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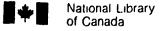
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Social Interaction and Play Activities:
A Comparison of Friends and Acquaintances

Cindy Hardy

A Thesis

in

The Department

of

Psychology

Presented in Partial Fulfillment of the Requirements
for the Degree of Master of Arts at
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Abstract

Social Interaction and Play Activities:

A Comparison of Friends and Acquaintances

Cindy Hardy

Friendship in childhood has been viewed as an indicator
of and contributor to healthy social development. Similarly,
play, particularly pretend play, has been assigned an
important role in development. The purpose of the present
study was to compare friends' and acquaintances' social
interaction and play activities, particulary pretend play, to
illuminate differential developmental opportunities offered
by the two relational contexts.

Forty-eight children from Grades 1 to 3 participated.
Friendship status was assessed via peer and teacher
nominations, and same-sex, same-grade dyads were formed, 12
consisting of friends and 12 of acquainted nonfriends, with 6
boy and 6 girl dyads in each group. Subjects were matched
for popularity and all acquaintances had a mutual friend.
Children were videotaped during 20-minute play sessions.
Observational coding was done from the videotapes, using
verbatim transcripts as guides.

Boy friends and acquainted girls engaged in shared
literal play more than boy acquaintances and girl friends.
Girl acquaintances and boy friends included their partner in
plans for play significantly more often than the other
children, reflecting greater directiveness. However, groups

did not differ on the amount of explicit planning of play activities or on the number of times they used polite influence attempts. Time spent sharing pretend play, and the elaborateness of pretend storylines and expression of emotional concerns in pretend play did not differ across groups.

The pattern of results was unexpected. Aspects of the study's design are highlighted as possible sources of the failure to find expected results. The possibility that friendship provides a differential socializing context for boys and girls is discussed.

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Introduction

In western culture, it is generally accepted that friendship plays an important role in human development. Many parents believe that their child's ability to form and maintain friendships is an important indicator of social adjustment, and that friendships contribute to their child's socialization (Z. Rubin & Sloman, 1984).

Indirect empirical support for this view comes from studies of relationships between childhood peer relations and later adjustment. In a comprehensive review of the literature pertaining to the hypothesis that children with poor peer relations are at risk for adult problems, Parker and Asher (1987) concluded that low acceptance in childhood is linked with dropping out of school and with criminality. They also cited evidence that poor peer relations predict later psychopathology, although methodological problems plague that body of literature.

Interpretation of these findings is complicated by the many meanings of the term "peer relations". Parker and Asher (1987) based their review primarily on studies which used peer acceptance as the index of peer relations. Peer acceptance, or popularity, is a group metric that reflects the extent to which the individual is liked or accepted by the group. In contrast, friendship is a close, mutual, dyadic relationship (Bukowski & Hoza, 1989). Thus, peer acceptance and friendship are conceptually and operationally distinct. However, having friends bears a strong positive

empirical relationship to measures of peer acceptance
(Feltham, Doyle, Schwartzman, Serbin, & Ledingham, 19f5;
Parker & Asher, 1988). Although Parker and Asher's (1987)
review supports the view that peer relations contribute to
social adjustment, the contribution of friendship per se
remains unclear.

One explanation of the link between poor peer relations
in childhood and later maladjustment is that low-accepted
children have limited experience in positive peer
interactions and therefore have limited opportunities to
learn adaptive patterns of social behavior and social thought
(Parker & Asher, 1987). Many hypotheses concerning the
significance of friendship for the development of social
skills have also been generated. Z. Rubin (1980) summarized
the main ones as being: 1) interactions between friends
facilitate and demand the development of social skills, for
example, the ability to understand another's viewpoint; 2)
friendship provides a context in which social comparisons can
be made, thus providing children with opportunities to
discover self and to come to know social norms; and 3)
having friends contributes to a child's sense of group
belonging. Friendship provides a relational context within
which companionship, intellectual and emotional stimulation,
physical assistance, ego support and enhancement, social
comparison, intimacy, and affection can occur (Ginsberg,
Gottman, & Parker, 1986). Thus, friendship appears to be a

context rich in opportunities to acquire and practice
patterns of adaptive social functioning.

There is, however, little direct support for the view
that friendships make significant contributions to
development (Berndt, 1988). Berndt suggested that research
be directed towards clarifying contexts in which friendships
impact upon children's behavior and development. The present
study is an attempt to discern differences between friends'
and acquaintances' behavior in a free-play context.
Accordingly, it is an attempt to clarify the impact of the
friendship relation upon children's play behavior, and more
specifically, social aspects of play.

The Nature of Children's Friendships

Much of what is known about children's friendships comes
from insider reports, that is, from the children themselves.
Such reports reflect children's conceptualizations of
friendship, and are thus limited by children's verbal and
cognitive abilities. Berndt's (1986) findings are
representative of the responses elicited when children are
asked how they know someone is their friend. The elementary
school children in his study cited time spent together,
affection (i.e., liking), and the presence of prosocial
behaviors such as sharing and helping as evidence of
friendship. Older children (grade 6) also cited the presence
of trust and loyalty. Children in elementary and junior high
school expect their friends to be supportive (e.g., helping

with tasks, cheering them up), and differentiate between friends and acquaintances on this dimension and the others named above (Berndt & Perry, 1986).

