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The Distinction Between Lying and Pretending

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In 4 experiments, the capacity of children and adults to distinguish pretending from lying was investigated. Children aged 4 to 7 years heard a series of short narratives in which the main character made a factually incorrect statement, either because he or she was trying to deceive someone or because he or she was pretending. By 5 years of age, children were able to describe or give examples of both lying and pretending and to comment on the difference between the 2, but in many cases they labeled statements that were intended to be pretend as lies. A follow-up study revealed a similar degree of ambiguity in adult judgments of these statements. However, when the stories were constructed to portray the most familiar types of pretending (e.g., taking on the role of another person), children as young as 4 had no difficulty distinguishing pretend statements from lies.

Young children's understanding of what it means to tell a lie has both theoretical and practical significance. For example, Piaget (1965) described children as having a natural proclivity to tell lies that was "so spontaneous and universal that we can take it as an essential part of the child's egocentric thought" (p. 139). Indeed, there are naturalistic reports of children lying from an early age (e.g., Stern & Stern, 1909) and diary studies systematically documenting the lies of 2- and 3-year-olds (Newton, Reddy, & Bull, 2000). Research studies using controlled laboratory procedures have confirmed that by 3 years of age, many children readily lie in order to cover their own misdeeds (Lewis, Stanger, & Sullivan, 1989; Polak & Harris, 1999). From the perspective of theory of mind research, children's conception of lying is an important part of the developmental story linking children's early capacity to deceive with their later developing understanding of what it means for a person to have a false belief (Chandler, Fritz, & Hala, 1989). On the

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practical side, it is important to know what children mean by the word *lie* because they are frequently asked questions about lies and lying when it is being determined in a court of law if they are competent to testify (Goodman, 1984). In addition, children's understanding of lying and truth telling is related to their moral judgments and has implications for how parents and educators might talk to children about moral issues (Lee, Cameron, Xu, Fu, & Board, 1997).

In this research, we examined the limits of a well-documented tendency for young children to label untrue statements as lies, regardless of whether the speaker intended to deceive (Piaget, 1965; Strichartz & Burton, 1990; Wimmer, Gruber, & Perner, 1984). This tendency, referred to as "lexical realism," has been most fully investigated in research comparing children's capacity to distinguish statements of false beliefs (e.g., the speaker incorrectly reports that there is milk in an empty refrigerator because he or she honestly believes that this is the case) from false statements intended to misinform (e.g., the speaker incorrectly reports that there are no cookies in the cupboard because he or she does not want the listener to have any). Children as old as 6 years, and sometimes older, tend to label both types of statements as lies, even though they are aware of the differences in intention that distinguish lies from mistakes (Peterson, Peterson, & Seeto, 1983; Wimmer et al., 1984).

Research by Siegel and Peterson (1996, 1998) suggested that children's use of the word *lie* to refer to false beliefs is affected by task variables. For example, 3- and 4-year-old children are better able to identify an unintentional false statement as a mistake if that label is presented to them as a response option. Thus, asking children, "Was it a lie or a mistake?" elicits better performance than asking, "Did he or she lie or not lie?" In addition, the younger children's success in Siegal and Peterson's research was attributed to the use of stories that focused on an evolutionarily significant problem (i.e., identifying foods that are safe to eat). Thus, in Siegal and Peterson's research, 3-year-old children correctly reported that a bear who erroneously described some food as good to eat because he did not see a cockroach run across the food was making a mistake, whereas a bear who saw the cockroach and said the food was edible was lying. Nevertheless, even when the scenarios involved the contamination of food and forced-choice test questions, there continued to be some children at all ages who erred by describing innocent mistakes as lies.

Lies and mistakes differ in that a lying speaker intends to say something that is not true, whereas a mistaken speaker does not intend to do so. However, intentional falsehoods are not always lies. Sometimes a speaker says something that is not true for the purpose of joking, being ironic, being sarcastic, or emphasizing a point by way of exaggeration. One distinction between lies and these types of false statements concerns the speaker's beliefs about the listener's knowledge (i.e., second-order belief attribution). In the case of lies, the speaker believes that the listener does not know the true state of affairs, whereas in cases of jokes, irony, sarcasm, and exaggeration, the speaker assumes that the listener knows the truth.

Several studies have examined the extent that children extend lie to cover these nondeceptive types of intentionally false statements (Strichartz & Burton, 1990). Overall, the evidence suggests that children often confuse jokes, irony, and sarcasm (these terms are used somewhat interchangeably in the literature) with deception. For example, Leekam (1991) asked children to compare two stories and decide which ended with a joking statement. In these stories, a girl showed her mother a beautiful painting by another child and said, "I did that picture." In the joking version of the story, the girl then directed her mother's attention to the true artist's name at the bottom of the picture. In the lying version of the story, the mother later found out on her own that her daughter was not the artist. Until at least 7 years of age, children had difficulty deciding which girl was joking.

When children hear an ironic or sarcastic statement in the absence of explicit cues about intention and are asked to judge the statement on its own merit (instead of comparing it to a statement from a different type of story), children as old as 13 years tend to interpret the statement as a lie (Demorest, Meyer, Phelps, Gardner, & Winner, 1984). For example, in one story, a boy sneered,"Your haircut looks really terrific," when he saw another boy whose haircut was described in the story as making his ears stick out. Children incorrectly reported that the first boy's statement was intended to make the other boy believe his haircut was fine. In addition, Sullivan, Winner, and Hopfield (1995) found that children as old as 7 years have difficulty distinguishing ironic statements from lies. When a story character ironically stated that he had done a really good job cleaning up his room to another character who could plainly see that the room was still messy, the majority of the children, even at age 7, said the character was lying rather than joking.

The case of exaggeration has been studied by Peterson et al. (1983), who showed participants a video of a puppet who was chased by a chicken and later exclaimed that the chicken was "as big as an elephant." The vast majority of the child participants and half the adults reported that the puppet was lying. This result replicates and extends Piaget's (1965) finding that children tend to describe exaggerations made for the purpose of emphasis as lies (e.g., a boy who tells his mother that he saw a dog as big as a cow).

