged with those of the experiment described above: Children claimed the protagonists were pretending even when the protagonists were other children, and even when the
protagonists were not thinking about being the animals in question. Further, it was found that the same subjects who failed the pretense tasks passed a standard false belief task. This last finding, which was replicated in several experiments, suggests that children understand mental representation in belief contexts even earlier than they understand it in pretense contexts. To reiterate, although children appear to understand pretense as action earlier than they appear to understand belief (Lillard & Flavell, 1992), children also fail to understand the mental representational underpinnings of pretense at least until he elementary school years (Lillard, 1993b, 1996). Perhaps this is because children initially learn about pretending before they understand mental representation, and so they focus on the activity part of the construct. Not until many years later, when they have a competent understanding that minds represent, does it dawn on them that those very representations are at the crux of pretending (Lillard, 1993b). This would explain why children apparently understand the mental aspects of imagining prior to understanding the mental aspects of pretense: they were never able to conceive of imagining as action (Woolley, 1995).

It should be noted that these findings are controversial, and several of the recent SRCD presentations mentioned earlier contribute to this controversy (see also Custer, 1996). It is not within the scope of this chapter to provide a detailed analysis of these reports. It is notable, though, that children's success or failure in understanding pretense mental representations in all these experiments seems to rest on a certain feature of presentation. When children are first told that someone is pretending, even older 3-year-olds are quite good at guessing what the person is thinking. However, when told about mental features of a character, such as what she is or is not thinking, and given contradictory behavior, children do not tend to fare as well in stating whether or not what she is pretending. This implies that although children can guess what pretenders are thinking (perhaps by simply guessing that they think about hat they pretend), they do not understand that pretending always crucially depends on underlying mental representations. Further work will confirm whether this is the case.

**Act II: Does Pretense Require Intention?**

The aforementioned work suggests that children do not understand the ental representational aspect of pretense until school age. However, there might be mental features of pretense that children do understand earlier, even though children do not understand them as mental features. One possible early acquisition is pretense intention. In pretense the actor always intends a certain premise, such that the pretense representation is intentionally projected onto reality. In general, desires and intentions appear to be understood earlier than beliefs (Bartsch & Wellman, 1995; Bretherton & Beeghly, 1982; Lillard & Flavell, 1992; Moses, 1993; Wellman & Woolley, 1990). Wellman (1990) has suggested that this is because desires and intentions might be understood without resort to minds, for example, as propensities to get a desired object. Consistent with this, perhaps pretend intention, the fact that pretenders engage in their pursuit on purpose, not accidentally, is understood early.

In one experiment to test this, sixteen 4- and sixteen 5-year-olds were given scenarios similar to the Moe ones just described, but in which the premises referred to intention rather than to knowledge and thought (Lillard, 1995). As an example: "This is Suzy. Suzy is wiggling around. She's not trying to be like a worm—she's just wiggling. But she looks just like a worm—worms wiggle like that." Thus the troll doll had no intention to be worm-like, so adults would not think of her as pretending to be a worm. However, 4-year-olds claimed 59% of trials that the troll was pretending, and 5-year-olds did so on 47% of the trials. In addition, individual children's response patterns were systematic over four trials, suggesting this was not chance performance. The level of performance was not notably better than that obtained in the Moé studies (Lillard, 1993b), in which the premises referred to the doll's knowledge state and thoughts rather than her intentions.

Perhaps the reason for children's poor performance in this experiment is fear that they do not understand pretense intention, but rather that they do not understand the term "trying." A follow-up experiment therefore used a variety of phrases to convey intent. This experiment also sought to determine how performance on the intention task relates to performance on the knowledge and thinking versions. A within-subjects design was used to compare three conditions: a character who did not want to be like an x; a character who was not thinking about being an x; and a character who did not know anything about x-es. Twenty-four 4-year-olds were told two stories for each of the three conditions, for a total of six stories. An intention story went as follows: "This is Chris. He's a little boy. Right now, Chris is digging. Chris doesn't want to be like a dog. He doesn't like dogs. He's not trying to dig like a dog. But right now he is digging just like a dog—dogs dig just like that." Following two control questions ("Do dogs dig like that?" and "Does Chris want to be like a dog?"), children were asked, "Right now, is Chris pretending he's a dog?" A think story was similar but specified, "Jean isn't thinking about being a monkey. She doesn't have monkeys on her mind. She isn't thinking she's climbing like a monkey," and a know story specified, "Moe doesn't know what a pig is. He's never heard of a pig. He doesn't even know that pigs roll." The animal/action pairs used for each mental state were varied across subjects. The results indicated no significant difference in performance based on condition. Although children did moderately better on the want items (40% correct) than the know items (29% correct), they also did better on the thought items (42%
correct). Hence this experiment leads to the same conclusion as the first: Children do not appear to have a privileged understanding of the intention component of pretense. This is surprising given their generally precocious understanding of desire and intention. It provides further indication that their concept of pretense might be fixed, at least until the elementary school years, as externally manifesting (via action or perhaps costume) some other situation. Further work is investigating whether a pictorial representation of the mental state (a “thought bubble”) improves performance.