Play or association is the friendship feature mentioned most often by children of all ages when they are asked about friendship (Berndt, 1986). Findings from time use studies are consistent with insider reports concerning the salience of time spent with friends. Field observations of children during the summer months indicate that by age 7, children spend much of their free time with other children (Ellis, Rogoff, & Cromer, 1981). Csikszentmihalyi and Larson (1984) found that high school students spend approximately one-third of their waking hours with friends; this estimate does not include classroom time. In both studies, interactions with peers occurred relatively independently of interactions with adults, and time spent with adults decreased with age.

The stability of children's friendships appears to vary considerably from dyad to dyad, and to increase as children mature (Berndt, 1988). Although actual durations of children's friendships are difficult to estimate accurately, Berndt and Hoyle (1985) found that the proportion of reciprocal friendship choices identified in the fall of the school year that were still present in the spring was higher in fourth grade than in first grade. The proportion of girls' friendships that were stable increased dramatically by grade four; for boys there was no grade related change. The

proportion of stable friendships in fourth and eighth grades were equivalent; approximately two-thirds of the fourth- and eighth-grade children's friendships evidenced stability over the school year.

Children's friendship choices indicate that best friends are typically of the same age and sex (Berndt, 1988). For example, Gottman (1986) found that friendship nominations by kindergarten, first-, third-, and fourth-grade children were overwhelmingly same-sex, with the percentage of friendship choices that were same-sex increasing with age (67%, 68%, 76%, and 84% respectively). Consistent with this, observations of the same children indicated that the majority of peer interactions were with same sex peers. These findings may reflect a general tendency for children to choose others who are similar to themselves as friends (Berndt, 1988). However, the apparent trend towards age segregation in friendship choices may largely reflect method of measurement, as friendship nominations are typically carried out in the classroom, where age segregation is the rule. Ellis et al. (1981) found that during the unstructured time of summer holidays, target children were rarely with same-age companions; they were much more likely to be with children one or more years older or younger than themselves.

In summary, children's friendships are defined by children themselves as supportive, close relationships. Children spend a considerable amount of time with their

friends, and by grade one, friendships are relatively stable. By kindergarten, the majority of best friend relationships are same-sex. These characteristics of children's friendships outline the parameters of any potential socializing influence of friendship in childhood; they do not, however, yield information about friendship's role in socialization. For this, children's actual interactions with friends must be examined.

The Nature of Young Friends' Interactions

Acting as a participant-observer in a Grade 1 classroom for a five-month period, Rizzo (1989) observed children's behaviors with friends. He found that children who identified each other as friends made mutual acknowledgements of friendship during the course of spontaneous conversations and activities, and made efforts to spend time together, either sitting together in the classroom and/or spending recesses together. Rizzo's observations of durable (i.e., duration of one month or longer) friendships indicated that friends' interactions included frequent displays of sharing, helping, ego reinforcement, loyalty, similarity, and intimacy.

Several researchers have observed differences in the interactions of friends versus those of acquaintances. George and Krantz (1981), using an operational definition of friendship based on the amount of time spent playing together, found that preschoolers who were interacting with

their preferred playmates talked to each other more overall than did those interacting with nonpreferred playmates. Furthermore, pairs of preferred playmates generated proportionately more sequences of connected utterances (i.e., conversations) than did pairs of nonpreferred playmates. This difference was found despite a small sample size and few sequences of connected utterances.

Hartup, Laursen, Stewart, & Eastenson (1988) observed preschool children in free-play sessions in the children's schools. Friends interacted more often than nonfriends. The increased rate of interaction was associated with an increase in the absolute frequency of conflict. However, when time in interaction was controlled, the rate of conflicts did not differ between friends and nonfriends. The content of friends' conflicts did not differ from those of nonfriends, but conflicts between friends were less intense and were more likely to result in equitable outcomes as opposed to winner/loser outcomes. Following conflict, friends were more likely than nonfriends to remain proximal to each other and to continue interacting.

Foot, Chapman, and Smith (1980) observed pairs of 7- and 8-year old children watching cartoons. Overall rates of social responses such as smiling, laughing and looking were higher between friends than strangers. Furthermore, friends' social responses were more closely matched than those of strangers. That is, friends were more likely to smile, look

at, and talk to each other for equal durations than were strangers. This was true even when the amount of responding was controlled: that is, the durations of responses by low-responding children in friendship dyads were matched more closely than those of high-responding children in stranger dyads.

Newcomb and Brady (1982) observed second- and sixth-grade male friend and acquaintance dyads during a problem-solving task. Friends in both age groups exhibited more mutuality in their interactions than did acquaintances. Specifically, friends shared more task information; attended to each other's monologues more frequently; issued more, and were more likely to comply with, mutually oriented commands; and exhibited matched affective expressions (e.g., laughter) more often than acquaintances. Furthermore, friends' task performance was better, and they were more likely to give mutual credit for their task-related achievements.