In summary, the evidence suggests that children tend to interpret a wide range of false statements as lies. Is any statement that is not literally true equated with a lie in the minds of children? Preschoolers are not known for their irony or sarcasm, but they do make many intentionally false statements while pretending. An 18-month-old says "snake" as he twists a rope up his mother's arm; a 4-year-old tells her mother about the flying dolphin who comes to her room at night. In the context of pretend play, children routinely make false statements without acting as though they have behaved inappropriately and without expecting to be punished. In addition, children accept each other's false statements when engaged in social pretense without correction (e.g., "This isn't a cookie, it's mud") and they are not

confused about the true state of affairs (Golomb & Kuersten, 1996). Thus, it is possible that children conceptualize false statements made in the context of pretense as different from lies.

It is also possible, however, that pretense and deception are linked in children's minds because efforts to deceive another person sometimes involve activities that are referred to as pretending (Mitchell, 1993). For example, a woman walking down the street might act as if (i.e., pretend) she did not see her neighbor on the other side because she wants to avoid an unwanted interaction. Similarly, someone might act as if (pretend) he does not know the answer to a question because he does not want to provide the requested information. Peskin (1996) wrote that pretense and deception naturally go hand in hand, referring to devious actions or statements by one character designed to create false beliefs in a second character. For example, in the well-known fairy tale, a wolf pretends to be the grandmother for the purpose of deceiving Little Red Riding Hood. In such cases, the listener does not know the true state of affairs and the purpose of the actions or statements is to deceive. Bussey (1999) used the word *pretend* in this way in research designed to investigate how children evaluate different kinds of lies. In her "pretend" vignettes, children uttered false statements to a listener who was unaware of the truth for the purpose of playfully tricking the listener. For example, a child told her father that a leaf which had dropped on his back was a spider. The vast majority of children in this study (aged 4 to 11 years) categorized this type of statement as a lie.

Lying and pretending are not actually mutually exclusive activities with clear and obvious boundaries. Even the presence of deception might not serve as a necessary or sufficient marker of lying. For example, although adults usually reserve lying for situations involving deliberate deception, sometimes adults refer to exaggerations or statements of false belief as lies. Peterson (1995) suggested that there may be some degree of variation at all ages in the emphasis placed upon deliberate deception as the defining feature of lying. In addition, although pretending typically refers to situations involving actions or statements whose purpose is entertainment rather than deception, adults sometimes use the word *pretending* when deception is involved.

Pretending for the purpose of deception is not what we were investigating in this research. Here we focus on pretense that involves a shared understanding between the participants, with no deception intended. The listener knows the true state of affairs and is not misled by the child's statement. However, given children's tendency to label mistakes, jokes, and ironic statements as lies, it is possible that children might also refer to statements made in the context of pretending as lies. On the other hand, from an early age children have considerable competence in both the comprehension and production of pretend acts and statements (Harris & Kavanaugh, 1993; Harris, Kavanaugh, & Meredith, 1994). Thus, it is possible that young children understand that nonliteral statements made when pretending should not be called lies.

EXPERIMENT 1

Method

Participants

Sixteen 5-year-old children, eight boys and eight girls (*M* age = 5 years; 8 months; range = 5; 3 to 5; 11) participated in this study. Participants were White and predominantly middle-class, representative of the community from which they were drawn.

Materials

Eight short stories were written to portray situations in which child protagonists made false statements. We used four story scenarios (children with a candy box, a boy and mother at the dinner table, children cleaning their room, and children playing outside) and created a "pretend" and "lie" version of each, for a total of eight stories (see Appendix). Stories were accompanied by three illustrations depicting the events portrayed in each story. One heart-shaped box, one round box, a ball, a frog puppet, and a Band-Aid® box containing crayons were used for the false-belief tasks. A set of multicolored blocks of various shapes was used for assessing individual differences in pretending.

Procedure

First we investigated children's familiarity with the words *pretending* and *lying* by asking the following questions: (a) Do you know what pretending is? (b) What is pretending? (c) Do you know what lying is? (d) What is lying? Then children were given a series of six tasks including four lie–pretend distinction tasks and two false-belief tasks. The order of the six tasks was randomized for each child with the restrictions that false-belief tasks never occurred first or last in the sequence, nor did they occur consecutively.

Lie-pretend distinction tasks. For each of the four lie–pretend distinction tasks, children listened to a short narrative accompanied by three illustrations portraying the events in the story. In two of the stories, the main character lied and in the other two stories, the main character made a false statement in the context of pretense (i.e., the statement was not intended to be deceptive and the other character already knew the true state of affairs). For each of the story scenarios used in this study (children with a candy box, a boy with his mother at dinner, children cleaning their room, and children playing outside), there was a lie version and a pretend version. Individual children heard only one version of each scenario. Across the children, the two versions of each scenario occurred equally often.

After each story, children were asked a yes–no reality question to determine whether or not they understood the true state of affairs in the story. For example, in the lie version of the candy story, a little girl named Angela tries to trade a candy box full of rocks for her sister's chocolate bar. In an attempt to deceive her sister, Angela keeps her candy box shut and says, "Look, I have a whole box of candy." After hearing the story, children were asked the reality question, "Is there really candy in Angela's box?" Next, children were asked an open-ended question regarding the intention of the story character (e.g., "Why did Angela say, 'Look, I have a whole box of candy?'"). Finally, children were asked a forced-choice question about whether the character was lying or pretending (e.g., "When Angela said, 'Look, I have a whole box of candy,' was she lying or was she pretending?"). The order of the words *lying* and *pretending* in this question was counterbalanced.

False-belief tasks. The main purpose of including false-belief tasks was to introduce some variety into the questions the children were asked. Also, although we expected children to do well on the false-belief tasks, it was possible that any variation in performance might be related to children's ability to distinguish lying from pretending.

The unexpected location task was based on work by Wimmer and Perner (1983). The children were introduced to a puppet who was present when a ball was placed in a box. In the puppet's absence, the experimenter moved the ball to a second box. Then the puppet returned and the child was asked where the ball was and where the puppet thought the ball was. The unexpected contents task, based on work by Perner, Leekam, and Wimmer (1987), assessed children's ability to acknowledge their own former false beliefs. Children were shown a Band-Aid® box and asked, "What do you think is inside the box?" After the participant responded, the experimenter opened the box, showing the child that it contained crayons. Next the box was closed and the child was asked, "Before I opened this box and showed you the inside, what did you think was in the box?"

