

The Characteristics and Correlates of Fantasy in School-Age Children: Imaginary Companions, Impersonation, and Social Understanding

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Past research with 152 preschoolers found that having an imaginary companion or impersonating an imaginary character was positively correlated with theory of mind performance. Three years later, 100 children from this study were retested to assess the developmental course of play with imaginary companions and impersonation of imaginary characters and how these types of role play were related to emotion understanding, self-perception, and personality. The results showed that school-age children interact with imaginary companions and impersonate imaginary characters as much as preschoolers. Overall, 65% of children up to the age of 7 had imaginary companions at some point during their lives. School-age children who did not impersonate scored lower on emotion understanding. Theory of mind at age 4 predicted emotion understanding 3 years later.

Despite a recent surge of interest in describing the phenomenon of imaginary companions (Ball, Lalonde, & Wright-Cassidy, 1999; Gleason, 2002; Gleason, Sebanc, & Hartup, 2000; D. G. Singer & Singer, 1990; Taylor, 1999; Taylor & Carlson, 1997), there are still many unanswered questions about it. In particular, the developmental course of this type of pretend play is not well understood. Some researchers have claimed that the incidence of imaginary companions peaks in preschool (Fraiberg, 1959; Manosevitz, Prentice, & Wilson, 1973; Piaget, 1962) along with other types of pretense, making the preschool period the “high season of imaginative play” (D. G. Singer & Singer, 1990, p. 64). However, in one recent study, 28% of children 5 to 12 years of age had imaginary companions (Pearson et al., 2001). Other research suggests that even adolescents sometimes have imaginary companions (Hurlock & Burnstein, 1932; Seiffge-Krenke, 1993, 1997). In addition, research by Cohen and MacKeith (1991) indicates that some older children and adolescents create imaginary worlds for their pretend friends and other imagined creatures to inhabit.

Very little is known about the imaginary companions that are created by older children or about the fate of the imaginary companions that emerge during the preschool period. It is possible that interactions with imaginary companions diminish as children enter school but then reemerge in a different form during adoles-

cence. This hypothesis is consistent with research by Newson and Newson (1976), who found that most children no longer had imaginary companions by the time they were 6 or 7 years old. However, this research was based on parental report, which even for preschoolers can be inaccurate or incomplete (Taylor & Carlson, 1997). Given the tendency of older children to act out fantasy less overtly than younger children, parents might underestimate the ages at which imaginary companions are abandoned or be unaware of newly created ones. Pearson et al. (2001) interviewed the children themselves and found evidence that older children had imaginary companions, but there was no information in that study about whether the imaginary companions were new or were the continuations of imaginary companions created in early childhood.

The major goal of this study was to learn more about the developmental course of play with imaginary companions. The participants were 6- and 7-year-olds ($N = 100$) who had been interviewed about pretend play and fantasy 3 years earlier when they were 3 and 4 years old. Thirty-one of these children had described imaginary companions in the original study (Taylor & Carlson, 1997). Our goal was to discover (a) what had happened to those imaginary companions and (b) the extent to which new ones had been created. As in past research (Gleason et al., 2000; Taylor & Carlson, 1997), the category of imaginary companions included personified objects (i.e., special toys or other objects that children endow with a personality and interact with on a regular basis) as well as invisible friends. The research findings are mixed with respect to the prevalence of imaginary companions in older children, but we suspected that this type of play would be less common in the school-age sample and that the imaginary companions described 3 years earlier would be gone.

In addition to questions about imaginary companions, we asked the children and parents about imaginary characters that the children impersonated (i.e., characters that were acted out rather than

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We are grateful to Lou Moses and Lou Goldberg for helpful suggestions and to Sihü Klest and Andrea Minton-Edison for help with coding.

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treated as separate individuals). This type of role play is conceptually related to having an imaginary companion because it involves imagining the characteristics and perspective of another individual (Harris, 2000). In past research, Taylor and Carlson (1997) found that the cognitive correlates of having an imaginary companion were also related to impersonating an imaginary character. However, there are differences in these types of role play as well as similarities. In particular, Carlson and Taylor (in press) found an interesting sex difference: Preschool girls were more likely than boys to have an imaginary companion, whereas boys were more likely than girls to impersonate an imaginary character. By asking about both imaginary companions and impersonated characters, we were able to explore further developmental change and sex differences in these types of role play. We predicted that impersonated characters as well as imaginary companions would be less common in our school-age sample because, in general, pretend play is widely believed to decline after age 5 (for a review, see F. P. Hughes, 1999) and, in particular, imaginary companions have been strongly associated with the preschool period (Manosevitz et al., 1973; Newson & Newson, 1976).

Another purpose of the study was to learn more about the correlates of having an imaginary companion and/or impersonating an imaginary character. In the original study with preschoolers, Taylor and Carlson (1997) examined the relation between these types of role play and performance on theory of mind tasks. Theory of mind was assessed with a composite score that combined measures of false belief, appearance–reality, representational change, and perspective taking (Flavell, Flavell, & Green, 1983; Gopnik & Astington, 1988; Perner, Leekam, & Wimmer, 1987; Taylor, 1988). Taylor and Carlson's hypothesis was that engaging in role play develops children's understanding that mental representations do not always constitute an accurate reflection of the external world. This insight is crucial for theory of mind tasks, and thus they predicted a positive correlation between role play and theory of mind. For 4-year-olds, they found the predicted relation between role play and theory of mind (independent of differences in sex and verbal intelligence). For 3-year-olds, this relation was not significant, possibly because of a floor effect in theory of mind performance (e.g., the mean false belief score was 0.5 out of 3).

In this study, we wanted to determine whether having an imaginary companion and/or impersonating an imagined character at ages 3 and 4 were related to theory of mind performance at age 7; however, most theory of mind tasks (e.g., false belief, appearance–reality) are used to assess development between 3 and 5 years of age and are not appropriate for school-age children. Even the second-order false belief task, which is sometimes used as a measure of later-developing theory of mind skills, is typically mastered by age 6 (Baron-Cohen, 2000). To elicit individual differences in performance at age 7, we used a task developed by Gnepp and her colleagues (Gnepp & Chilamkurti, 1988; Gnepp & Gould, 1985) to assess children's understanding of personality traits as internal mediators of emotional responses. Although this task involves questions about emotions and traits rather than beliefs and desires, it is considered to tap theory of mind understanding. For example, in their review of the theory of mind literature, Wellman and Lagattuta (2000) listed awareness of personality traits, as assessed in Gnepp's task, as an important insight about mind and behavior that develops after age 6. The preschool

child understands that people have desires, beliefs, and preferences; the school-age child understands that "these mental attributes can be person-specific, enduring, and consistent across situations in the form of personality traits" (p. 29). In addition, Yuill (1992; Yuill & Pearson, 1998) has identified children's understanding of the causal role of traits in generating desires and beliefs as an important milestone in theory of mind development. More specifically, Yuill and Pearson have conceptually linked Gnepp's task with theory of mind development beyond the preschool years.

There is some evidence for a close association between false belief performance and concurrent emotion understanding during the preschool years (e.g., C. Hughes & Dunn, 1998); however, no previous research has investigated whether performance on standard theory of mind tasks predicts the later-developing ability to make inferences about the emotional reactions of individuals on the basis of personality traits. Thus, our first prediction was that we would find evidence for this relation: We expected that children's performance on theory of mind tasks at age 4 would be correlated with performance on the Gnepp (Gnepp & Chilamkurti, 1988; Gnepp & Gould, 1985) emotion prediction task. Second, we predicted that individual variation on this task would be related to children's history of role play in preschool and possibly to their current fantasy behavior. Such a result would extend previous work showing that emotion perspective taking in preschool children is related to the amount and complexity of their pretend play (Connolly & Doyle, 1984; Youngblade & Dunn, 1995).

In addition to theory of mind and emotion perspective taking, we were interested in learning about other correlates of role play. First of all, do children who have a history of imaginary companions and/or impersonated characters differ from their peers in other fantasy behaviors at age 7? To determine whether role play was related to children's fantasy behavior at age 7, we gave children the Children's Fantasy Inventory (CFI). To our knowledge, the CFI is the most comprehensive questionnaire designed to collect self-report information about the fantasy lives of school-age children (Rosenfeld, Huesmann, Eron, & Torney-Purta, 1982). Our hypothesis was that individual differences in preschool role play would reflect an interest in fantasy that has some stability over time and thus would be related to variation in children's responses on this questionnaire.

Most past research investigating the differences between children with and without imaginary companions has focused on personality characteristics or socioemotional well-being. Research that has used typically developing populations has presented a mostly positive picture of children with imaginary companions (for a review, see Taylor, 1999). For example, in comparison with children who do not have imaginary companions, children who create imaginary companions are more sociable and less shy (Mauro, 1991), are more creative (Schaefer, 1969), participate in more family activities (Manosevitz et al., 1973), and show more positive affect in their play with other children (D. G. Singer & Singer, 1990). In addition, Seiffge-Krenke (1993, 1997) found that socially competent and creative adolescents with good coping skills were particularly likely to refer to imaginary companions in their diaries. However, in clinical research, there has been a tendency to associate imaginary companions with loneliness, trauma, and/or emotional distress (Benson & Pryor, 1973; Nagera, 1969). Recently, it has been noted that both imaginary companions

and impersonated characters (referred to as “elaborated play identities”) are common in children with dissociative disorders, and care must be taken to distinguish the normal phenomena from the pathological (Putnam, 1997; Silberg, 1998). There are also some normative studies that have yielded negative or mixed findings concerning the extent to which imaginary companions are associated with positive characteristics (Harter & Chao, 1992; Pearson et al., 2001).