In summary, relative to nonfriends, friends' verbal exchanges are more connected, their social responses more reciprocal, and their conflicts more frequent but less intense, with more equitable outcomes and increased likelihood of continued interaction following conflict. These findings suggest that friendship provides a relational context within which children have the opportunity to learn important social skills, for example, communicative and conflict-resolution skills. Examination of the interactions

of friends versus those of nonfriends may help illuminate the nature of friendship's role in social development. One could expect friends' interactions to be more reciprocal than those of nonfriends, and that children would make greater efforts to maintain social interaction when interacting with friends.

The Nature and Significance of Play in Development

Children's reports and time use studies indicate that one important feature of friendship is spending time together (Berndt, 1986; Csikszentmihalyi & Larson, 1984; Ellis et al., 1981), and it appears that a good portion of this time is spent in play activities (Gottman, 1986). Many developmental theorists have accorded play a central role in development. For example, Bruner (1973) hypothesized that play is activity that allows the child to coordinate and practice behavior sequences. He postulated that in play, lower order sequences are organized into higher order sequences, and that the child can transfer skills learned in play to nonplay activities.

The unique characteristics and near-universal appearance of pretend play in normal human children have attracted considerable speculation about its developmental significance (Fein, 1981). Pretend play is characterized by a nonliteral or "as if" treatment of surroundings and/or self. The creation and maintenance of a social pretend episode places considerable demands on the players. They must become actors and directors, create storylines, and manage the boundaries of reality and pretense (Bretherton, 1986). To maintain the

social coordination required by social pretense, children must communicate clearly, manage conflicts as they arise, agree more than disagree, take each other's perspectives, and negotiate themes, transformations, and roles (Parker & Gottman, 1989).

Observational studies of children's social pretend play have confirmed that it is characterized by relatively mature social behaviors. Connolly and Doyle (1984) found that the social pretend play episodes of preschool-aged children were more positive in tone, of longer duration, and more group-oriented than episodes of social nonpretend play. Social fantasy play in the preschool years is further characterized by increased social reciprocity and play involvement, relative to nonpretend social activities (Connolly, Doyle, & Reznick, 1988). Thus, social pretend play, more so than nonpretend forms of social play, may be implicated in social development.

Vygotsky (1976, 1978), defining play as the child's creation of an imaginary situation, saw it as arising from affective and social pressures. He hypothesized that the child plays in order to resolve tensions arising from these pressures. In so doing, the child creates an imaginary world where all desires are realized, yet maintains links with the real world. Vygotsky saw this process of distorting yet maintaining reality as the most important aspect of pretense. It is through this process, he hypothesized, that the child

comes to know and apply rules (e.g., social rules) that adults use implicitly. Vygotsky argued that in play children display their most sophisticated skills, for it is in play that children spontaneously and freely apply rules to their own behavior, thereby learning to control and express themselves. In summary, Vygotsky's view of pretend play was that it is motivated by affective-social needs and promotes social and cognitive development.

Piaget (1962) viewed pretense as a context in which the child subordinates reality in order to meet affective needs. Unlike Vygotsky, Piaget denied pretense an active role in cognitive development, and he overlooked the social skills required for the maintenance of joint pretend. He viewed pretense as an index of the child's representational skills, skills he believed were necessary for the development of operational thought.

More recently, Fein (1987a, 1989) has argued that through pretense, the child becomes capable of regulating his/her affective state. Specifically, Fein (1989) views pretense as a symbolic system designed to serve affective needs. Her argument is based on the content of children's pretense. Themes of danger, abandonment, and social connectedness are examples of the affective themes expressed in children's pretend play. Fein (1989) hypothesized that by pretending, the child is able to transform emotional reactions (e.g., fear) into mental representations that can

be subjected to cognitive operations. This, she argued,
allows the child to recognize and regulate emotional arousal.

K. Rubin (1980) contested these views of the
significance of pretend play by suggesting that it is not the
act of pretending itself but rather the social interaction
that often accompanies it that makes significant
contributions to the child's development. The social skills
required to initiate and maintain social pretend episodes are
considerable. Frequency of engagement in social pretend play
has been found to significantly predict social competence
(Doyle & Connolly, 1989). Although this finding does not
separate the effects of pretense from the effects of social
interaction, Connolly and Doyle (1984) have also found that
the amount and complexity of social pretend play predicts
social competence, independently of the amount of nonpretend
social interaction. These findings suggest that there is
something about pretending with peers that makes a unique
contribution to social development.

It is possible that as children mature and become more
socially skilled, differences in the social behaviors
accompanying pretend versus nonpretend activities decrease.
The greater reciprocity and involvement that characterizes
preschoolers' social behaviors in pretend relative to
nonpretend play parallel differences observed in the
interactions of friends versus nonfriends in the elementary
school years (Newcomb & Brady, 1982). However, there is

little research concerning the nature of social pretend play in older children, and none that considers it in conjunction with the relational context of friendship.