Free-block play. After the four lie–pretend distinction tasks and two false-belief tasks were completed, the children were given a task designed to assess individual differences in pretending (Lillard, 2001; Taylor & Carlson, 1997). Participants were given 3 min to play with a box of brightly colored blocks. After 3 min had passed, the experimenter asked, "What are you doing with the blocks? Did you make something? Can you tell me more about (the structure the child had built)?" The reason for including this task was to assess the extent that children's ability to distinguish lying from pretending might be related to their inclination to spontaneously engage in pretend play. Following the free-block play task, children were asked: "What is the difference between lying and pretending?"

Results and Discussion

Lie–Pretend Distinction Tasks

Yes–no control questions about reality. Almost all the children (14 out of 16) answered all four reality control questions correctly, indicating that they were able to keep track of the events in the stories. One of the two remaining children answered three of the control questions correctly and was kept in the study. The other child answered only one control question correctly and was excluded from the analyses of the forced-choice lie–pretend test questions.

Forced-choice lie–pretend test questions. Children's responses to the forced-choice test questions ("Was he or she lying or pretending?") in this experiment and in Experiments 2 and 4 can be seen in Table 1. In this experiment, the mean number of correct responses (out of two) for lie stories was 1.67 (SD = .72). This value was significantly greater than would be expected by chance, $t(14) = 3.57$, $p < .01$. Thus, the children were able to identify and label deceptive statements as lies. For the pretend stories, the mean number of correct responses out of two was .33 (SD = .62). This value was significantly below chance, $t(14) = 4.18$, $p < .01$.

These results indicate that children had a clear tendency to incorrectly label false statements made in the context of pretend play as lies. In fact, the mean number of "lie" responses for pretend stories was 1.67, the same as for lie stories. Ten of the 15 children labeled all four statements as lies. Only one child labeled the two lies and two pretend statements correctly. From these data, it appears that children were unable to distinguish between false statements made in the context of pretend play and false statements made in the context of lying.

TABLE 1
Means and Standard Deviations of "Lying" Responses
(Experiments 1, 2, and 4)

		Lie stories		*Pretend stories*		
	n	*M*	*SD*	*M*	*SD*	*p*
Experiment 1						
5 years	15	1.67	.72	1.67	.62	*ns*
Experiment 2						
5 years	16	1.69	.60	1.06	.85	<.10
7 years	16	1.69	.48	.81	.75	<.001
Experiment 4						
4 years	16	1.94	.25	.25	.45	<.0001
5 years	20	1.95	.22	.25	.55	<.0001

Open-ended questions about intent. Children's responses to questions concerning the protagonist's motive for making a false statement ("Why did he or she say …?") were assigned to one of five categories. Two independent coders evaluated participants' responses and were in agreement for 98% of the statements. The one disagreement was resolved by discussion. Responses were coded as:

1. Lie motive: The child stated a deceptive motive or used the word *lie* in the response (e.g., "She said that 'cause she was lying").
2. Pretense motive: Responses that referred to play or having fun (e.g., "Because he wanted to do something fun").
3. Reality: Responses in which the participant made reference to the false statement as if it were true (e.g., "She said there was candy in the box, 'cause there was candy in her box").
4. Don't know: Responses in which the child said, "I don't know," or used body language to communicate an "I don't know" response (e.g., shrugged shoulders).
5. Other: Explanations that did not fit into any of the other four categories (e.g., "wanted to do something else").

Although the lie motive was the most common response for both types of false statements (see Table 2), there was a significant difference between the proportion of lie motives for lie stories and the proportion of lie motives for the pretend stories, $t(14) = 3.16$, $p < .01$. For the lie stories, children attributed a lie motive to the story character the majority of the time (77%) and no children attributed a pretense motive. For the pretend stories, 43% of the children identified a lie motive as the reason for the false statement, and only 7% of the children identified a pretense motive.

Open-ended questions about lying and pretending. In this experiment, Experiment 2 and Experiment 4, children were asked the same open-ended questions

TABLE 2
The Percentage of Motive Attribution Responses by Story Type
(Experiment 1)

	Story Type	
Motive Type	*Lie (%)*	*Pretend (%)*
Lie	77	43
Pretense	0	7
Reality	3	10
Don't know	13	20
Other	7	20

about lying and pretending (i.e., what is pretending; what is lying?). We collected and analyzed the data from all three studies in order to provide the most complete picture of how children answer these questions. Two independent judges categorized the responses as (a) general definitions, (b) specific examples, (c) don't know, or (d) other responses (see Table 3). The two coders were in agreement for 87% of the pretend responses and 86% of the lie responses. The disagreements were resolved by discussion. Tables 4 and 5 show the number of children who gave each response type. Most of the children either generated specific examples or gave general definitions.

TABLE 3
Categories of Responses to "What Is Lying?" and "What Is Pretending?"

(1) The child gives a general definition that would include most cases:
Lying: "When you say something that's not true."
Pretending: "It's where you make something up that can't really happen."
(2) The child gives a specific example:
Lying: "Lying is like if you hit your sister and you tell your mom that you were just trying to hug her and she didn't want a hug."
Pretending: "When you slide and pretend to be a worm."
(3) The child says s/he does not know or gives no response:
"I don't know how to say it."
(4) The child says something that does not fit the other categories, such as giving an example that is not correct:
Lying: "When your mom tells you to do something and you don't do it."
Pretending: "You can't do one thing."

TABLE 4
Children's Responses to Open-Ended Questions About Pretending
(Experiments 1, 2, and 4)

		Category of Response			
What Is Pretending?	*n*	*General Definition*	*Specific Example*	*Don't Know*	*Other*
Experiment 1		2	12	2	0
5-year-olds	16				
Experiment 2		5	9	1	1
5-year-olds	16	7	6	3	0
7-year-olds	16				
Experiment 4					
4-year-olds	16	5	7	4	0
5-year-olds	20	5	8	6	1
Total		24	42	16	2
Percentages		29	50	19	2

Note. $N = 84$.