Our goal in this study was to conduct a broad investigation of the personality and temperament characteristics that might be associated with role-play behavior. We collected information about the children’s personalities from their parents, who were given the California Child Q-Set (CCQS). According to Caspi et al. (1992), this instrument captures and reflects “the wide variation in children’s personalities, their characteristic ways of approaching and responding to the social world, their distinctive styles of coping with uncertainty and ambiguity, their strengths and weaknesses, resources and vulnerabilities, and competencies and inadequacies” (p. 512). We used the CCQS to assess the five factor model as applied to child personality (John, Caspi, Robins, Moffitt, & Stouthamer-Loeber, 1994) and also two constructs related to temperament: *ego resilience*, defined as the tendency to respond flexibly rather than rigidly to changing situational demands, particularly stressful situations, and *ego control*, defined as the tendency to contain versus express emotional and motivational impulses (Block & Block, 1980). We were particularly interested in ego control because of its conceptual relation to inhibitory control, which is associated with individual differences in both theory of mind and fantasy (Carlson & Moses, 2001; Carlson, Gum, Davis & Molloy, 2003). This part of the study was largely exploratory, but we predicted that role play would be associated with positive rather than negative characteristics (e.g., ego control).

In addition to the parent-report measure of personality, we collected information from the children about their perceptions of their own competence. For this purpose we used the Pictorial Scale of Perceived Competence and Social Acceptance (PSPCSA), a standardized procedure for measuring children’s sense of competence in four domains (cognitive competence, physical competence, peer acceptance, and maternal acceptance; Harter & Pike, 1984). In past research with this measure, higher self-ratings of peer acceptance were correlated with high levels of fantasy in the social free play of children ages 4 to 8 (Flannery & Watson, 1993). This finding is consistent with research by J. L. Singer and Singer (1981) showing that high-fantasy children were particularly likely to get along well with others. However, Harter and Chao (1992) did not find significant differences in perceived competence for preschool children with and without imaginary companions. Given the older age of the children in our sample and our more inclusive categorization of play, we predicted that children who engaged in role play would score higher on the PSPCSA.

In summary, our goals in this research were to provide new information about the developmental course of having imaginary companions and engaging in impersonation, to determine whether the differences in social understanding related to role play found in preschool children would still be present at age 7, and to explore other possible correlates in middle childhood of having an imaginary companion and/or impersonating an imagined character.

Method

Participants

The children in this study all participated in research (Taylor & Carlson, 1997) on imaginary companions conducted when they were preschoolers (mean age = 4 years 0 months; range = 3 years 4 months to 4 years 8 months). We attempted to make contact with all 152 families who participated in that study by sending them a letter describing the present study, followed by a phone call asking if they were interested in participating in this research. Eight families had moved out of state, 15 parents chose not to participate, and 29 parents could not be contacted. The final sample consisted of 100 children, 50 girls and 50 boys. The amount of time between the original (Time 1) and follow-up (Time 2) sessions ranged from 19 to 46 months ($M = 32.3$, $SD = 6.25$; $Mdn = 34$). There were outliers in this distribution because some families contacted us immediately upon hearing about the follow-up research, whereas others were very difficult to locate. The children ranged in age from 5 years 4 months to 8 years 3 months (mean age = 6 years 9 months, $SD = 9.14$ months) and included 31 children who had imaginary companions at Time 1. The returning group of children was higher in verbal ability (as assessed at Time 1 using the Peabody Picture Vocabulary Task—Revised [PPVT-R]) than the group of children who did not return: returning, $M = 108.44$, $SD = 12.41$; nonreturning, $M = 103.77$, $SD = 12.35$; $t(149) = 2.20$, $p < .05$. However, the returning group of children did not differ from the nonreturning children on any of the other measures taken at Time 1 (imaginary companions, impersonation, theory of mind).

Procedure

In the previous study conducted 3 years earlier, Taylor and Carlson (1997) collected information from the children to assess their verbal ability (PPVT-R), theory of mind (a series of 13 standard tasks assessing false belief, representational change, appearance–reality, and perspective taking), and fantasy behavior (in particular, play with imaginary companions). The parents also provided information about the children’s fantasy behavior. In the present study, children were asked to provide information about imaginary companions (current and past). Then they were given the PSPCSA (Harter & Pike, 1984), a series of six emotion prediction and explanation tasks (Gnepp & Chilamkurti, 1988), and the CFI (Rosenfeld et al., 1982). It was not possible to include a language assessment at Time 2 because of the length of the session; however, scores on the PPVT-R have been found to be relatively stable over time (Bracken & Murray, 1984; Scruggs, Mastropieri, & Argulewicz, 1983). In a separate room, the parents were asked about their children’s imaginary companions and were given the CCQS (Caspi et al., 1992). The sessions were videotaped and lasted approximately 1 hr. Each of the measures is described in turn below.

Child Tasks

Imaginary companion questionnaire. In the previous research when the children were preschoolers, the children and parents were interviewed twice, and their reports were compared. Information from all four interviews (two with the child and two with the parent) was used to assess the child’s imaginary companion status. We believe this labor-intensive procedure is optimal with preschoolers because they sometimes make up an imaginary companion on the spot when asked if they have one, they sometimes have their own language for referring to imaginary companions (e.g., “ghost sister”) and do not understand our term *pretend friend*, and they sometimes describe a real friend when asked about a pretend one. Also, sometimes parents describe a pretend friend when the child says he or she does not have one. In these cases, it is helpful to later ask the child directly about the pretend friend using the name given by the parent (e.g., “Who is Baintor?”). By interviewing the children and their parents on two separate occasions, Taylor and Carlson (1997) were able to cross-check

their answers at Visit 1 with those at Visit 2 (scheduled about 1 week later) and to disambiguate inconsistencies by asking follow-up questions. Note that although parent report can help sort out misunderstandings, parent report by itself is often not an adequate source of information about children's imaginary companions because parents often do not know much about their children's imaginary companions, especially those of older children (Newson & Newson, 1976). For example, a mother in past research told Taylor (1999) that her son *played* with an invisible child named Nobby, but the son reported that he *talked* with (did not play with) an invisible 160-year-old businessman named Nobby.

In the present school-age assessment, we reasoned that the children themselves would be better able to understand the interview questions and would more reliably report whether they currently had an imaginary companion than when they were 3 or 4 years old. Thus it did not seem necessary to interview the parents and children on two separate occasions. However, we retained Taylor and Carlson's (1997) method of interviewing both parents and children. At the end of the procedure, the responses for parents and children were compared and, if necessary, the parent was asked additional questions for clarification while the child played with toys. For example, if the child described a stuffed animal as a pretend friend, the parent was asked more specifically about the child's interactions with the stuffed animal.

As in the previous research, we asked about imaginary companions in the following way:

First I am going to ask you some questions about friends. Some friends are real like the kids who live on your street, the ones you play with. And some friends are pretend friends. Pretend friends are ones that are make-believe, that you pretend are real. Do you have a pretend friend?

When children said no, they were asked if they had ever had a pretend friend. If they again said no but had reported having a pretend friend 3 years earlier, we asked if they remembered the past pretend friend (e.g., "Do you remember Baintor?"). If the child reported that he or she currently had or previously had a pretend friend, we asked a series of questions about the characteristics of the friend (e.g., age, gender) and their interaction with it (e.g., "What did you like most about Baintor?"). For past pretend friends, children also were asked when and why they stopped playing with the friend. Then we asked children about impersonation (if they ever pretended to be a person or an animal). (See the Appendix for the complete list of questions.)

Pictorial Scale of Perceived Competence and Social Acceptance. The PSPCSA is a standardized procedure for assessing children's sense of competence in four domains: cognitive competence, physical competence, peer acceptance, and maternal acceptance (Harter & Pike, 1984). Children were shown pictures of two children who were described in contrasting ways (e.g., "This girl is good at spelling; this girl is not good at spelling."). Then children were asked which child was most like them. After they made their choice, they were asked if that child was "a little" or "a lot" like themselves. This procedure provides a 4-point scale indexing children's self-judgments for 24 characteristics, six in each of the four content domains.

Emotion prediction and explanation task. This task was developed by Gnepp and Chilamkurti (1988) to assess the extent to which children predict and explain another person's emotional reactions in terms of personality traits. Fortunately, we were able to obtain the original drawings used in this task and thus were able to exactly replicate Gnepp and Chilamkurti's procedure. The protagonists were depicted in a gender-neutral way, and each was given a name that matched the participant's own gender (e.g., Jerry for a male participant, Jenny for a female participant). In each of these tasks, three drawings were designed to provide evidence that the protagonist had a particular personality trait (i.e., selfish, helpful, mean, clown, honest, and shy). For the fourth picture in each task, the character was depicted in a potentially emotion-evoking situation, and the

child was asked if the character felt happy or sad and why he or she felt that way. In each case, the situation depicted in the fourth picture would be expected to elicit one type of response from most people but the opposite type of response from someone who had the protagonist's personality trait. For example, for the clown task, the participant was shown pictures in which the character was (a) wearing a pair of toy antennae in front of three other children ("This is a story about a boy named Jerry. Jerry always makes his friends laugh."), (b) making funny faces for his classmates ("During recess, he makes silly noises and weird faces."), and (c) imitating the teacher in front of the other children when her back was turned ("When his teacher is not looking, Jerry copies her and everybody laughs."). In the fourth picture, (d) all the other children were laughing and pointing at Jerry's feet ("One day, Jerry walked into class and took off his boots. When the class saw that he was wearing one black shoe and one white shoe, they all started laughing.") The test questions were "Do you think Jerry felt happy or sad when they laughed?" and "Why did he feel that way?" Most children might feel sad in this situation because they were being laughed at, but Jerry had been described as a class clown who liked to make people laugh, so he would be expected to feel happy. Descriptions of the pictures for each of the six personality characteristics are provided in Table 1.