**Act III: Does Pretending Involve the Mind at All?**

Given that children do not appear to understand that pretense rests on mental representation or intention, a subsequent question is whether they see it as a mental state at all. Lillard (1996) examined this issue by looking at whether children categorize pretending with other mental states like thinking, or, in contrast, with activities like hopping. Five experiments examining this are described below.

The method used in the first experiment draws on a finding of Johnson and Wellman (1982) that young children claim, in response to simple yes-no questions regarding various activities, that the brain is used for cognitive but not for physical tasks. If children appreciate that pretending is a cognitive activity one would expect them to say it requires a brain, but if they fail to appreciate its cognitive underpinnings they should cluster it with physical activities and deny that it requires a brain. Sixteen children in each of three age groups (3, 4, and 5) were simply asked if the brain was needed to think, imagine, pretend, hop, clap, and so on. Children’s answers closely aligned with those of Johnson and Wellman’s (1982) subjects for those activities that were asked about in both studies. For example, about 88% of 4- and 5-year-olds understood the brain was needed to think, but only about 12% understood it was needed to clap. Pretending, the mental state of most interest here, fell between the cognitive and physical activities, with about 40% of children at these ages claiming it was needed to pretend. It was unclear, given that each child just answered one pretense question, whether many children in the sample were uncertain and were simply guessing.

Experiment 2 remedied this by asking three pretense questions. It also employed a different method to address the question of whether children construe pretending as being basically mental or basically physical. Sixteen 4- and sixteen 5-year-olds were shown two boxes, and it was explained that one was for things one could do just inside one’s head, without using one’s body, and that the other was for things one could do just with one’s body, without using one’s mind. Children were then read various descriptions of activities off of small cards, and were asked which box each card should go in. The descriptions detailed three different types each of thinking (such as think about a puppy, destined for the “mind” box), pretending (pretend you are a tree, a test item), and purely physical activities (fall over, destined for the “body” box). In this experiment, and others (described later) using the box method, the cognitive and purely physical activities served as controls to ensure children understood the purpose of the boxes. Experiment 2 elicited results similar to those of Experiment 1: About 40% of children at each age treated pretending like thinking and the other mental states, and the remaining 60% denied that the mind is necessary to pretend. Further, most children responded in the same way to all three pretense questions, suggesting they were not simply guessing.

Experiment 3 used essentially the same method, but tested 4-, 6-, 7-, and 8-year-olds and adults on an expanded set of questions to (1) look for developmental trends and (2) see if children show different patterns of responding based on what sort of pretense is being enacted (object, animal, or person). The results gave no indication that children make different decisions about the need for using one’s mind based on whether one was pretending to be an object, animal, or person. However, children did not appear haphazard in their choices, and there were distinct developmental trends, with 8-year-olds performing at adult levels on this task: about 85% appeared to view pretend as primarily mental. Four-year-olds were again at about 40% on this score, whereas 6- and 7-year-olds were at about 65%.

A fourth experiment in this line, testing only 4-year-olds, looked at whether children would make more mentalistic claims for other types of pretense (described later). It also incorporated a third box, which was described as being for activities that absolutely needed both a mind and a body. Children rarely chose this box for pretense items, and so it is not discussed further. As controls, there were three items for which adults would be expected to claim “mind” (think), three for “body” (physical process), and three for “both” (i.e., bake a cake). There were also three nonsense items (such as fox you are a feaheshi) to check whether children used the “both” box whenever they were uncertain. The pretense items used in this experiment varied in two ways. First, they ranged from very familiar to exotic (in terms of whether the referent was part of children’s everyday reality), and second, they differed in whether the child was asked about pretending to be something else or to be in a different location. Examples of the “exotic” manipulation are “Pretend you are the Lion King” (identity) and “Pretend you are in a jungle” (location), whereas examples of the mundane items are “Pretend you are a puppy” and “Pretend you are in your bedroom.” It was hypothesized that because imagining is more clearly involved, pretending to be in a different location and pretending to be more exotic things might elicit more “mind” responses.