Play Between Friends

As indicated by the review above, both friendship and play have been identified as potential facilitators of social development. Given this, it is surprising that there are few studies specifically focused on the play behavior of friends.

One approach that researchers have used to examine the effects of the relational context on preschool-aged children's play has been to examine the effects of playmate familiarity. Doyle, Connolly, and Rivest (1980) found that relative to unfamiliar peers, familiar peers engaged in proportionately more social play. Peer familiarity was also associated with increased cognitive complexity and increased positiveness of play. Matthews (1978) found that as the degree of familiarity between preschool-aged children increased, the proportion of time spent in social pretend play increased.

Although familiarity is a fundamental feature of friendship, it does not imply the affective bond characteristic of friendship. However, some of the findings from studies of familiar peers parallel those from studies in which friendship status per se was assessed. Guralnick and Groom (1988) observed previously unacquainted groups of 3- and 4-year-olds in daily play sessions for a period of 4

weeks. Using a behavioral definition of friendship in which children's preferred playmates were identified, they found that preschoolers' play was more positive and more socially complex (e.g., involved more children) when children were playing with their preferred playmates than when they were playing with nonpreferred playmates.

In their study of conversations of children aged 2 to 6 years, Gottman and Parkhurst (1980) asked parents to identify their children's best friend. It was found that friends of all ages engaged in fantasy play more often than strangers. However, fantasy declined slightly with age, as children aged 5 years or older engaged in more activity-based, nonfantasy talk than younger children, irrespective of friendship status.

In summary, findings from studies of preschool-aged children indicate that playmate familiarity is related to higher rates of social play, proportionately more social pretend play, and increased positiveness and cognitive complexity of play. Preferred playmates' play is more positive and more socially complex than play between nonpreferred playmates, and friends engage in more fantasy play than strangers. The extent to which such differences extend to the play of elementary school-aged friends versus acquaintances is unknown.

Gottman (1986) has suggested that in the preschool and early elementary years, a primary function of friendship is

provision of a context in which fun play can occur. In turn, he argues, play serves the function of providing a context for affective and emotional development. According to this view, pretend play has a role similar to that played by self-disclosure in older children and adults. Unable to express emotional concerns in the context of conversation, younger children may express them in the context of pretend play, and thereby begin to gain mastery over their affective states. If this is the case, one would expect friends to engage in pretend play more often than nonfriends. Friends' social pretend play might also be expected to be more elaborate, because increased familiarity with the play partner may facilitate the production of more complex storylines. Furthermore, friends' pretend would be more likely to reflect affective concerns than pretend play between acquaintances. In the relational context of friendship, it seems likely that play, and pretend play in particular, is fertile ground for social development.

The present study is intended to describe the interactions of friends and acquaintances such that differential developmental opportunities offered by the two relational contexts can be illuminated. Early elementary school aged friend and acquaintance dyads were compared on the basis of specific social and play behaviors, as described below.

Hypotheses

Social Involvement

Amount of social interaction. Preschool-aged friends spend more time in social interaction than do nonfriends (Hartup et al., 1988). Questionnaire data suggests that this finding is also true of elementary school-aged children (Mannarino, 1976). Thus, it was predicted that friends would interact more than acquaintances, regardless of type of activity.

Sharing of activities. Total social interaction reflects a very global assessment of interaction between friends. Interactions between friends have also been found to be characterized more by reciprocity (Foot et al., 1980; Newcomb & Brady, 1982), and social responsivity (Newcomb & Brady, 1982) than the interactions of acquainted nonfriends; and dialogue between friends has been found to be more connected (George & Krantz, 1981). It was hypothesized that friends would be more attentive and responsive to each other's activities than acquaintances. Shared activities were defined as those in which the children have a common focus, theme, or goal. Children sometimes explicitly plan joint activities before beginning them and at other times they simply start sharing their activities (Auwarter, 1986). In either case it can be seen that sharing an activity is a conceptually distinct subset of social interaction. It is possible to be socially engaged and not share play

activities. Thus, it was predicted that friends would spend more time in shared activities (i.e., literal play, pretend play, conversation, and exploration) than acquaintances.

The amount of time preschool children spend in social pretend play increases with increasing familiarity (Matthews, 1978). Five- and six-year old friends spend more time in fantasy play than nonfriends (Gottman & Parkhurst, 1980). The present study was intended, in part, to determine whether these findings extend to the elementary years. It was predicted that friends would spend more time in shared pretend play than acquaintances.

Vygotsky (1976) hypothesized that skills exhibited in pretend play are the child's most sophisticated skills. In the present study, it was assumed that elementary school-aged children are still learning the social skills required to maintain joint goals, themes or foci. Thus, it was predicted that pretend play would be characterized by sharing more often than would nonpretend play, independent of friendship group.

Communication About Play Activities

Planning of play. Friends interact more than nonfriends (Hartup et al., 1988) and the resultant increase in familiarity may reduce the need to explicitly plan play activities. Thus, it was predicted that friends would make fewer statements of explicit plans (i.e., fewer framing statements) than acquaintances.