TABLE 5
Children's Responses to Open-Ended Questions About Lying
(Experiments 1, 2, and 4)

		Category of Response			
What Is Lying?	*n*	*General Definition*	*Specific Example*	*Don't Know*	*Other*
Experiment 1		7	7	2	0
5-year-olds	16				
Experiment 2		9	4	1	2
5-year-olds	16	9	5	1	1
7-year-olds	16				
Experiment 4					
4-year-olds	16	2	8	6	0
5-year-olds	20	5	7	2	6
Total		32	31	12	9
Percentages		38	37	14	11

Note. $N = 84$.

In addition, children in this experiment and in Experiments 2 and 4 were asked the open-ended question,"What's the difference between lying and pretending?" To better understand how children differentiate lying and pretending, we conducted an analysis of children's responses. This analysis includes data from Experiments 2 and 4, as well as Experiment 1 in order to present the most comprehensive picture (see Table 6).

Two coders (79% agreement) categorized the 84 responses as:

1. Specifying that lying was bad, but pretending was good: "When someone lies that's bad and when someone pretends that's good."
2. Specifying that lying involved words, whereas pretending involved actions: "One has words and one doesn't. Lying has words and pretending doesn't."
3. Giving examples or definitions of lying and pretending without specifying the difference: "One is like pretending cooking and the other is like building a fort and burning down the house without telling anyone."
4. Not knowing the difference or simply stating that there was a difference: "They are not the same. They are the opposite of each other."
5. Other: "Lying is doing something real and pretending you didn't."

Table 6 gives the percentages for each type of response.

False-Belief Tasks

Fourteen of the 15 participants passed the unexpected-location task and 10 of the 15 children passed the unexpected-contents task. The number of correct responses out of two for these tasks was summed to yield a false belief score. A 2×2

TABLE 6
Children's Responses to Open-Ended Questions About the Difference Between Lying and Pretending (Experiments 1, 2, and 4)

		Category of Response				
	n	*Good vs. Bad*	*Actions vs. Words*	*Separate Examples*	*Don't Know*	*Other*
4-year-olds						
Experiment 4	16	4	1	0	9	2
Percentage		25	6	0	56	13
5-year-olds						
Experiment 1	16	4	3	5	4	0
Experiment 2	16	4	1	4	6	1
Experiment 4	20	6	3	7	2	2
Total	52	22	9	23	24	5
Percentage		26	11	28	29	11
7-year-olds						
Experiment 2	16	5	3	5	3	0
Percentage		31	19	31	19	0
Total	84	36	13	35	52	9
Percentage		25	9	24	36	6

contingency was constructed to examine the relation between performance on the false belief tasks (0 or 1 correct vs. 2 correct) and performance on the lie-pretense distinction tasks (0 correct vs. 1 or 2 correct). A Fisher Exact test indicated that there was not a significant relation between the children's understanding of false belief and performance on the lie-pretense distinction tasks. We decided to include the false belief tasks in Experiments 2 and 4 because these tasks served the function of breaking up the set of the lie–pretend distinction tasks. However, performance was not related to performance on the lie–pretend tasks for any of these experiments, and the results for the false belief tasks will not be discussed further.

Free-Block Play

Children's play behavior with the blocks was coded according to a system developed by Lillard (2001). Simply treating the blocks as blocks (e.g., lining them up in a row without any verbal reference to a transformation) was given a score of 0. Children were given a score of 1 if they performed a simple transformation (e.g., building a tower or castle), and a score of 2 if they told a story about the structure or if they attributed animate characteristics to the blocks. Three of the 15 children (20%) received a score of 0, 9 children (60%) received a score of 1, and 3 children (20%) received a score of 2. The relation between free-block play scores (0 vs. 1 or 2) and performance on pretend questions (0 correct vs. 1 or 2 correct) was assessed with a Fisher Exact test. The test revealed no significant relation between the two variables.

Summary

The major finding of this study was that children tended to label all the false statements as lies, even when the statement was made in the context of pretend play. However, children were able to differentiate lying and pretending in their responses to the open-ended questions (see Tables 4 and 5). In addition, when asked, "What is the difference between lying and pretending?" the majority of children identified some sort of difference (see Table 6). These results suggest that children think there is a difference between lying and pretending, even though they performed poorly when asked to label the two different types of false statements.

It is possible that children's responses to the forced-choice questions were influenced by the two questions that preceded them, one asking about the true state of affairs (e.g., "Is there really candy in Angela's box?") and one asking why the protagonist said the false statement. These questions focus the child's attention on the fact that the protagonist's statement contradicted the true situation and thus might have increased children's inclination to label the statements as lies or confused them about the underlying motive for the false statement. In Experiment 2, we simply told children the stories and asked if the speaker was lying or pretending.

EXPERIMENT 2

The purpose of this study was to examine the effect of removing the reality and motive questions from the lie–pretend distinction tasks. We expected children's performance to improve on the lie–pretend distinction tasks with the removal of the potentially biasing questions. In addition, we included 7-year-olds as well as 5-years-olds in this experiment because the 5-year-olds in Experiment 1 were at floor in making the distinction between lying and pretending.

Method

Participants. Sixteen 5-year-old children (M = 5; 7; range = 5; 3 to 5; 10; 9 boys and 7 girls) and sixteen 7-year-old children (M = 7; 7; range = 7; 3 to 8; 0; 8 boys and 8 girls) participated in the study. The participants were White and predominantly middle class.

Procedure. This experiment was carried out in the same manner as Experiment 1 except that the reality and motive questions in the lie–pretend distinction tasks were omitted.

Results and Discussion

Forced-choice lie–pretend questions. The mean number of correct responses (out of two) for the lie stories was 1.69 (SD = .60) for the 5-year-olds and 1.69 (SD = .48) for the 7-year-olds. For both age groups, children identified the lie statements correctly significantly more often than would be predicted by chance, $t(15) = 4.59$, $p < .01$. However, neither 5- nor 7-year-olds identified the pretend statements correctly more often than would be predicted by chance: M (5-year-olds) = 1.06, SD =.85, $t(15) = –.29$, $p > .05$; M (7-year-olds) = .81, SD = .75, $t(15) = .96$, $p > .05$. A matched pairs t test comparing the mean number of lie responses for the pretend and lie stories was significant for the 7-year-olds, $t(15) = 3.95$, $p < .001$. This test was not significant for 5-year-olds, but showed a trend in the predicted direction, $t(15) = 1.99$, $p < .10$.