Although the location/identity manipulation had no effect, the exotic/mundane manipulation made a significant difference in children’s
responses, such that 4-year-olds chose the mind box for exotic pretenses on approximately 70% of trials. Further, this difference appeared to hold for all the pretend items that followed an exotic item, even when those pretenses were mundane. Half the subjects always received the exotic Lion King item on their second trial, and overall these subjects chose the mind box for pretense items significantly more often than children who did not hear an exotic item until their final few pretend trials. Offsetting concerns that the two groups were different at the outset, on the one pretense item that all subjects heard prior to hearing an exotic item (“Pretend you are in an airplane,” deemed to be intermediate on the exotic/mundane scale), the two groups were equivalent in percentage of “mind” choices (44%). Hence the difference between the groups appears to have been driven by the exotic items themselves cluing in children to a different view of pretense than did the more mundane items. This result has recently been replicated (Lillard & Sobel, unpublished data), and further work will attempt to pinpoint just what it was about the so-called exotic items that made children think about them more mentallyistically than they thought about mundane items.

A fifth experiment concerns exactly what aspects of pretending children focused on in choosing their responses. When children pretend, they can be observed to engage in a planning phase in which they decide how various pretenses will be executed, and then in an execution phase in which they go on to execute the pretense. (Obviously these phases are not always distinct, with some further planning occurring during execution phases.) Six- and 8-year-olds were presented with a “Mind” box and a “No Mind” box, and were asked in which box various instances of deciding how to pretend something, actually pretending it, thinking about doing something, and actually doing it, belonged. Children’s replies indicate that although most 8-year-olds appreciate that the mind is used in planning pretense, less than half appreciate that pretenders use their minds to imagine the pretend situation all the while that they are pretending.

These five experiments, taken together with Lillard (1993b), suggest that young children do not in general think of pretending, at least in its execution, as entailing the mind. They appear instead to think of pretending as a mindless activity. However, the fact that children tend to invoke the mind more often for certain “exotic” pretense items is very intriguing and deserves more investigation. Perhaps it is via such sorts of pretense that children come to appreciate pretense’s mental aspects.

CONCLUSIONS

The findings just presented at least suggest some basic difficulties in understanding the mental aspects of pretense. Early on, children do not gen-

erally appear to think about pretending as a mental state. However, even if children see pretending simply as its external manifestations, like actions, pretend play still has many connections to a theory of mind. The correlational and training studies support this. This paper discussed five possible origins of this connection. Outside the pretend frame, pretenders negotiate what they will pretend and how, thereby confronting and synchronizing diverse conceptualizations and desires. Within the pretend frame, children practice seeing one object or situation in two different ways at once, and seeing one object as representing another. They also practice taking on others’ points of view when they pretend role play. Finally, because the content of pretense is often emotional and conflictual, pretending provides opportunity to practice dealing with such feelings and events. In all these ways pretend play is linked to a theory of mind. Further research should probe these connections to see which are most important for the correlations found between social pretend or role play and understanding minds.

Observing children’s pretend can provide educators and psychologists insights into children’s theory of mind. Pretend play provides a window on how children represent their worlds, on how they think about internal states and the social order. Watching children’s pretending can provide information as to what their major concerns are, how they respond to certain events, and what they are working on. This can indicate what one can expect of a child, and how one might direct efforts at helping the child to further her understanding. Pretending can thereby provide information that adults can use in modifying their expectations and in educating children about minds and subjectivity.

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NOTES

1. One assumes the two representations are held simultaneously because the pretender does not attempt actually to eat the bracelet, suggesting that she bears in mind that it is made of plastic.

2. For a later experiment in which such a manipulation did work for belief, see Mitchell and Lacoehee (1991).

3. Experiment 4 employs a “both” box as well, but children rarely chose it for pretense items.
REFERENCES