Type of communications. There are multiple means by which children can attempt to influence their play partner's actions (Ervin-Tripp, 1977). For example, a child can issue imperatives (e.g., "You're the patient") or make polite suggestions (e.g., "Let's pretend you were the patient"). Given that polite forms are more successful than imperative forms in obtaining a friend's cooperation (Gottman & Parkhurst, 1980), it was predicted that friends would be more likely than acquaintances to use polite forms of suggestions for upcoming play events or activities.

Interpersonal focus of communications. The greater social responsivity that characterizes friends' interactions appears to derive from friends' greater attention to their partner and more frequent exchanges of information (Newcomb & Brady, 1982). Assuming that a strong interest in the other person (i.e., in the friend) underlies responsiveness, it was predicted that in planning play activities, children who were friends would be more likely to generate plans that included the partner than would children who were acquaintances. In the present study, the number of planning statements that contained plans for either the partner or the dyad, as opposed to self- or object-focused planning statements, were compared across friend and acquaintance dyads. It was predicted that friends would use more partner- and dyad-focused planning statements.

Characteristics of Shared Pretend Play

Elaborateness. The elaborateness of shared pretend
storylines was compared across friend and acquaintance dyads.
Only shared storylines were of interest because the dyad, not
the individual, creates them. Further, it is social, not
solitary, pretend play that relates to indices of social
development, at least in the preschool years (Connolly &
Doyle, 1984). It was hypothesized that because of the
greater familiarity of friends relative to acquaintances, the
pretend storylines created by friends would be more elaborate
than those of acquaintances.

Affective themes. Theorizing about the function of
pretend play has suggested that it is a context within which
children can express and gain mastery over affective concerns
(Fein, 1987a, 1989; Piaget, 1962). Likewise, friendship
appears to serve affective needs (Ginsberg et al., 1986).
Thus, it was hypothesized that pretend play shared by friends
would more frequently contain expressions of affective themes
than would pretend play shared by acquaintances.

Method

<u>Subjects</u>

Forty-eight children (24 boys and 24 girls) from grades 1 to 3 participated in the present study. Children were from lower and middle socioeconomic (SES) backgrounds, balanced within sex. Children were fluent in English as reported by parents, and attended Pierre-de-Coubertin elementary school in the Saint Leonard district of Montreal. Written parental consent was obtained for the participation of all children in the study.

Mean ages and age ranges by sex and friendship group appear in Table 1. Mean ages did not differ across friendship group, F (1, 44) < 1.0, N.S., or sex, F (1, 44) = 1.62, N.S., or the friendship by sex interaction, F (1, 44) = 2.8, N.S. The grade distribution (by dyad) for each sex and friendship group appears in Table 2.

Table 1

<u>Mean Ages and Age Ranges (in months) for Each Sex</u>

<u>and Friendship Group</u>

Group	<u>n</u>	Mean age	<u>SD</u>	Age range
Friends				
Boys	12	95.3	8.8	77-110
Girls	12	96.6	8.7	80-109
Total	24	96.0	8.6	77-110
Acquaintances				
Boys	12	101.8	13.1	78-120
Girls	12	92.6	11.8	77-111
Total	24	97.2	13.1	77-120

Table 2

Grade Distribution of Dyads for Each Sex

and Friendship Group

	Grade		
Group[a]	1	2	3
Friends			
Boys	1	4	1
Girls	1	3	2
Acquaintances			
Boys	1	1	4
Girls	3	2	1

[a]$\underline{n}$ = 6 for each group.

Assessment of Friendship Status

The children in the present study were drawn from a
larger subject pool of 128 children, 32 (16 boys and 16
girls) from each of grades kindergarten, 1, 2, and 3
participating in a study of age and socioeconomic differences
in pretend play. Same-sex, same-grade dyads were formed on
the basis of teacher nominations made in January. From class
lists of children whose parents had provided consent to
participate in the study, teachers were asked to name, for

each participant, three children "with whom the child gets along with best" and three "with whom the child gets along with least". Dyads were formed such that approximately half of the dyads within each grade and sex were composed of children who were mutually or unilaterally identified by the teacher as "getting along best". The remainder were formed of pairs of children the teacher did not nominate as "getting along with best". No children named as "getting along least" were paired.

Peer nominations were conducted 12 to 18 weeks after the teacher nominations, with half of the children completing the nominations by the sixteenth week. Children were asked "if you were to play a game only two could play, who would you like to play with?"; and "if ____ was not available, who would you like to play with" until they had named three children in their class with whom they would like to play. Children could select playmates from the entire class, not just those children participating in the study. Participants were also asked to name three children with whom they would not like to play.

At the completion of the study, 20 weeks after the completion of the first teacher nominations, teachers were again asked to identify, from lists of participating children, three classmates with whom each participating child got along best and three with whom the child got along least. The temporal sequence of friendships assessments and

observation sessions appears in Table 3.