In Experiment 1, 10 of the 15 children (67%) identified all the false statements as lies. Only 3 of the 16 5-year-olds (19%) and 2 of 16 7-year-olds (13%) in this experiment showed this pattern of response. In addition, although only one child in Experiment 1 (7%) gave correct responses for all four lie–pretend distinction tasks, 5 of the 5-year-olds (31%) and 4 of the 7-year-olds (25%) were correct on all four tasks. Overall, these results suggest that the children in Experiment 2 did better than in Experiment 1, yet the lie–pretend tasks continued to pose some difficulties. Although the 7-year-olds, and to a lesser extent the 5-year-olds, responded differently to the lie and pretend scenarios, not even the 7-year-olds correctly identified the pretend statements more often than would be expected by chance. Overall, performance on the lie-pretend distinction tasks was improved, but the difference was not great enough to indicate that the 5-year-old children were clearly distinguishing lying from pretending.

Our next step was to reexamine the story scenarios that we had presented to the children in Experiments 1 and 2. Our conclusion was that the examples of pretending were possibly not clear enough to demonstrate the distinction between lying and pretending. Using rocks as play candy, pretending to eat real food (i.e., peas), pretending that a closet is full of spiders and pretending that a friendly dog is actually mean are not the types of pretend scenarios that children mention when asked about pretending. These stories were constrained by our desire to match the story contents for the lie and pretend tasks as much as possible. Our goal was to make the lie stories and the pretend stories essentially the same except for the minimal changes that made one conclude with a lie and the other with a pretend statement. To do this, we removed the deceptive context to create pretend stories; but perhaps the removal of deception is not equivalent to the addition of a pretend context. In fact, when children in Experiment 1 were specifically asked why the story protagonists made their false statements, children rarely mentioned the motive of fun, play or pretense (see Table 2).

Open-ended questions about lying and pretending. As in Experiment 1, children mostly gave general definitions or specific examples when asked to define the words *lying* and *pretending* (see Tables 4 and 5). Across Experiments 1, 2, and 4, 84 children were asked the questions "what's pretending?" and "what's lying?" As can be seen in Tables 4 and 5, the most common way to respond to these questions was to generate an example of pretending and lying. To develop new lie and pretend stories for our lie–pretend distinction tasks that were more familiar to children, we analyzed the examples generated by the children who participated in Experiments 1 and 2.

Two independent coders categorized the 27 examples of pretending and 16 examples of lying from Experiments 1 and 2 in order to identify the types of scenarios that children most often described. The agreement between coders was 89%; the disagreements were resolved by discussion. Here are the types of examples that children gave in responses to the question "what's pretending?":

1. Impersonation (18 responses; 67%): The child describes taking the role of an animal or another person (e.g., "like pretending you are a lion").
2. Pretend action or quality (3 responses; 11%): The child describes pretending to do something or to be a particular way (e.g., "If you pretend you're eating but you're not.").
3. Imaginary other (2 responses; 7%): The child describes pretending that someone is there when that person or animal is not there or describes pretending with a doll or stuffed animal (e.g., "like pretending someone is there").
4. Pretend object or object transformation (2 responses; 7%): The child describes pretending that she or he has an object that is not there or pretending that one object has become another type of object (e.g., "You use your imagination to make a boat on the couch.").
5. Pretend location (2 responses; 7%): The child describes pretending that she or he is somewhere else (e.g., "Like your imagination —I know like you pretend you're in a whole other place, maybe on the moon with astronauts.").

New stories involving pretense were developed for Experiments 3 and 4 based on this analysis. The prototypical pretend situation in these examples was one in which the child impersonated a role. Impersonation scenarios accounted for 67% of the examples the children generated, by far the largest category of response. Thus, for Experiments 3 and 4, we created two pretend stories that involved impersonation.

In Experiments 1 and 2, 16 children generated examples in response to the question "what's lying?" These examples of lying were coded as:

1. Saying you did not do something when actually you did (6 responses; 38%): "When you break something and say, 'I didn't do it' —that would be lying."

2. Saying you did something when you did not (3 responses; 19%): "Like when you say, 'I drank eight cans of pop.'"
3. Saying something that is not true that does not involve the speaker's own actions or possessions (1 responses; 6%): "Say someone got killed when they didn't."
4. Saying that you do not have something when you do (2 responses; 13%): "Saying, 'I don't have any toys.'"
5. Saying that you have something when you do not (3 responses; 19%): "If someone says, 'Do you have five pets?' and you say yes, but you really have three."
6. Other (1 responses; 6%): "If you lie to hit and lie to be mean and lie to hurt and pretend to lie that a lizard bited you."

Based on this analysis, the prototypical scenario for lying was one in which a child did something wrong and then said he or she did not do it. Thus, for Experiments 3 and 4 we created two lie stories in which the character did something and then claimed not to have done it.

EXPERIMENT 3

Given the overlap in the concepts of lying and pretending and the absence of a clear context specific to pretense (e.g., having fun) in the stories we used in Experiments 1 and 2, it could be that participants of any age might have failed to differentiate these pretend and lie stories. To assess this possibility, in Experiment 3 we asked adult participants to make the same judgments as the children in Experiments 1 and 2. In addition, we created a set of stories that we believed would be less ambiguous examples of lying and pretending using the most prototypical lie and pretend scenarios generated by child participants in Experiments 1 and 2. These new stories, along with the stories used in Experiments 1 and 2 were given to adult participants to judge as examples of lying or pretending.

Method

Participants. Participants in this study were 20 college students, 11 women and 9 men. They were recruited through the Human Subjects Pool at the University of Oregon, a system by which Introductory Psychology students receive course credit for participating in experiments in the psychology department. Their ages ranged from 17 to 25 with a mean age of 20.1 and a median age of 19.