Children's Fantasy Inventory. The CFI is a 45-item questionnaire developed by Rosenfeld et al. (1982) to assess the daydreaming and imaginative play of elementary school children (first to third grade). There are nine scales on this measure: Frequency (e.g., "Counting all the different kinds of pretend games—when you are alone how much do you play pretend games?"), Aggressive (e.g., "Do you sometimes have daydreams about hitting or hurting somebody that you don't like?"), Fanciful (e.g., "Do you like to play pretend games about how things were when you were much younger, before you started going to school?"), Absorption (e.g., "Do you keep right on playing or reading, even when it is noisy in the room?"), Scary (e.g., "Are your daydreams sometimes so scary that you try really hard not to think about them anymore?"), Vividness (e.g., "When you play pretend games, do you feel like you can really see the pretend people and places in the room with you?"), Intellectual (e.g., "Have you ever wondered about things like how a bird can fly or how a fish can live in water?"), Active-Heroic (e.g., "When you are daydreaming do you think about being the winner in a game that you like to play?"), and Dysphoric (e.g., "Do you sometimes dream about someone in your family getting hurt?"). For all scales except Frequency, children responded to each question by saying "no", "a little," or "a lot" (scores = 0, 1, and 2, respectively). For the Frequency items, children responded by saying "never," "many times a day/night," or "every day/night."

Parent Tasks

Imaginary companion questionnaire. Parents were asked a series of questions about their children's imaginary companions. Imaginary companions were described in the following way:

An imaginary companion is a very vivid imaginary character (person, animal) with which a child interacts during his or her play and daily activities. Sometimes the companion is entirely invisible; sometimes the companion takes the form of a stuffed animal or doll. An example of an imaginary companion based on a stuffed animal is Hobbes in the popular comic strip "Calvin and Hobbes."

Parents were asked if their child currently had or ever had an imaginary companion. If the parent said yes to either (or both) questions, we asked a series of questions about the characteristics of the imaginary companion and the child's interactions with it. Parents were also asked about their child's impersonation (e.g., "Has your child ever pretended to be an animal? If yes, please describe the animal that your child pretended to be. How often did your child pretend to be this animal? At what age and for what period of time?").

California Child Q-Set. The "common-language" version of the CCQS is an instrument developed for the assessment of children's personalities on

Table 1
Story Themes in the Emotion Understanding Task (Gnepp & Chilamkurti, 1988)

Trait	Manifested in three situations			Final event
Helpful	Helps an old person walk down stairs	Shows new kids around the school	Sets table for mother	Mother asks child to help sister clean her room
Clown	Makes friends happy	At recess, makes silly noises and weird faces	Copies teacher behind her back	Class laughed at seeing child wearing one black shoe and one white shoe
Honest	Tells truth	Returns extra change to ice cream man	Doesn't cheat at games	Finds wallet with money. Mother suggests seeking owner
Cruel	Calls friends names	Pulls dog's tail and hides dog's ball	Breaks sister's doll	Sees classmate fall off bike
Shy	At parties, sits in corner and watches others	When spoken to, looks down and answers quietly	Doesn't raise hand in class	Friends ask child to be leader in game of follow-the-leader
Selfish	Doesn't share popcorn at movies	Doesn't share toys with friends	Gets stickers from friends, but doesn't give	Mother makes cookies and suggests child share them

the basis of reports of nonprofessional observers such as parents. The CCQS consists of 100 statements describing a wide range of personality, cognitive, and social attributes (e.g., "He gets along well with others"; "He is bossy and likes to dominate other people."). The parent's task is to sort the items into nine categories ranging from "extremely uncharacteristic" (Category 1) of their child to "extremely characteristic" of their child (Category 9), with items that are neither characteristic nor uncharacteristic going into the middle category (Category 5). The parent began the task by reading the 100 items and dividing them into two piles, one for items that were descriptive of their child and the other for items that were not descriptive of their child. Then parents read the items from the descriptive pile to select the 11 items that were most characteristic of their child and put them in Category 9. The next 11 went into Category 8, and so on. (Category 5—neither characteristic nor uncharacteristic—was the only category to have 10 items.) This procedure was then repeated for the other pile, with the parent beginning by selecting the 11 items that were most uncharacteristic of their child.

Results

We first report the results for each of the school-age (Time 2) assessments (fantasy, emotion understanding, self-perception, and personality) and, for fantasy and emotion understanding, how these results relate to the corresponding assessments conducted 3 years earlier (Time 1). Then we discuss the relations between fantasy, emotion understanding, self-perception, and personality. Note that there were no corresponding assessments for self-perception and personality in the Time 1 preschool assessment. Also there was no corresponding test of verbal ability at Time 2.

Assessment of Fantasy

School-Age Assessment

The school-age fantasy assessment consisted of (a) imaginary companion scores, (b) impersonation scores, and (c) composite and subscale scores from the CFI.

Imaginary companion scores. The imaginary companion score was based primarily on the reports of the children themselves. The parent reports were used as supporting information that helped to disambiguate information collected from the children. In

particular, parent report was helpful in determining whether a toy mentioned by the child should be categorized as an imaginary companion. Two coders assigned a score of 0 if (a) the child said that he or she did not have an imaginary companion, (b) the child said that he or she had an imaginary companion but did not provide any information about it (e.g., no name, no description), or (c) the child said that he or she had an imaginary companion that was based on a toy, but the description did not go beyond describing the physical characteristics of the toy and the parent report did not indicate that the child treated the toy as an imaginary companion. The coders assigned a score of 1 if the child said that he or she had an imaginary companion and provided a description of it. In the case of stuffed animals or dolls, the description (in either the child's or the parent's report) had to go beyond the physical appearance to include psychological details (e.g., "She is nice to me"). The agreement for the two coders was 91%; the disagreements were resolved by discussion.

Forty-nine of 100 children (24 boys and 25 girls) received a score of 1, indicating that they were categorized as providing descriptions of imaginary companions (31 descriptions of current imaginary companions and 18 descriptions of past imaginary companions). Fifty-one (26 boys and 25 girls) received a score of 0, indicating that they did not provide descriptions of imaginary companions. The imaginary companion scores were not related to age, sex, or Time 1 verbal ability. Even at age 6–7 years, a substantial number of children were currently playing with imaginary companions. The percentage (31%) is similar to what Taylor and Carlson (1997) found at Time 1 when the children were 3–4 years old (28% of the 152 preschool children were categorized as playing with imaginary companions). Thus, having an imaginary companion is at least as common among 6- and 7-year-olds as it is among 3- and 4-year-olds. It is interesting that the sex difference at Time 1 (more girls than boys had imaginary companions) was not found at Time 2. Boys and girls were equally likely at Time 2 to describe an imaginary companion. If we look only at the children who were currently playing with imaginary companions at Time 2 ($n = 31$), this group included 15 boys and 16 girls.

As in past research (Taylor & Carlson, 1997), child and parent reports were sometimes conflicting. Altogether, 64 parent–child pairs gave consistent reports: 43 parent–child pairs agreed that the child did not have an imaginary companion, and 21 pairs agreed the child did have an imaginary companion. Thirty-four parent–child pairs gave inconsistent reports: 27 children claimed to have an imaginary companion but their parents said they did not, and 7 children said they did not have an imaginary companion but their parents said they did. (Note that parent–child consistency is reported for 98 participants because 2 parents did not complete the imaginary companion questionnaire.)

Descriptions of the 49 primary imaginary companions (the one described first and most fully by each participant) were coded for gender, age, whether they were based on a toy or completely invisible, whether they were human or animal, and whether they were everyday or exotic entities. Of the 49 imaginary companions, 33 (67%) were invisible (see Table 2 for examples), 13 (27%) were toys (stuffed animals or dolls), 2 (4%) were both toys and invisible (e.g., one child played with an imaginary companion named Sergeant Savage that was based on a GI Joe doll but could also be invisible if the child did not happen to have the doll at hand), and 1 was based on the child's reflection in a mirror. Past research has also found that a few children have both invisible and toy versions of their imaginary companions (Taylor, 1999; also see Gleason et al., 2000).

Twenty-eight (57%) of the imaginary companions were humans, and 20 (41%) were animals. One additional imaginary companion

was a human who could transform herself into any animal the child wanted. We also coded whether the imaginary companion was an everyday person or animal (e.g., a little boy with blond hair and blue eyes) or had exotic characteristics (e.g., magical abilities such as being able to fly, unusual physical descriptions such as having blue skin, or other exotic features such as having a pet crocodile). (The exotic feature could be provided by either the child or the parent.) Thirty-two (65%) of the imaginary companions were coded as everyday types of animals or people, whereas 16 (33%) were coded as exotic. (One of the descriptions was not detailed enough to make this determination.) In Table 2, Rose, Zippy, Fake Rachel, Michael, and Shannon are examples of everyday imaginary companions. Simpy, Skateboard Guy, The Good Indian, Alicia, Robert, and Elephant were coded as exotic.

The gender of 5 imaginary companions (10%) was unknown, 2 (4%) were specified as having no gender, 24 (49%) were male, and 18 (37%) were female. Of the 42 imaginary companions with a specified gender, 37 were the same gender as the child who described them (19 male–male pairs and 18 female–female pairs). Five girls had male imaginary companions, but none of the boys had a female imaginary companion. The imaginary companions ranged in age from 2 months to 100 years, with the majority being within 3 years of the child's age. Ten imaginary companions (20%) were described as being the same age as the child, 16 (33%) were older, 15 (31%) were younger, and 8 (16%) had ages that were not known.