Table 3

Temporal Sequence of Friendship Assessments and Observation

Sessions for Entire Sample

Week #	Friendship assessments	Observation sessions
1	Teacher pre-nominations completed	
2		Familiarization sessions begin
6		Majority of familiarization sessions completed; play sessions begin
11		Half of the play sessions completed
12	Peer nominations begin	
16	Half of the peer nominations completed	All play sessions completed
18	All peer nominations completed	
20	Teacher post-nominations begin	

Agreement between the three ratings of friendship (teacher pre-nominations, peer nominations, and teacher post-nominations), taken two at a time, were calculated for the following categories: mutual positive nominations; unilateral positive nominations; and "other". Agreement was estimated using percent agreement and the Kappa coefficient (Cohen, 1960), which corrects for chance agreement. Estimates based on the entire subject pool are presented in Table 4. Because peer nominations and teacher post-nominations evidenced the highest level of agreement, they were chosen to determine friendship status for the present study.

Table 4

Agreement Between Ratings of Friendship Status for Entire Subject Pool

Ratings	% Agreement	Kappa
Teacher pre-nominations and peer nominations	40.6	.12
Teacher pre-nominations and teacher post-nominations	48.4	.23
Peer nominations and teacher post-nominations	62.5	.37

The criteria for friendship were as follows: members of a dyad received mutual positive nominations on the peer nominations and/or the teacher post-nominations (i.e., each was named as preferred play partner by the other on the peer nominations and/or each was named as getting along with the other on the teacher nominations) and did not receive mutual negative nominations on either measure.

An acquaintance contrast group was selected to match the friendship group on age, sex, popularity, and SES. Children in a dyad were considered acquaintances if they were identified as being neutral associates on both the peer and teacher post-nominations, or if only one member of the dyad received one positive and/or one negative nomination (i.e., unreciprocated liking and/or disliking) on either nomination.

In all, sixteen dyads met the friendship criteria. Two dyads of kindergarten boys were excluded to create a group that was relatively homogeneous with respect to age, and two female dyads were excluded to allow equation of groups on popularity. Of the 1 remaining dyads, 4 boy dyads were identified as mutual friends on both assessments and 8 (2 boy and all 6 girl dyads) were identified as mutual friends on only one assessment. Of these 8 dyads, 2 (1 boy and 1 girl) dyads received one unilateral positive nomination, 3 (1 boy and 2 girl) received one unilateral negative nomination, and 3 (all girls) received neutral nominations on the other assessment of friendship. Of the 12 acquaintance dyads, 8 (4

boy and 4 girl) were neutral associates on both assessments.
Three (2 boy and 1 girl) acquaintance dyads received one
unreciprocated positive nomination on one assessment, and 1
girl dyad received one unreciprocated positive and one
unreciprocated negative nomination.

Equating the groups on popularity served as a control
for differences due to effects of factors such as level of
social acceptance and, presumably, social skill (cf.
Mannarino, 1976; Nelson & Aboud, 1985). Positive popularity,
assessed by computing the proportion of positive nominations
(i.e., number of positive nominations received divided by the
number of nominators), did not differ for friends (M = 0.18)
and acquaintances (M = 0.11), F (1, 44) = 2.67, N.S.
Similarly computed negative popularity scores were also
equated (M = 0.13 for friends and M = 0.10 for
acquaintances), F (1,44) < 1.0, N.S.

A second control to ensure that friend and acquaintance
groups differed only with respect to the nature of the dyadic
relationship was to check that children in the acquaintance
group had at least one mutual friend. Using a mutual
nomination on any of the three assessments of friendship
status as an indication of mutual friendship, all but one
child in the acquaintance group had at least one mutual
friend in the subject pool. On the peer nominations, this
child named two children who were not participants in the
study. The mutuality of these nominations could not be

assessed because ethical considerations precluded assessment of friendship status for children who were not participants.

Observational Setting and Procedures

The observational sessions of interest in this study took place over 10 weeks, beginning 6 weeks after the completion of the first set of teacher nominations, with half of the play sessions completed by the eleventh week (see Table 3). Each dyad was observed, in full, for three sessions in a specially designated room at their school. A first session of 24 minutes was a familiarization session. High structure as well as low structure toys and a tossing game were available to the children.

For the larger sample, the play session of current interest was next for half of the dyads, and was the third session for the other half. The toys available to the children included replica or miniature representations of everyday objects (doctor's kit, Playmobil set with ski and space accessories), dress-up materials (e.g., hand bag, hats, jewellery), and a telephone. (See Appendix A, p. 91-92, "Toy Set 1", for list of play materials.) The toys were structured, that is, were unambiguous in function and identity. (In the alternate session, children played with low structure toys). For the session, children were brought in dyads to the observation room and told that they were free to play as they wished for 20 minutes while the testers worked. The children wore lapel microphones, and the

sessions were videotaped. Order of session was noted and balanced, as well as age, sex, and friendship status.