Materials. Four stories were created for this experiment to reflect the themes that characterized children's self-generated examples of lying and of pretending. The two pretend stories involved impersonation: one story in which a child pre-

tended to be a doctor and one story in which a child pretended to be a "bad guy." The two lie stories involved a child doing something and then claiming not to have done it: one story in which the child broke a dish and then blamed it on the dog, and one story in which the child took some cookies and then said she did not do it (see Appendix for the scripts for all four stories).

Procedure. As with the children in Experiments 1 and 2, the adult participants were tested individually. Participants were presented with three story scripts (illustrated with the same three pictures used with the children) that they were instructed to read. Each participant read eight stories: four stories used in Experiments 1 and 2 and the four new "prototype" stories developed from children's own examples of lying and pretending. Participants were assigned to one of two different orders for the stories. The content of the prototype stories did not vary across participants; there were two pretend stories (the doctor story and the gun story) and two lie stories (the cookie story and the bowl story). For the stories from Experiments 1 and 2, participants assigned to the first order read the lie versions of the dog and spider stories and the pretend versions of the candy and peas stories. Participants assigned to the second read the opposite versions. The procedure used in this study most closely replicated the procedure used in Experiment 2 because no reality questions were included.

After reading each story, participants checked a blank under the story indicating whether they thought the protagonist was lying or pretending. In addition, they answered the question "How confident do you feel about this?" on a Likert scale ranging from 1 (*no confidence, total guess*) to 7 (*completely confident*).

Results and Discussion

Table 7 shows the number of lie and pretend responses to the forced-choice test questions for all the stories and the mean confidence ratings. Participants were at ceiling in their judgments of the lie versions of the stories used in Experiments 1 and 2. However, only one of the pretend stories used in Experiments 1 and 2 was clearly judged as involving pretending (the candy story). Overall, performance on the pretend versions of these stories was not significantly different from chance, $t(19) = 1.17$, $p > .05$. The confidence ratings for the pretend versions of the stories reflected these responses. Participants were significantly less confident on the pretend versions of the stories from Experiments 1 and 2 than they were on the lie versions, ($M = 5.78$, $SD = 1.31$), $t(19) = 2.189$, $p < .05$.

In most respects, the college students' performance on the lie–pretend distinction task was unexpectedly similar to the performance by children (5- and 7-year-olds) in Experiment 2. Adults performed almost at ceiling on the lie versions of the stories and children performed significantly above chance ($M = 1.95$ and 1.67, respectively). Similarly, both children and adults did not perform significantly above chance in the pretend stories ($M = 1.00$ and 1.20, respectively). In a

TABLE 7
Adult Responses and Average Confidence Level to Different Types of Stories Used in Previous Experiments

	Response Type		
Story Type	*Lie*	*Pretend*	*Confidence*
Experiments 1 and 2 (lie versions)	39	1	6.45
Experiments 1 and 2 (pretend versions)*	16	24	5.78
Prototype lie stories	40	0	6.80
Prototype pretend stories	0	40	6.93

*Not significantly different than chance, $\chi^2(1, N = 20) = 1.6, p > .10$.

direct comparison of the two groups, adults did perform significantly better than children on the lie stories, $t(45.01) = -2.45$, $p < .05$, but did not perform significantly better than the 5- and 7-year-olds on the pretend stories, $t(43.32) = -.88$, $p > .05$. (Note that due to the discrepancy in sample size between the adults and children, Welch's t was used in these comparisons.)

In contrast to their failure to clearly differentiate the lie and pretend stories used in Experiments 1 and 2, adults performed perfectly on the lie and pretend prototype stories developed from children's examples. For the prototype stories, all 20 participants correctly reported that the protagonists in the bowl and cookie stories were lying and the protagonists in the doctor and gun stories were pretending. In addition, they were very confident of their judgments for all four stories. In Experiment 4, we presented the prototype stories to children and asked them to judge whether the protagonists were lying or pretending.

EXPERIMENT 4

In this experiment, we asked children to make judgments about the prototype stories. Our hypothesis was that children would be able to distinguish examples of lying and pretending when the lie and pretend stories were in keeping with children's everyday experience. On the other hand, it is possible that lexical realism might extend to the context of pretending, in which case children, unlike adults, would use the word *lie* when referring to the types of false statements that regularly occur in pretend play.

Method

Participants. Sixteen 4-year-old children ($M = 4; 7$; range = 3; 11 to 4; 11; 7 girls and 9 boys) and twenty 5-year-old children ($M = 5; 6$; range = 5; 0 to 5; 11; 12 girls and 8 boys) participated in this study.

Procedure. Children were asked about lying and pretending in the same way as in Experiments 1 and 2. Then children were presented with two lie stories in which the protagonist lied about a misdeed, two pretend stories in which the protagonist pretended to be another person, and two false-belief tasks in a randomized order. At the end of the procedure, children were asked about the difference between lying and pretending.

Results and Discussion

Forced-choice lie–pretend questions. In marked contrast to the results of Experiments 1 and 2, both 4- and 5-year-old children performed close to ceiling. For lie stories, the mean number of correct responses out of two was 1.93 ($SD = .25$) for the 4-year-olds and 1.95 ($SD = .22$) for the 5-year-olds. For pretend stories, the mean number of correct responses out of two was 1.88 ($SD = .34$) for the 4-year-olds and 1.75 ($SD = .55$) for the 5-year-olds. The 4- and 5-year-olds did not differ in their responses. A matched pairs t test comparing the mean number of lie responses for the pretend and lie stories was significant for both 4-year-olds, $t(15) = 17.99$, $p < .001$, and the 5-year-olds, $t(19) = 13.31$, $p < .0001$. These results show that when familiar examples of pretending are used, children do not label false statements as lies.