Table 2
Sample Descriptions of Children's Imaginary Companions at Time 2

Companion name	Description
<i>Rose</i>	Invisible female squirrel, 9 years old, brown fur and hazel eyes, lives in a tree in the yard, sleeps in her imaginary house
<i>Zippy</i>	Invisible 11-year-old boy, has white skin and blond hair and blue eyes, is about a foot taller than the child, sleeps on the floor
<i>Simpy</i>	Invisible 8-year-old girl, 3 feet tall, blue skin and black eyes, wears funny clothes
<i>Fake Rachel</i>	Invisible 8-year-old girl, short brown hair with freckles all over her face, lives under the child's bed
<i>Michael</i>	Invisible 9-year-old boy, taller than child, short brown hair, brown eyes, wears red shirt and jeans, lives in back left side of child's head, sleeps in bed in child's head
<i>Skateboard Guy</i>	Invisible 11-year-old boy who lives in child's pocket, wears cool shirts and has a fancy skateboard, can do lots of tricks on his skateboard, likes to see how fast the child can run
<i>The Good Indian</i> (also known as Don Vont)	Invisible 5-year-old boy, black hair, brown pants, appeared when child spent a lot of time in woods, at beach, and reading
<i>Sergeant Savage</i>	GI Joe doll who is sometimes an invisible person, 100 years old, Bandaid on forehead, wears boxer gloves, hair is white-brown, wears pilot jacket, child likes his shotgun, dislikes his face, lives at bases, sleeps in sleeping bag
<i>Robert</i>	An invisible male panther, black fur with blue eyes, lives in the jungle, child met Robert in his dreams
<i>Shannon</i>	Invisible 6-year-old girl, long dark brown hair and blue eyes, wears clothes that have birds playing on the material, can be friendly or mean
<i>Alicia</i>	Invisible 8-year-old female dog, 2 in. tall, green fur and blue eyes, child likes Alicia's good sense of humor but doesn't like that no one else can see her, lives under child's bed
<i>Elephant</i>	Invisible 5-year-old female elephant, 7 in. tall, gray color, black eyes, wears tank top and shorts, child likes that she plays with child, dislikes that sometimes she is mean

Impersonation scores. At Time 1, we found that almost all the children reported that they sometimes pretended to be an animal or a person. Although we expected impersonation to be less common in these older children, 95 of the 100 children stated that they played impersonation games, and their parents tended to corroborate the information provided by the children. However, 5 children (3 boys and 2 girls) said they did not impersonate (but their parents said that they did), and 8 parents said their children (2 boys and 6 girls) did not impersonate (but the children said that they did). In order to capture as much as possible the small amount of variability in responses to questions about impersonation, we assigned a score of 1 when both parent and child said yes to playing impersonation games ($n = 82$) and 0 when only one source said yes ($n = 13$). (There were no cases in which both the child and the parent said no regarding impersonation.) Five parents did not answer the impersonation questions, and thus the sample size for this analysis was 95. Impersonation scores were unrelated to children's imaginary companion status, $\chi^2(1, N = 95) = 0.12, ns$.

CFI scores. Average ratings on the CFI scales are shown in Table 3. Children's scores on the nine CFI scales were internally consistent (Cronbach's $\alpha = .88$, average item-total correlation = .65). Therefore, we computed a composite CFI score for each child for use in further analyses. The composite CFI scores were positively correlated with age, $r(100) = .22, p < .05$, but were unrelated to sex or Time 1 verbal ability. There were no sex differences on the individual CFI subscales with one exception: Boys scored significantly higher on the Active-Heroic scale ($M = .90, SD = .43$) than did girls ($M = .68, SD = .47$), $t(98) = 2.45, p < .05$.

There was no significant difference in composite CFI scores between children who had an imaginary companion and those who did not, $t(98) = -1.62, ns$. Children with an imaginary companion had significantly higher scores on the Fanciful subscale than did children without an imaginary companion, $t(98) = -2.76, p < .01$; however, this difference is partly due to method overlap because one of the items on the Fanciful subscale inquires about pretend friends. Children's CFI composite scores did not differ according to whether children engaged in impersonation, $t(93) = -0.88, ns$. Impersonation also was not related to any of the CFI subscale scores. For reasons we do not fully understand, the CFI not only failed to correlate with measures of fantasy, it also did not correlate with any of the other major measures in this study (e.g., emotion understanding, self-perception, and personality). Perhaps the response format (i.e., answering "no," "a little," or "a lot" to a

series of 45 questions) was too repetitive for the children in this sample, who were on the young end of the population appropriate for this measure. Given the lack of correlations, the results with the CFI are not discussed further.

Longitudinal Assessment of Fantasy

Of the children in this study, 31 had described imaginary companions at Time 1, and 69 had not described imaginary companions at Time 1. Table 4 shows the imaginary companion status for these children ($N = 100$) at Time 1 and Time 2. Although many of the children who played with imaginary companions in preschool continued this fantasy activity into elementary school, the specific imaginary companions described at the time of the preschool assessment were not necessarily the same ones described 3 years later. Of the 31 children who had an imaginary companion at Time 1, only 3 were still playing with the same imaginary companion at Time 2 (2 of these long-lived imaginary companions were invisible, and 1 was a stuffed bear). In fact, only 12 of those 31 children (39%) even remembered the imaginary companions they had described 3 years earlier. This result is consistent with the finding of a smaller-scale longitudinal study in which many children did not recall imaginary companions they had described 7 months earlier (Taylor, Cartwright, & Carlson, 1993). The children's imaginary companion status at Time 1 did not predict their imaginary companion status at Time 2. Thus, there was less stability in this type of role play than predicted. Overall, the results indicated that children create imaginary companions throughout the preschool years and beyond.

To calculate the overall prevalence of imaginary companions in this population ($N = 100$), we combined the 49 children who described an imaginary companion (either past or present) at Time 2 with the 16 children who had described an imaginary companion at Time 1 but not at Time 2. Thus, according to the criteria used in this research, the percentage of children up to the age of 7 who had imaginary companions at some point during their lives was 65%.

The imaginary companions described as current by the children in this study included 20 invisible companions (67%) and 10 companions based on toys (33%); 1 imaginary companion was sometimes invisible and sometimes based on a toy. At Time 1, when the children were preschoolers, the 42 imaginary companions included 20 that were invisible (48%) and 22 that were based on toys (52%). Thus, the imaginary companions played with by older children were more likely to be invisible than were their preschool counterparts. At both ages, the imaginary companions were remarkably varied in their characteristics, including ordinary girls and boys along with a variety of interesting and unusual individuals. At Time 2, we collected our first examples of an invisible snowman, an invisible elephant, an invisible squirrel, and an imaginary companion with a pierced ear.

One of the goals of this study was to investigate the reasons why children stop playing with their imaginary companions. Of the 31 children in this study who had described an imaginary companion at Time 1, 28 had stopped playing with it at Time 2. In addition, 13 children who did not have an imaginary companion at Time 1 described imaginary companions that had been created after Time 1 but abandoned before Time 2 (1 of these children also had a current imaginary companion). Thus, altogether, 41 children and their parents were asked about the fate of past imaginary compan-

Table 3
Descriptive Statistics for the Children's Fantasy Inventory
($N = 100$)

Variable	<i>M</i>	<i>SD</i>	Range
Aggressive	0.58	0.44	0–2
Dysphoric	0.63	0.45	0–2
Scary	0.74	0.51	0–2
Heroic	0.79	0.46	0–2
Absorption	0.82	0.39	0–2
Intellectual	0.83	0.46	0–2
Vivid	0.83	0.51	0–2
Fanciful	0.84	0.45	0–2
Frequency	2.01	0.74	1–3

Table 4
Imaginary Companion (IC) Status at Time 1 and Time 2

Time 1 IC status	Time 2 IC status			Row total
	No IC	Describes past IC	Has current IC	
No IC	35 (51%)	12 (17%)	22 (32%)	69
Has IC	16 (52%)	6 (19%) ^a	9 (29%) ^b	31
Column total	51	18	31	100

^a Of these 6 children, 4 described the same imaginary companion that they described at Time 1. ^b Of these 9 children, 3 described the same imaginary companion that they described at Time 1; they were still playing with the same imaginary companions.

ions. Of the 41 parents, 1 parent said that the imaginary companion was given up when the family moved to a new house, and 1 parent reported that the child gave up the imaginary companion when he was feeling more settled in a new home and had more real friends. The other 39 parents were not able to provide any information about the disappearance of the imaginary companions. Eight of the 41 children provided explanations: 3 children said that the imaginary companion went away (e.g., “She ran away and didn’t come back”), 1 child said that he outgrew the imaginary companion, 1 child said the imaginary companion outgrew her (i.e., “He retired”), 1 child said he found more real friends, 1 child said he did not get into trouble anymore and so did not talk to the imaginary companion any more, 1 child said she stopped playing with an imaginary puppy when she got a real dog, and 1 child said that it got boring. The other 33 children either did not remember the imaginary companion or did not remember why they stopped playing with it.

We had predicted some degree of stability in children’s fantasy behaviors over the 3-year period, but this prediction was not supported. Having an imaginary companion at Time 1 was not related to having one at Time 2. There were also no significant predictions from the other measures of fantasy at Time 1 (impersonation, pretend actions) to any of our Time 2 fantasy measures. However, it was interesting that the incidence of imaginary companions and impersonation in the sample as a whole continued to be substantial—and much higher than predicted—into the school-age years.