For the present study's sample, the average number of days between the familiarization session and the last play session was 54 ($\underline{SD}$ = 12.8; range = 26 to 79). On average, children had their first play session 29 days after the familiarization session ($\underline{SD}$ = 13.5; range = 9 to 51). For 16 of the .4 dyads in the present study, the first play session was the session of interest (i.e., high structure toy session). Order of play session was not balanced across friendship group: 10 out of 12 friend dyads had the high structure toy session first, compared to only 6 out of 12 acquaintance dyads.

Detailed verbatim transcripts were made of the verbal material on the videotapes. Actions relevant to social interaction and play were noted when necessary to clarify the verbatim. Coding was done from the videotape, with the transcript providing a guide to what the children were saying. Final coding decisions were based on the videotapes. Observers were blind as to the children's friendship status.

Coding was done on a turn-by-turn basis, with each turn representing one child's uninterrupted conversational and/or behavioral exchange. Thirty-second intervals were marked on the transcripts to help coders find passages and to assign time estimates to each conversational turn. For time based codes, turn-onset time estimates were calculated for each

turn by dividing a given 30-second interval by the number of turns in that interval.

Observers trained to a criterion of 80% agreement before data collection began, and agreement was monitored throughout the data collection phase by having two observers independently code approximately 20% of the play sessions. Coders were blind with respect to which sessions were assessed for interobserver agreement.

Observational Codes

Social Involvement

Amount of social interaction. Time in social interaction was derived by coding onset and offset of initiation-response sequences. For onset of social interaction to be scored there was, at minimum, one initiation-response sequence in which an initiation (e.g., bid for attention) was responded to (i.e., acknowledged) within 10 seconds. Offset of social interaction was coded after 15 seconds in which no initiation-response sequence occurred (see Appendix A, pp. 67-68).

Sharing of activities. Activities were coded as follows. Nonpretend play consisted of activities in which self and surroundings were treated in a literal manner, and included, for example, non-exploratory object manipulation, playing games, and being silly (see Appendix A, p. 69-72). Pretend play denoted any activity in which the child's identity, surroundings or actions were transformed and

treated in a nonliteral fashion (see Appendix A, pp. 72-75).
For both pretend and nonpretend play, children were scored as
being engaged in the play, framing the play (i.e., talking
about it without being engaged in it), or acknowledging their
partner's play. Conversation was scored when children were
discussing topics that were independent of the current
context, for example, their French lessons (see Appendix A,
pp. 75-76). Exploration was scored when children were
examining objects in order to figure out how to use them and
when children drifted from one object   another, trying to
decide what to do (see Appendix A, pp. 76-77).

To be scored as sharing their activity, children had to
be in the same activity (i.e., nonpretend play, pretend play,
conversation, or exploration). Shared activities were
defined as activities in which children cooperated towards a
joint focus and/or purpose. Shared pretend play was defined
as pretense in which object, role, or setting transformations
and/or story themes were shared by the partners. One child
engaged in pretend play was considered to be involved in the
same activity as a partner who was framing or acknowledging
their pretend play, provided there was evidence that the
children were sharing a goal, focus or theme. The same held
for nonpretend play activities (see Appendix A, pp. 78-80).

Communication About Play Activities

Planning of play. Metacommunicative statements were
those used to plan play, and included both plans and

proposals. These could occur outside of the play activity (during framing) or embedded within it (during engagement in play). (See definitions of activities, above.) In the present study, the variable of interest was the frequency of framing statements.

Type of communications. All framing statements, and all engaged statements that were considered metacommunicative, were further described as being: descriptions of present play (Appendix A, pp. 82-84); directions for immediately upcoming play, that is, imperatively stated suggestions for single events (Appendix A, pp. 84-85); plans for future play, that is, imperatively stated suggestions for temporally sequenced multiple events (Appendix A, p. 85-86); or proposals, that is, statements that introduced suggestions for new play activities (single or multiple events) in a hesitant, polite form (Appendix A, pp. 86-87). In the present study, the number of times that children used proposals (polite forms of suggestions for play) was the variable of interest.

Interpersonal focus of communications. Metacommunicative (engaged or framing) statements were described as being focused on objects, self, partner, or dyad (Appendix A, pp. 87-91). Statements containing references to the partner's or dyad's present or future states, actions, or activities were scored as having a focus on the partner or dyad. The variable of interest in the present study was the

number of partner or dyad focused statements.

Characteristics of Shared Pretend Play

Elaborateness. The elaborateness of pretend storylines was coded using an adaptation of Botvin and Sutton-Smith's (1977) codes for the structural complexity of fantasy narratives. Storylines were scored for elaborateness on the basis of plot units (see Appendix A, pp. 107-111), with more elaborate storylines having more complicated plot units. In the present study, the elaborateness of pretend storylines occurring within shared pretend play was of interest; the criteria for sharing pretense were as described above.

Affective themes. Emotional challenges dealt with in play (for example, physical well-being and mastery) were scored for duration and type of theme (see Appendix A, "Psychosocial issues", pp. 98-103). In the present study, the number of utterances in shared pretend play scored as containing a reference to an affective theme, relative to the total number of utterances in shared pretend play, was the variable of interest; the criteria for sharing of pretend were as described above.