The tension between achieving control over story content and presenting children with natural sounding scenarios is a methodological problem that confronts many researchers. It can be quite difficult to find a satisfactory trade off. In Experiments 1 and 2, we opted for maximum control at the expense of naturalness. Controlling story content in this way resulted in pretend stories that were contrived. Initially this did not trouble us because we overestimated both the conceptual distinctiveness of pretending and how easily children would be able to correctly identify pretend statements. However, the results of Experiment 3 indicate that even adults could not clearly differentiate the pretend stories from the lie stories. In contrast, both adults and children were at ceiling in their ability to differentiate lying from pretending when we presented them with stories capturing "prototypical" scenarios. Thus by using more natural and prototypical story scenarios, we were able to demonstrate that children can distinguish lying from pretending. However, we do not know exactly which cues in these narratives alerted children to the lie–pretend distinction. For example, the lie statements differed from the pretend statements in their believability (e.g., it was quite possible that the dog had broken the vase, whereas it was extremely unlikely that the little girl was actually a doctor), in the absence of the listener during a crucial part of the story, and story content.

Open-ended questions about lying and pretending. Children mostly gave general definitions or specific examples when asked to define the words *lying* and *pretending* (see Tables 4 and 5). Many of the 4-year-olds (38%) were not familiar with the word "lying." When asked "What is the difference between lying

and pretending?" the majority of the 4-year-olds could not articulate a difference. They either said they did not know or they gave an example of each without addressing the difference between the two. The only insight about the lie–pretend distinction that shows up with any frequency in the 4-year-olds' responses concerned the acceptability of the behavior—lying is bad and pretending is good. The good–bad distinction was also the most commonly reported distinction for 5- and 7-year-olds. This line of thinking was also reflected in many of the children's examples when asked, "What is lying?" Children were sometimes vague about the details, but they knew that lying was a bad behavior (e.g., "when you do a very very bad thing"). In addition, when children gave incorrect examples of lying, they tended to cite behaviors that, like lying, are considered undesirable (e.g., "not being a good listener," "when you talk back," "not being nice to people").

GENERAL DISCUSSION

This research was designed to investigate the extent that young children understand the difference between lying and pretending. In Experiments 1 and 2, 5-year-olds systematically labeled pretend statements as lies, and even the 7-year-old participants performed at chance. However, there was a marked discrepancy between children's performance on the lie–pretend tasks and their answers to open-ended questions about lying and pretending. Not 1 of the 84 children in Experiments 1, 2, and 4 who were asked "What's the difference between lying and pretending?" reported that lying and pretending were the same. In addition, by the age of 5 years, the majority of the children demonstrated an awareness of a difference between pretending and lying in their responses to individual questions ("what is lying?" "what is pretending?").

The discrepancy between the children's responses to the open-ended questions and their difficulty with the lie–pretend distinction tasks in Experiments 1 and 2 became more understandable when we discovered that even adults had difficulty with the latter. Although children's poor performance initially suggested that their capacity to distinguish concrete examples of lying and pretending was limited or fragile due to their cognitive development, the equally poor performance of adults in Experiment 3 challenges this interpretation. Pretending and lying are clearly not as conceptually distinct as we had assumed and our attempts to carefully control content variables had stripped important information from the stories and made their interpretations ambiguous. The dramatic improvement in performance in Experiment 4 when we used stories based upon child-generated examples of lying and pretending provides evidence that even 4-year-olds do not *always* consider pretend statements to be lies.

One of the lessons from this research (Experiment 3, in particular) is that the removal of a deceptive intention from a story is apparently not sufficient to make an

action qualify unambiguously as pretense. Although the deceptive intention was absent in the pretend versions of the stories used in Experiments 1 and 2, the stories did not communicate a playful intention underlying the protagonists' statements. For example, exactly why did Jimmy act as if he was eating his peas in front of his mother? What was his intention? When confronted with this ambiguity, children opted to report that the false statements were lies and adults seemed to guess at whether the final statement indicated lying or pretending.

Playful intentions can be indicated using a variety of cues. The stories in Experiment 4 used explicit role assignment, which was mentioned in children's own examples of pretending. Hence, the intention to play was clearly delineated. In everyday life there are probably a variety of cues that help children identify actions or statements as involving pretense (e.g., play face, statements like "Let's play," etc.; Bateson, 1955/1972; Garvey & Kramer, 1989). When pretend scenarios are described in short narratives in laboratory tasks, these cues are impoverished, making the distinction between lying and pretending more subtle to detect. In addition, our procedure required that children identify pretend play as nonparticipants in the activity. One might expect children to be more sensitive to pretending versus lying when they are personally involved. Nevertheless, even 4-year-olds were able to identify pretending when the cue of role assignment was present.

The procedure used in Experiments 2 and 4 did not include control questions to determine the extent that the children were able to follow the events in the story scenario, were aware of exactly what knowledge is shared by the listener and the speaker, and understood the intentions of the speakers. Although monitoring children's comprehension throughout the procedure is important for a complete picture of how children make decisions about different kinds of false statements, control questions about knowledge and intention may focus children's attention on aspects of the story scenario that they otherwise might not have deemed crucial. Thus, these questions have the potential to bias children's responses. In Experiments 2 and 4, we chose to minimize the number of control questions, and focus simply on whether children would label the false statements as lying or as pretending. We are not advocating the elimination of control questions, but the recognition that studies in which the number of questions is limited can also provide important information. The disadvantage is that the data from Experiments 2 and 4 offer little insight about the extent that children were aware of the speaker–listener differences in knowledge that characterize pretending and lying and how the statements reflected different intentions.

By examining special forms of deception, it might be possible to gain a clearer understanding of the means by which children categorize behaviors and statements when asked to distinguish lying from pretending. For example, Bussey (1999) found that 4-year-olds labeled white lies as lies less frequently than lies about misdeeds; however, over 60% of the time children said "yes" when asked if a person who said a false statement to avoid hurting another person's feelings was lying. Pe-

terson et al. (1983) showed children aged 5 to 11 years, as well as adults, a video of a child who told a friend she liked her new haircut when actually she did not like it. When asked if the child was lying, at least 80% of all age groups (92% of adults) answered "yes." Peterson et al. also included an "altruistic lie" in their story scenarios. In this story, a bully searched for a young child whom he wanted to beat up and asked a girl where the child was. The girl knew, but said she did not. Almost all the participants described the girl as lying. However, as in Bussey's procedure, participants were asked if the character was lying, instead of being given a forced choice between lying and another option. When Taylor and Lussier (1999) used a forced choice between lying and pretending, they found that children tended to describe white lies as pretending. On the other hand, the results of Experiment 4 suggest that children do not limit pretending to good behaviors. In this experiment, we included a pretend story in which a child impersonated a "bad guy" because we wanted to collect at least some data relevant to the question of whether pretending which is not entirely good would be called pretending. There were no differences at either age in participants' responses to the bad guy story and the more positive story about a child impersonating a doctor.