Assessment of Emotion Understanding and Theory of Mind

School-Age Assessment of Emotion Understanding

The assessment of emotion understanding was based on children’s performance on Gnepp and Chilamkurti’s (1988) task in which children learned about the behaviors of six different characters and were required to predict and explain the emotional reaction of each character in a new situation. Following Gnepp and Chilamkurti, we computed the mean proportion of trait-consistent predictions and trait-relevant explanations for each participant. Mean scores on the emotion prediction and justification items for each trait are shown in Table 5. The prediction and justification scores (across items) were significantly correlated, $r(98) = .85, p < .001$. Therefore, we averaged these scores, creating an emotion understanding composite score for each child. Emotion un-

derstanding was not related to age at Time 2 or to sex, but there was a trend suggesting a relation with verbal ability, $r(97) = .18, p < .10$.

Longitudinal Assessment of Social Understanding

As discussed earlier, we consider the theory of mind assessment conducted at Time 1 to be conceptually related to the Time 2 assessment of emotion understanding because both require an understanding of behavior that takes personal characteristics (e.g., an individual’s beliefs, desires, or preferences) into account. Overall, there was a trend in the data suggesting a relation between composite theory of mind scores at Time 1 and children’s emotion understanding composite scores at Time 2, $r(98) = .19, p < .10$. However, the relation between theory of mind and emotion understanding was more clearly revealed when we examined the relation separately for the two age subsets of children at Time 1 (children who were 3 years old and children who were 4 years old). Separate analyses were helpful because there was a floor effect among the 3-year-olds on the theory of mind measures at Time 1. Given this measurement problem, it is not surprising that in this subset of children, there was not a significant relation between theory of mind and emotion understanding, $r(33) = -.20$. However, a separate analysis of the subset of children who were age 4 at Time 1 revealed a significant relation between early theory of mind and later emotion understanding, $r(65) = .31, p = .01$. This relation remained significant after we controlled for Time 1 verbal ability, $r(61) = .27, p < .05$. Representational change scores were most strongly related to later emotion understanding, $r(65) = .37, p <$

Table 5
Means and Standard Deviations of Scores on the Emotion Understanding Task (N = 98)

Type of trait	Prediction score (range = 0–1)		Justification score (range = 0–1)	
	M	SD	M	SD
Clown	.65	.48	.63	.48
Helpful	.88	.33	.79	.41
Honest	.80	.41	.64	.48
Mean	.54	.50	.53	.50
Selfish	.66	.48	.77	.43
Shy	.35	.48	.29	.45

.01, and remained so after we controlled for Time 1 verbal ability, $r(61) = .42, p < .01$. (Bivariate correlations with appearance–reality, false belief, and perspective taking were .16, .08, and .21, respectively.)

Assessment of Self-Perception (Time 2)

The mean scores for children’s self-report of their perceived competence for the four domains were as follows: cognitive ability, 3.31 ($SD = 0.56$); physical ability, 3.36 ($SD = 0.47$); peer relations, 2.90 ($SD = 0.63$); and relationship with the mother, 2.58 ($SD = 0.56$). The four measures were intercorrelated (Cronbach’s $\alpha = .63$, average item–total correlation = .41). We therefore computed aggregate self-perception scores for the analyses in addition to the scores for the four separate domains. Higher scores on the composite measure represented greater perceived self-competence overall. There were no sex differences on these self-perception measures, and they were not related to age or Time 1 verbal ability.

Assessment of Personality (Time 2)

The personality assessment was based on parent responses on the CCQS. According to the final sort, the child receives a score from 1 to 9 for each of the 100 items. For instance, if a parent put the item “He gets along well with others” in Category 8, the child received a score of 8 for that item. In this way, the sorted items are essentially converted into scores that resemble 9-point Likert-scale ratings, except that there is a uniform, intra-individual distribution of ratings across items. The result is a set of 100 ratings (one for each item) for each child. The CCQS can be used in several different ways to measure dimensions of personality and/or temperament. In this study, we used these data to compute scores that indexed the “Little Five” factors of personality and the temperament constructs of ego resilience and ego control.

The “Little Five” Personality Factors

John et al. (1994) used the rational scale construction method to develop five subscales from the CCQS corresponding to the di-

mensions described in the five factor model of adult personality. Three independent judges rated each item on the CCQS according to how closely it described each of the five factors of adult personality. These ratings yielded 78 items that fit within the appropriate categories (Agreeableness, Conscientiousness, Extraversion, Neuroticism, and Openness). Based on data from 350 Q-sorts performed by mothers about their young adolescent sons, these groups of items were further refined on the basis of reliability indices (Cronbach’s alpha). The remaining five subscales (called the Little Five) include a total of 48 items. Table 6 gives adjective descriptions of the Big Five factors of personality (based on the adult literature) and examples of items included in the Little Five subscales.

Scores for all of the items corresponding to each of the five dimensions were averaged for each participant to create subscale scores on the CCQS according to the Little Five index (John et al., 1994). Internal consistency (Cronbach’s alpha) in this data set was high: for Extraversion, $\alpha = .75$; Agreeableness, $\alpha = .76$; Conscientiousness, $\alpha = .71$; Neuroticism, $\alpha = .67$; and Openness, $\alpha = .60$. Parents’ ratings of their children’s personality according to the Little Five index are shown Table 6. The distributions may be skewed because of social desirability (higher scores on Agreeableness and lower scores on Neuroticism). Time 1 verbal ability was significantly correlated with Neuroticism and with (lower) Agreeableness, $rs(98) = .20$ and $-.21$, respectively, $ps < .05$. There were no relations between personality and age or sex.

Ego Resilience and Ego Control

Following Block and Block (1980), we devised ego resilience and ego control scores by correlating each child’s Q-sort with the scores of a hypothetical prototype child who typifies high ego resilience or ego undercontrol (i.e., poor ego control). Scores for these measures could range from -1.0 to 1.0 , with higher numbers representing closer resemblance to the prototypes of these two constructs. The means for ego resilience and ego undercontrol were $.51$ ($SD = .19$; range = $-.18$ to $.78$) and $.06$ ($SD = .18$, range = $-.33$ to $.63$), respectively. Ego resilience and ego undercontrol were negatively correlated with each other, $r(100) = -.27$,

Table 6
Descriptions of the Five Factors of Personality, Sample Items from the “Little Five” Subscales, and Mean Scores

Big Five factor	Big Five factor adjective description	Little Five subscale item examples	Score		
			<i>M</i>	<i>SD</i>	Range
Extraversion	Active, assertive, energetic Enthusiastic, outgoing, talkative	“He is energetic and full of life.” “He is a talkative child . . .”	6.13	1.25	2.33–8.22
Agreeableness	Affectionate, forgiving, generous, kind, trusting	“He is a warm person . . .” “He is stubborn.” (R)	6.49	1.05	3.00–8.38
Conscientiousness	Efficient, organized, planful Reliable, responsible, thorough	“He is neat and orderly . . .” “He can be trusted; he’s reliable . . .”	5.94	1.10	2.78–8.11
Neuroticism	Anxious, self-pitying, tense Touchy, unstable, worrying	“He is nervous and fearful.” “His feelings get hurt easily . . .”	3.52	0.89	2.10–6.20
Openness	Artistic, curious, imaginative Insightful, original	“He is curious and exploring . . .” “He likes to dream up fantasies . . .”	6.35	1.08	4.00–8.57

Note. (R) indicates a reversed item.

$p < .01$. There were no significant relations with age, sex, or verbal ability.

Relations Between the Four Types of Assessments

Relation Between Fantasy and Emotion Understanding/Theory of Mind

At age 4, there was a significant relation between role-play measures and theory of mind, and thus we predicted that role-play measures at Time 2 would be related to emotion understanding. This prediction was supported only for impersonation. Specifically, the group of children who received scores of 0 on impersonation because they or their parents reported no impersonation ($n = 13$) scored significantly lower on the emotion understanding composite ($M = .42, SD = .25$) than did the children who received impersonation scores of 1 ($M = .65, SD = .22$), $t(91) = -3.33, p < .01$. (Note that this test is based on the 93 out of 100 children for whom there were both impersonation and emotion understanding scores.) This result cannot be explained by verbal ability because the two groups did not differ significantly on Time 1 PPVT-R scores: no impersonation, $M = 107.85, SD = 12.05$; impersonation, $M = 108.53, SD = 12.53$.

Next we examined longitudinal predictions between fantasy, theory of mind, and emotion understanding. Neither imaginary companion status nor impersonation at Time 1 significantly predicted emotion understanding scores at Time 2 (either in the total sample or in the age-group subsets). However, there was a trend for children who did not impersonate at Time 2 to have had lower theory of mind scores at Time 1: no impersonation, $M = 5.71, SD = 3.55$; impersonation, $M = 8.33, SD = 3.44$; $t(63) = -1.90, p = .06$. This difference was significant for representational change: no impersonation, $M = 0.57, SD = 1.13$; impersonation, $M = 1.93, SD = 1.23$; $t(63) = 2.79, p < .01$. Theory of mind performance at Time 1 was not related to Time 2 imaginary companion status.

Relation Between Fantasy and Self-Perception

Given Singer and Singer's (1981) finding that high-fantasy children were particularly likely to get along well with others, we predicted that children who engaged in role play might score higher than other children in their perceived social competence. However, the self-perception scales were not related to the role-play measures. In addition, the role-play measures at Time 1 were unrelated to children's self-perceptions at Time 2. This result replicates and extends Harter and Chao's (1992) finding that preschool children with and without imaginary companions do not differ in their perceived competence.

Relation Between Fantasy and Personality

The findings of past research have yielded mixed results concerning how fantasy behavior is related to personality characteristics. For example, some research has suggested that children with imaginary companions are less shy than other children (Mauro, 1991), whereas other research has reported no difference in shyness (Manosevitz et al., 1973). In her review of the literature on imaginary companions, Taylor (1999) concluded that there tend to be few differences in personality variables between children with

and without imaginary companions. However, no previous research has included a complete assessment both of role-play behavior and the five factor model of personality.

Here we examined (a) the concurrent relations between personality dimensions assessed by the CCQS (Extraversion, Agreeableness, Conscientiousness, Neuroticism, Openness, ego resilience, and ego undercontrol) and fantasy behavior and (b) the longitudinal relations between early engagement in fantasy and later scores on the CCQS. There were no significant relations between the CCQS and the concurrent measures of fantasy behavior (CFI, imaginary companion, and impersonation scores).

Next we examined whether earlier engagement in fantasy was related to the CCQS personality dimensions. In the 4-year-old subset (Time 1), having a high impersonation score predicted Openness scores on the personality measure: $r(64) = .35, p < .01$; with Time 1 verbal ability controlled, $r(60) = .33, p = .01$. In the 3-year-old subset (Time 1), high impersonation predicted parent ratings of children's self-control (i.e., lower ego undercontrol): $r(35) = -.39, p < .05$; with Time 1 verbal ability controlled, $r(32) = -.40, p < .05$. Although these results do not provide much support for the view that role play is associated with positive personality characteristics, there is no evidence that role play is associated with negative characteristics. Overall, high-fantasy children are more like other children than they are different from them.

Relation Between Emotion Understanding/Theory of Mind and Ego-Control/Ego-Resilience

In several studies with preschool children, theory of mind has been closely related to children's inhibitory control (e.g., Carlson & Moses, 2001). Inhibitory control is conceptually related to the ego-control/ego-resilience constructs that are part of the CCQS assessment. Thus, we predicted (a) a concurrent relation between emotion understanding (our theory-of-mind-related measure for Time 2) and ego-control/ego-resilience and (b) a longitudinal relation between theory of mind (Time 1) and ego-control/ego-resilience. There was little support for these predictions, apart from a trend for theory of mind performance in preschool to predict ego control (i.e., lower ego undercontrol scores), $r(99) = -.17, p < .10$; with verbal ability controlled, $r(95) = -.18, p < .10$.

Discussion

This research contributes new information about the developmental course of imaginary companions and impersonation, middle-childhood links between role play and social understanding, and the personality correlates of fantasy behavior.

Imaginary Companions

First and foremost, our study provides new insight into the phenomenon of imaginary companions and challenges some widely held assumptions. On the basis of past research with preschool children, we estimated that about 28% of children create imaginary companions, that girls create them more often than boys, and that about half are invisible and the rest are based on toys. It is also often claimed that the peak age for play with imaginary companions is about 4 years and that most imaginary companions are given up by age 6 when children start school. The

results of this study challenge these generalizations about imaginary companions on all counts.

In our sample of 6- and 7-year-old children, 65% were categorized as having or having had an imaginary companion. Thirty-one percent of these children were currently playing with imaginary companions. Clearly this is a very common type of pretend play that is not abandoned as early as previously supposed. The exact estimate for the incidence of imaginary companions depends on the methods and criteria used to identify them. Some of the choices we made in this study could be controversial. For example, we excluded cases in which the parents reported that their children had imaginary companions if the children denied this report. We included cases in which the imaginary companions were based on stuffed animals or toys, as well as imaginary companions that were invisible. Although we and others (e.g., Gleason et al., 2000) have argued that stuffed animals sometimes function as legitimate imaginary companions, the decision about whether a toy counts as an imaginary companion is not always straightforward, and some researchers have been reluctant to include stuffed animals. If we limit our definition of imaginary companions to just the invisible ones, the estimate for prevalence up to the age of 7 years is 37%.

Most studies of children's imaginary companions have found that girls are more likely to have imaginary companions than are boys (Carlson & Taylor, in press; Hurlock & Burnstein, 1932; Mauro, 1991; but see D. G. Singer & Singer, 1990). According to Carlson and Taylor (in press), this sex difference might be due to the types rather than the amount of role play that boys and girls prefer. Carlson and Taylor found that boys were as likely to invent imaginary characters as girls were; however, many of the imaginary characters created by preschool boys were impersonated rather than treated as imaginary companions. Ames and Learned (1946) also found that many boys engaged in impersonation, and these authors suggested that boys prefer this type of play to imaginary companions. In any case, the results of this study indicate that the sex difference in the incidence of imaginary companions for preschool children is no longer evident by age 7. Although preschool boys often impersonate the characters they create rather than treat them as another person, by 7 years of age, boys are as likely as girls to report a history of having had an imaginary companion.

What accounts for this developmental change in the kind of role play boys enjoy? We suspect part of this change is related to the functions served by imaginary companions at different ages. Preschool boys' preference for impersonating created characters makes sense when one considers an interesting sex difference found in the types of roles boys and girls adopt in their play. Boys are more likely than girls to adopt fantastic or active roles (e.g., monsters, spacemen), whereas girls are more likely to adopt roles to engage in pretend play about relationships (Fein, 1981; McLoyd, Warren, & Thomas, 1984). Thus, the sociodramatic play of boys is less dependent on having other characters in the scene, and girls' fantasy roles might be more conducive to the creation of imaginary companions. Perhaps these preferences change by age 7 or boys become better able to incorporate relationships into fantastic superhero pretense. However, the current data do not allow for more than post hoc speculation about developmental change in the functions of imaginary companions.

One of the goals of this research was to determine what happens to imaginary companions—why children stop playing with them.

This goal reflected our assumption that most of the children in the present study would have given up play with imaginary companions by age 7. We were wrong. Altogether, 31 of the imaginary companions described at Time 2 were current ones rather than ones that the children had at an earlier time. Thus an even higher percentage of children were playing with imaginary companions at the school-age assessment (31%) than had been found at the preschool assessment (28%). This result was surprising given that several major developmental theories have downplayed the role of fantasy play in school-age children. It is possible that imaginary companions continue to be a major vehicle of fantasy throughout childhood. Adults (e.g., parents, researchers) are less aware of the imaginary companions because more of them are invisible and older children are less overt in their play with them (Newson & Newson, 1976). In fact, in this sample, 27% of the children described an imaginary companion that their parents did not know existed. One 7-year-old explicitly requested that we not tell her mother about the imaginary companion she had described to us.

In addition to the current imaginary companions of the school-age children, a substantial number of imaginary companions had come and gone by age 7, and thus we were able to ask about the reasons they had been abandoned. However, for the most part, neither the children nor the parents could provide any explanations. Imaginary companions appear to be given up in much the same way as other activities or toys. Children simply lose interest and turn to other types of activities. In some cases, children replace the old imaginary companion with a new one who has a different set of characteristics.

Another goal of this research was to learn more about the later correlates of this type of play in early childhood. Here we investigated the possibility that having an imaginary companion in the past or present might be related to emotion understanding, a variety of personality variables, and/or perceived competence at age 7. However, there were very few differences between the children who did and did not have an imaginary companion on any of these variables.

Why did so few variables correlate with having a history of imaginary companions at age 7? One problem is that the category "having an imaginary companion" is very broad. The children who were grouped together in this study as "having an imaginary companion" were a very diverse group, including, for example, a girl who had invented an imaginary version of her favorite friend at preschool and then regularly played with her "fake" friend for 3 years, a girl who at age 6 shared her thoughts and feelings with an invisible green dog, and a boy who at age 3 invented a tiny white boy who could not be seen because he lived in lights. Our descriptive data suggest that children's imaginary companions do not fall into neat categories with respect to their physical characteristics, personality, function, or anything else. Even identifying the gender of an imaginary companion is not straightforward. In addition to males and females, there are imaginary companions that specifically do not have a gender, ones whose gender is unknown, and ones that can switch genders. The diversity of this type of play presents challenges to researchers who would like to find out how having an imaginary companion is related to social understanding, theory of mind, personality, or other variables of interest.

A more fine-grained analysis of imaginary companions will be required to learn more about their effects on cognitive and social development. Gleason (2002) has taken a step in this direction by

examining the kinds of relationships children have with imaginary friends compared with real friends. Here we collected data relevant to the dimension of conventional or ordinary versus exotic or fantastic because there is evidence that in social role play, fantastic themes (roles the child would seldom or never enact in real life) are related to greater social interaction and more meta-communications (McLoyd et al., 1984). Similarly, content differences in pretense have also been shown to be related to children's understanding of pretending as a mental as well as a physical activity. In a variety of tasks, preschool children show more awareness of pretending as involving the mind when the task involves fantasy characters. For example, 4-year-old children are likely to report that pretending to be the Lion King (a fantasy character) involves the mind more than does pretending to be a dog (an ordinary character; Lillard & Sobel, 1999; Sobel & Lillard, 2001). Flannery and Watson (1993) combined the exotic-ordinary dimension with frequency in their categorization of children as high, average, or low in fantasy as observed in free play with other children. These studies focused on preschool children and different types of pretending rather than on interacting with an imaginary companion, but the results suggested that the ordinary-exotic dimension of imaginary companions was worth investigation. However, in this study with school-age children, there were only a few findings related to the exotic-ordinary ratings of imaginary companions. High impersonation at Time 1 predicted exotic imaginary companions at Time 2, and having an exotic imaginary companion was associated with higher scores on the Fanciful and Frequency scales of the CFI and higher self-perception scores.

In addition to variation in the content and theme, the context in which role play occurs is also important to investigate. Although we have learned that imaginary companions are sometimes shared with other friends and family members, children who interact with imaginary companions are typically engaging in solitary play. The predominantly private nature of imaginary companions, especially for older children, contrasts with impersonation, which we suspect lends itself to social situations. In the social play of preschoolers, many episodes of pretense are initiated by children taking on a role or assigning a role to another child. For example, Lloyd and Goodwin (1995) found that claiming a role for oneself (e.g., "And I'm a robber and I'm going to steal all the things") accounted for 58.5% of the pretend utterances in the play sessions for a group of children between the ages of 4 years 2 months and 4 years 6 months. Impersonation can be enjoyed as a solitary activity, and imaginary companions can be shared with other children, but perhaps the stronger connection with social activity accounts for some of our findings related to impersonation. However, this speculation rests on observational studies of preschool children. Less is known about the patterns of social and private pretense in older children, partly because it has been widely claimed that pretend play declines after about 5 years of age (e.g., F. P. Hughes, 1999).