Another possibility that would be interesting to explore in future research is that children might tend to underextend the word pretending to refer only to actions and not to statements. Nonverbal acts of deception serve as exceptions to children's typical definitions of lying (e.g., lying is saying something that is not true). This possibility is consistent with Lillard's (1993, 1994) research in which an action-oriented conceptualization of pretending seems to characterize early childhood. The starting point for such work might be with adults in order to document some of the more subtle distinctions between pretend and lie. In common usage, the word *pretend* can refer to either statements or actions, but the word *lie* tends to be used only for statements (with some exceptions, such as in "he is living a lie"). This distinction seems to have been captured in children's responses to both the definitional questions ("what is lying?" and "what's pretending?") and the comparison question ("what's the difference between lying and pretending?"). Many of the children associated lying with the use of language and pretending primarily with actions. For example, children gave examples of lying such as "when you say something that isn't true" and examples of pretending such as "you like act out something or pretend to be somebody." When asked to compare the two, some children explicitly referred to a distinction based on language (e.g., "lying has words and pretending doesn't"). These types of responses are consistent with Piaget's (1965) claim that children think of lying as doing something bad with language. For example, Piaget reported that for some children, "saying a bad word" is an example of lying. In a preliminary study examining this issue, children did not seem to limit their use of the word lie to cover only verbal acts of deception (Taylor & Lussier, 1999), but a more systematic investigation would be useful.

This set of experiments represents an initial step in understanding how children and adults conceptualize pretending as distinct from lying. Additional studies including questions about knowledge, intention, and the cues that initiate a pretend context will be required to understand more fully how children make this distinction. One strength of this work is the consistent picture presented in the children's answers to open-ended questions about lying and pretending. However, the data from the lie–pretend tasks indicates that it is important not to overestimate the conceptual distinctiveness of lying and pretending. The creation of a clear intention to pretend requires more than the removal of deception from a lying scenario. The results from Experiments 1 and 2, combined with research investigating children's labels for other types of nonliteral statements, indicate that children seem to use *lie* to cover diverse types of situations in which a person utters a false statement. However, the results of Experiment 4 indicate that children can correctly identify pretend statements when they occur in simple narratives describing prototypical role-playing examples.

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APPENDIX

Stories Used in Experiments 1, 2, and 3

1. Candy Story

Lie version: Angela has a candy box that she has filled with rocks. She sees her younger sister Suzy eating a chocolate bar and she wants it. She says to Suzy, "Want to trade your chocolate bar for my candy?" Angela holds out her box, keeping the lid on so Suzy can't see the rocks inside. Then Angela says, "Look, I have a whole box of candy."

Pretend version: Angela has a candy box that she has filled with rocks. She sees her younger sister Suzy eating a chocolate bar and it gives her an idea. She says to Suzy, "Want to set up a store for our dolls to buy candy?" Angela holds out her box, taking the lid off so Suzy can see the rocks inside. Then Angela says, "Look, I have a whole box of candy."

2. Pea Story

Lie version: John does not like peas, but he must finish them before he can have dessert. His mom finishes her dinner and goes to the living room. John scoops his fork across his plate, raises it to his mouth, and makes loud chewing noises. John is not really eating his peas. John yells to his mother who can't see him from the living room, "All done! I ate my peas."

Pretend version: John likes peas, but he doesn't feel like eating them right now. He is sitting across the table from his mom who is watching him. John scoops his fork across his plate, raises it to his mouth, and makes loud chewing noises. John is not really eating his peas. John smiles and says to his mom, "All done! I ate my peas."

3. Spider Story

Lie version: Jacob is cleaning up by putting his toys in the closet. His brother Ben comes into the room and asks if he can use a toy that Jacob just put away. Jacob does not want to give the toy to Ben. Jacob points to the closet door and says, "Don't go in there. It's full of spiders."

Pretend version: Jacob and his brother Ben are cleaning up by putting their toys in the closet. Jacob gets tired of cleaning. He wants to think of something fun to do with Ben. When Ben picks up a toy to put in the closet, Jacob shuts the closet door and says, "Don't go in there. It's full of spiders."

4. Dog Story

Lie version: Katie is playing in the front yard with her dog who is very friendly. Sarah, a girl from school comes over and asks Katie if she wants to play. Katie does not want to play with Sarah. Katie says, "Stay back. This is my attack dog and he doesn't like strangers."

Pretend version: Katie and her friend Sarah are playing with Katie's dog who is very friendly. They dress up the dog in doll clothes. They are having fun, but Katie wants to do something else. She takes the clothes off her dog and says, "This is my attack dog and he doesn't like strangers."

Stories Used in Experiments 3 and 4

Pretend doctor story: Amy and her friend Sally laugh as they put on some dressup clothes in Amy's room. Sally puts on a long night gown over her regular clothes and lies down on the bed. Amy puts on a white jacket and then stands over Sally, and feels her forehead.

Then Amy say, "I'm a doctor so I know how to make you feel better."

Pretend gun story: Tim and his friend John are outside running around the yard together. They stop for a minute and John says, " How about you be the bad guy and I'll be the policeman." Tim starts to run again and John chases him until they reach a fence.

Then Tim turns around and says, "Watch out, I have a gun."

Cookie lie story: Jessica is visiting her friend Sara who has just finished making cookies for a bake sale. When Sara leaves the room for a minute, Jessica grabs a cookie and eats it.

When Sara comes back, she looks at the plate of cookies and asks, "Jessica, did you eat a cookie?" Jessica says, "No, I didn't eat any of your cookies."

Bowl lie story: Alan and his friend Mike are playing with Cody the dog in Mike's living room. Mike goes out to the kitchen, and while he is gone, Alan accidentally knocks over a bowl. When Mike returns he sees the bowl in pieces on the floor and says, "What happened?" Alan says, "Cody jumped up and knocked over the bowl with his paw."