Impersonation

The results of our research indicate that impersonation needs more careful study. Here our primary focus was on imaginary companions, but the results related to impersonation, even given our crude measurement, were interesting. At first glance, simply asking children and parents about impersonation did not seem very

informative because most answered "yes." We did not anticipate that so many children would continue to endorse the impersonation items at age 7, so we did not ask many questions about it. However, it is possible that impersonation is not restricted to early childhood.

Interpretation of the Time 2 impersonation results is speculative because of the small number of children who were categorized as not being high in impersonation. However, it was intriguing that these children were different on a number of measures. The relation between Time 2 impersonation and emotion understanding suggests that not impersonating characters might have implications for children's ability to understand the emotional dispositions of others. As Bretherton (1989) has convincingly argued, pretense provides opportunities to help children regulate emotions. Perhaps trying on a variety of perspectives in the realm of fantasy might facilitate real-world perspective-taking abilities as well. However, it is also possible that children who are not adept at taking the emotional perspective of another person are also not inclined to impersonate in their play. This interpretation is consistent with the finding that the children who did not perform well on theory of mind tasks in preschool were more likely to be in the small group of children who were in the low-impersonation category at the school-age assessment. It would be interesting to explore these possibilities in future research with a more sensitive measure of impersonation.

Most research on imaginary companions and on impersonation has been conducted separately. In our own research, impersonation has been secondary to our primary interest in imaginary companions. However, Harris (2000) has recently argued for a strong conceptual relation between imaginary companions and impersonation, and we believe that in future research, impersonation should be given equal emphasis with imaginary companions. However, it will be a challenge to develop a measurement instrument that makes the important distinctions between the type of role play that almost all children enjoy from time to time and the types of intensive impersonation activity in which some children take on an elaborated role on a regular basis. For example, we know of one child who developed an identity he called Super Lightning Bolt Aidan. This identity started to make regular appearances after Aidan became frightened by a thunder and lightning storm. When he assumed this identity, he wore a cape and a mask and he talked and behaved with assurance and power. We suspect that this is the sort of impersonation (i.e., an elaborated and idiosyncratic identity assumed regularly, as contrasted with varied roles that are assumed from time to time in social games of pretense with other children) that is most closely linked with having an imaginary companion.

Theory of Mind and Emotion Understanding

Although understanding of belief and understanding of emotion are both important for successful social interaction, the relation between these domains is not well understood. Some studies have found that false belief scores are correlated with empathy (Astington & Jenkins, 1995) and that preschool children understand the relation between beliefs and emotional reactions (Harris, Johnson, Hutton, Andrews & Cooke, 1989; Wellman & Banerjee, 1991). C. Hughes and Dunn (1998) found that understanding of false belief and understanding of emotion were related to each other between 47 and 60 months of age. In a study with preadolescents, Bosacki

and Astington (1999) included questions about emotional reactions as part of their composite theory of mind measure. However, Dunn, Brown, Slomkowski, Tesla, and Youngblade (1991) did not find a relation between their emotion understanding and false belief tasks at 40 months. They attributed this partly to the children being too young to provide a range of scores on false belief. Cutting and Dunn (1999) also failed to find a relation between emotion understanding and false belief understanding in 4-year-old children. They interpreted their findings as suggesting that emotion understanding and false belief are perhaps more distinct domains of social cognition than has previously been supposed.

However, in this study, children's theory of mind at age 4 was related to their understanding of emotions 3 years later at ages 6–7. What accounts for the differences between our results and those reported by Cutting and Dunn (1999)? One possibility is that differences in the way theory of mind was measured in the two studies are at least partly responsible. We included 13 theory of mind tasks that included three representational change tasks. The composite scores were significantly correlated with emotion understanding, but of the individual task types, only representational change was significantly correlated with emotion understanding when Time 1 verbal ability was controlled. It is interesting that the representational change component of Cutting and Dunn's false belief composite had to be excluded from their analysis because of irregularity in the methodology. A question raised by these results is the extent to which there might be something unique about reflecting on mental-state changes in the self that contributes to emotion understanding. Perhaps further speculation about this issue should await replication of the finding.

Conclusions

One of the lessons to be learned from this research is that fantasy is alive and well in the lives of school-age children. In fact, play with imaginary companions was at least as prevalent in our school-age sample as in preschool children. We were able to collect interesting descriptions of these imaginary companions created by older children and discover new information about them. For example, the majority of imaginary companions played with by older children are invisible, whereas in younger children at least half are based on props such as special toys. In addition, the sex difference in incidence that is well established in preschool children is no longer present by age 7. As many boys as girls have a history of role play involving imaginary companions. The imaginary companions that were no longer played with by age 7 appear to have been given up gradually with little fanfare. The descriptions of the imaginary companions were diverse and often highly imaginative, but we suspect that interviews focused more specifically on how imaginary companions function in the children's lives would be useful for investigating the developmental correlates of this type of role play for school-age children.

Impersonation needs to be investigated more thoroughly in future research. Although we did not collect much information about it, there were nevertheless some interesting results. In particular, our finding of a relation between low impersonation at age 7 and lower scores both on emotion understanding at age 7 and theory of mind at age 4 deserves further study. In addition, our findings of relations between theory of mind at age 4 and emotion understanding and ego control at age 7 are contributions to the

literature on the development of social understanding. Exactly how the role-play activities of older children contribute to and are affected by their social cognitive development awaits future study, but the appreciation gained in this research for the fantasy lives of school-age children is an important step.

References

- Ames, L. B., & Learned, J. (1946). Imaginary companions and related phenomena. *Journal of Genetic Psychology*, *69*, 147–167.
- Astington, J. W., & Jenkins, J. M. (1995). Theory of mind development and social understanding. *Cognition & Emotion*, *9*, 151–165.
- Ball, L. V., Lalonde, C. E., & Wright-Cassidy, K. (1999). *Imaginary companions as vehicles for a dialogue between self and self: Adult reflections on the experiences of having an imaginary companion*. Poster presented at the 29th Annual Congress of the Jean Piaget Society, Mexico City, Mexico.
- Baron-Cohen, S. (2000). Theory of mind and autism: A fifteen year review. In S. Baron-Cohen, H. Tager-Flusberg, & D. Cohen (Eds.), *Understanding other minds: Perspectives from developmental cognitive neuroscience* (pp. 3–20). Oxford, England: Oxford University Press.
- Benson, R. M., & Pryor, D. B. (1973). When friends fall out: Developmental interference with the function of some imaginary companions. *Journal of the American Psychoanalytic Association*, *21*, 457–468.
- Block, J. H., & Block, J. (1980). The role of ego-control and ego-resiliency in the organization of behavior. In W. A. Collins (Ed.), *Minnesota Symposium on Child Development* (Vol. 13, pp. 39–101). Hillsdale, NJ: Erlbaum.
- Bosacki, S., & Astington, J. W. (1999). Theory of mind in preadolescence: Relations between social understanding and social competence. *Social Development*, *8*, 237–255.
- Bracken, B. A., & Murray, A. M. (1984). Stability and predictive validity of the PPVT-R over an eleven month interval. *Educational and Psychological Research*, *4*, 41–44.
- Bretherton, I. (1989). Pretense: The form and function of make believe play. *Developmental Review*, *9*, 383–401.
- Carlson, S. M., Gum, J., Davis, A. C., & Molloy, A. (2003, June). *Predictors of imaginary companions in early childhood*. Poster presented at the annual meeting of the Jean Piaget Society, Chicago.
- Carlson, S. M., & Moses, L. J. (2001). Individual differences in inhibitory control and children's theory of mind. *Child Development*, *72*, 1032–1053.
- Carlson, S. M., & Taylor, M. (in press). Imaginary companions and impersonated characters: Sex differences in children's fantasy play. *Merrill-Palmer Quarterly*.
- Caspi, A., Block, J., Block, J. H., Klopp, B., Lynam, D., Moffitt, T. E., & Stouthamer-Loeber, M. (1992). A "common-language" version of the California Child Q-Set for personality assessment. *Psychological Assessment*, *4*, 512–523.
- Cohen, D., & MacKeith, S. A. (1991). *The development of imagination: The private worlds of childhood*. London: Routledge.
- Connolly, J. A., & Doyle, A. (1984). Relation of social fantasy play to social competence in preschoolers. *Developmental Psychology*, *20*, 797–806.
- Cutting, A. L., & Dunn, J. (1999). Theory of mind, emotion understanding, language, and family background: Individual differences and interrelations. *Child Development*, *70*, 853–865.
- Dunn, J., Brown, J., Slomkowski, C., Tesla, C., & Youngblade, L. (1991). Young children's understanding of other people's feelings and beliefs: Individual differences and their antecedents. *Child Development*, *62*, 1352–1366.
- Fein, G. G. (1981). Pretend play: An integrative review. *Child Development*, *52*, 1095–1118.
- Flannery, K. A., & Watson, M. W. (1993). Are individual differences in

- fantasy play related to peer acceptance levels? *Journal of Genetic Psychology*, 154, 407–416.
- Flavell, J. H., Flavell, E. R., & Green, F. L. (1983). Development of the appearance–reality distinction. *Cognitive Psychology*, 15, 95–120.
- Fraiberg, S. H. (1959). *The magic years*. New York: Scribner.
- Gleason, T. (2002). Social provisions of real and imaginary relationships in early childhood. *Developmental Psychology*, 38, 979–992.
- Gleason, T. R., Sebanc, A. M., & Hartup, W. W. (2000). Imaginary companions of preschool children. *Developmental Psychology*, 36, 419–428.
- Gnepp, J., & Chilamkurti, C. (1988). Children's use of personality attributions to predict other people's emotional and behavioral reactions. *Child Development*, 59, 743–754.
- Gnepp, J., & Gould, M. E. (1985). The development of personalized inferences: Understanding other people's emotional reactions in light of their prior experiences. *Child Development*, 56, 1455–1464.
- Gopnik, A., & Astington, J. W. (1988). Children's understanding of representational change and its relation to the understanding of false belief and the appearance–reality distinction. *Child Development*, 59, 26–37.
- Harris, P. L. (2000). *The work of the imagination*. London: Basil Blackwell.
- Harris, P. L., Johnson, C., Hutton, D., Andrews, G., & Cooke, T. (1989). Young children's theory of mind and emotion. *Cognition & Emotion*, 3, 379–400.
- Harter, S., & Chao, C. (1992). The role of competence in children's creation of imaginary friends. *Merrill-Palmer Quarterly*, 38, 350–363.
- Harter, S., & Pike, R. (1984). The Pictorial Scale of Perceived Competence and Social Acceptance for Children. *Child Development*, 55, 1969–1982.
- Hughes, C., & Dunn, J. (1998). Understanding mind and emotion: Longitudinal associations with mental-state talk between young friends. *Developmental Psychology*, 34, 1026–1037.
- Hughes, F. P. (1999). *Children, play and development* (3rd ed.) Boston: Allyn & Bacon.
- Hurlock, E. B., & Burnstein, M. (1932). The imaginary playmate: A questionnaire study. *Journal of Genetic Psychology*, 41, 380–391.
- John, O. P., Caspi, A., Robins, R. W., Moffitt, T. E., & Stouthamer-Loeber, M. (1994). The "Little Five": Exploring the nomological network of the five-factor model of personality in adolescent boys. *Child Development*, 65, 160–178.
- Lillard, A. S., & Sobel, D. M. (1999). Lion Kings or puppies: The influence of fantasy on children's understanding of pretense. *Developmental Science*, 2, 75–80.
- Lloyd, B., & Goodwin, R. (1995). Let's pretend: Casting the characters and setting the scene. *British Journal of Developmental Psychology*, 13, 261–270.
- Manosevitz, M., Prentice, N. M., & Wilson, F. (1973). Individual and family correlates of imaginary companions in preschool children. *Developmental Psychology*, 8, 72–79.
- Mauro, J. (1991). *The friend that only I can see: A longitudinal investigation of children's imaginary companions*. Unpublished doctoral dissertation, University of Oregon.
- McLoyd, V. C., Warren, D., & Thomas, E. A. C. (1984). Anticipatory and fantastic role enactment in preschool triads. *Developmental Psychology*, 20, 807–814.
- Nagera, H. (1969). The imaginary companion: Its significance for ego development and conflict resolution. *The Psychoanalytic Study of the Child*, 24, 89–99.
- Newson, J., & Newson, E. (1976). *Seven years old in an urban environment*. London: Allen & Unwin.
- Pearson, D., Rouse, H., Doswell, S., Ainsworth, C., Dawson, O., Simms, K., et al. (2001). Prevalence of imaginary companions in a normal child population. *Child: Care, Health and Development*, 27, 12–22.
- Perner, J., Leekam, S. R., & Wimmer, H. (1987). Three-year-olds' difficulty understanding false belief: Representational limitation, lack of knowledge or pragmatic misunderstanding? *British Journal of Developmental Psychology*, 5, 125–137.
- Piaget, J. (1962). *Play, dreams, and imitation*. London: Routledge & Kegan Paul.
- Putnam, F. W. (1997). *Dissociation in children and adolescents: A developmental perspective*. New York: Guilford Press.
- Rosenfeld, E., Huesmann, L. R., Eron, L. D., & Torney-Purta, J. V. (1982). Measuring patterns of fantasy behavior in children. *Journal of Personality and Social Behavior*, 42, 347–366.
- Schaefer, C. E. (1969). Imaginary companions and creative adolescents. *Developmental Psychology*, 1, 747–749.
- Scruggs, T. E., Mastropieri, M. A., & Argulewicz, E. N. (1983). Stability of performance on the PPVT-R for three ethnic groups attending a bilingual kindergarten. *Psychology in the Schools*, 20, 433–435.
- Seiffge-Krenke, I. (1993). Close friendship and imaginary companions in adolescence. *New Directions for Child Development*, 60, 73–87.
- Seiffge-Krenke, I. (1997). Imaginary companions in adolescence: Sign of a deficient or positive development? *Journal of Adolescence*, 20, 137–154.
- Silberg, J. (Ed.) (1998). *The dissociative child*. Lutherville, MD: Sidran Press.
- Singer, D. G., & Singer, J. L. (1990). *The house of make-believe: Children's play and developing imagination*. Cambridge, MA: Harvard University Press.
- Singer, J. L., & Singer, D. G. (1981). *Television, imagination, and aggression: A study of preschoolers*. Hillsdale, NJ: Erlbaum.
- Sobel, D. M., & Lillard, A. S. (2001). The impact of fantasy and action on young children's understanding of pretense. *British Journal of Developmental Psychology*, 19, 85–98.
- Taylor, M. (1988). Conceptual perspective taking: Children's ability to distinguish what they know from what they see. *Child Development*, 59, 703–718.
- Taylor, M. (1999). *Imaginary companions and the children who create them*. New York: Oxford University Press.
- Taylor, M., & Carlson, S. M. (1997). The relation between individual differences in fantasy and theory of mind. *Child Development*, 68, 436–455.
- Taylor, M., Cartwright, B. S., & Carlson, S. M. (1993). A developmental investigation of children's imaginary companions. *Developmental Psychology*, 29, 276–285.
- Wellman, H. M., & Banerjee, M. (1991). Mind and emotion: Children's understanding of the emotional consequences of beliefs and desires. *British Journal of Developmental Psychology*, 9, 191–214.
- Wellman, H. M., & Lagattuta, K. H. (2000). Developing understandings of mind. In S. Baron-Cohen, H. Tager-Flusberg, & D. J. Cohen (Eds.), *Understanding other minds: Perspectives from developmental cognitive neuroscience* (pp. 21–49). New York: Oxford University Press.
- Youngblade, L. M., & Dunn, J. (1995). Individual differences in young children's pretend play with mother and sibling: Links to relationships and understanding of other people's feelings and beliefs. *Child Development*, 66, 1472–1492.
- Yuill, N. (1992). Children's conception of personality traits. *Human Development*, 35, 265–279.
- Yuill, N., & Pearson, A. (1998). The development of bases for trait attributions: Children's understanding of traits as causal mechanisms based on desire. *Developmental Psychology*, 34, 574–586.

Appendix

Questions Children Were Asked About Imaginary Companions and Impersonation

- Do you have a pretend friend?
- Have you ever had a pretend friend?
- [If child said no but had a pretend friend at age 4] Do you remember _____?
- What was [is] your friend's name?
- Was [Is] your friend a toy like a stuffed animal or a doll, or was [is] it completely pretend?
- Is it a boy or a girl? Is it a person, an animal, or something else?
- How old is your friend?
- How big is your friend?
- What does your friend look like?
- What color is his or her hair?
- What color are his or her eyes?
- What kind of clothes does he or she wear?
- How did you meet your friend?
- What do you like most about your friend?

- What do you not like about your friend?
- Where does your friend live?
- Where does your friend sleep?
- [For previous pretend friends] What happened to _____?
- When did you stop playing with _____?
- Why did you stop playing with _____?
- Would you please draw a picture of _____?
- Do you ever pretend to be an animal?
- What animal do you pretend to be?
- Do you ever pretend to be a different person?
- What person do you pretend to be?

Received April 7, 2003
 Revision received June 8, 2004
 Accepted June 22, 2004 ■

United States Postal Service
Statement of Ownership, Management, and Circulation

1. Publication Title: **Developmental Psychology**

2. Publication Number: **155-5000**

3. Filing Date: **October 2004**

4. Issue Frequency: **Monthly**

5. Number of Issues Published Annually: **6**

6. Annual Subscription Price: **Inst \$505**

7. Complete Mailing Address of Known Office of Publication (Not printer) (Street, city, county, state, and ZIP+4):
750 First Street, N.E., Washington, D.C. 20002-4242

8. Complete Mailing Address of Headquarters or General Business Office of Publisher (Not printer):
750 First Street, N.E., Washington, D.C. 20002-4242

9. Full Name and Complete Mailing Address of Publisher, Editor, and Managing Editor (Do not leave blank):
**American Psychological Association
 750 First Street, N.E.
 Washington, D.C. 20002-4242**

10. Owner (Do not leave blank. If the publication is owned by a corporation, give the name and address of the corporation immediately followed by the names and addresses of all individual owners owning 1 percent or more of the total amount of stock. If not owned by a corporation, give the name and address of the individual owner. If owned by a partnership or other unincorporated firm, give its name and address as well as those of each individual owner. If the publication is published by a nonprofit organization, give its name and address.)
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11. Known Bondholders, Mortgagees, and Other Security Holders Owning or Holding 1 Percent or More of Total Amount of Bonds, Mortgages, or Other Securities. If none, check None.

12. Tax Status (For completion by nonprofit organizations authorized to mail at nonprofit rates) (Check one):
 Not Changed During Preceding 12 Months
 Has Changed During Preceding 12 Months (Publisher must submit explanation of change with this statement)

13. Publication Title: **Developmental Psychology**

14. Issue Date for Circulation Data Below: **September 2004**

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