Results

Interobserver Agreement

Interobserver agreement was calculated using Cohen's (1960) Kappa coefficient and percent agreement. Kappa corrects for chance agreement, and coefficients between .40 and .60 are considered fair, whereas those above .60 are considered good (Fleiss, 1981). Results appear in Table 5. Most variables were coded with good levels of interobserver agreement, with elaborateness being only fair.

Table 5

Interobserver Reliability for Observational Categories

Code category	% Agreement	Kappa
Social involvement	81.5	0.66
Shared activities	76.3	0.61
Shared play	100.0	1.00
Framing of play	91.9	0.65
Proposals	98.0	0.82
Focus on partner or dyad	91.3	0.82
Elaborateness	72.9	0.52
Psychosocial issues in shared pretend	84.4	0.65

Overview and Preliminary Analyses

Because of interdependencies in behavior between partners, dyad scores were used for all analyses. These were calculated by averaging the scores assigned to the children within each dyad. For each hypothesis posed, decisions related to data screening are described where applicable, followed by findings from analyses. Source tables for analysis of variance procedures are presented in Appendix B.

For all variables, skewness was assessed and transformations were done as necessary. For each hypothesis, data were screened for univariate and multivariate outliers and none were found. Multivariate and univariate homogeneity was confirmed. In cases where a covariate was used, homogeneity of regression slopes was assessed via examination of scatterplots and tests of factor by covariate interactions. Results of these preliminary analyses are presented below where relevant. Order of play session (i.e., temporal position of the high vs. low structure toy session) was not used as a factor as previous analyses revealed few effects of order (DeLorimier, 1988).

The number of turns in a transcript was an index of the dyad's talkativeness, a potential individual difference variable for tests on variables related to verbal behavior. To determine whether groups differed in the number of turns, a 2 (Friendship group) by 2 (Sex) analysis of variance (ANOVA) was performed. No group differences were found (see

Table B1), although dyads varied widely in talkativeness (mean number of turns = 294.3, SD = 121.0, range 27 to 477).

Social Involvement

Amount of social interaction. It was expected that friends would spend more time in social interaction than acquaintances. A 2 (Friendship group) by 2 (Sex) ANOVA revealed that time in social interaction did not differ significantly across groups (see Table B2). On average, children spent 991 seconds out of a total of 1200 seconds (82.6%) in social interaction (SD = 129.7). Mean time in social interaction was identical for friends and acquaintances (991.8s vs. 991.3s).

Sharing of activities. To test the hypothesis that friends spend more time in shared activities than acquaintances, a 2 (Friendship) by 2 (Sex) multivariate analysis of variance (MANOVA) was used. Time in shared literal enactment, total shared pretend play, shared conversations, and shared exploration were the dependent variables. Time spent in framing and acknowledgement of literal play were dropped because of low rates of occurrence. Only 67% of the children were scored as framing shared literal play, and only 46% were scored as acknowledging shared literal play. The three forms of pretend play (engagement, framing, and acknowledgement) were combined because they were strongly related (Cronbach's alpha = .75). All variables (shared literal enactment, total shared

pretend, shared conversations, and shared exploration) were significantly positively skewed, causing significant univariate and multivariate heterogeneity. Thus, square root transformations were performed. Descriptive statistics for raw and transformed variables are presented in Appendix C, along with correlations among uncombined transformed shared activity variables. Untransformed group means for each variable appear in Table 6. Correlations among the transformed variables and age appear in Table 7.

Table 6

Group Means for Time (in seconds) in Shared Activities

	Group[a]			
	Friends		Acquaintances	
Activity	M	(SD)	M	(SD)
Shared literal engagement	264.4	(232.7)	324.5	(307.4)
Total shared pretend	123.5	(182.3)	91.0	(105.4)
Shared conversation	16.6	(25.8)	41.6	(59.0)
Shared exploration	28.5	(31.8)	9.1	(14.8)

[a]$\underline{n}$ = 12 for each group.

Table 7

Correlations Among Transformed Shared Activity

Variables and Age

	Activity	2.	3.	4.	Age
1.	Shared literal enactment	.16	-.10	-.04	.26
2.	Total shared pretend play	—	.07	.48*	.01
3.	Shared conversations		—	-.09	-.04
4.	Shared exploration			—	.07

Note. n = 24.

*p < .01.

No significant findings emerged, although there was a trend in the friendship by sex interaction, F (4, 17) = 2.70, p < .07 (see Table B3). Examination of univariate tests suggest that this was due to time in shared literal enactment, F (1, 20) = 6.41, p < .02 (see Table B3). Means are presented in Table 8. Scheffe post-hoc tests revealed that the mean differences apparent in Table 8 are significant at p < .01. That is, girl acquaintances spent the most, boy friends an

intermediate amount, and girl friends and boy acquaintances
the least amount of time in shared literal enactment.

Table 8

Time (in seconds) in Shared Literal Enactment

Group[a]	M	SD
Friends		
Boys	341.5	272.6
Girls	187.3$_a$	174.7
Acquaintances		
Boys	172.8$_a$	137.6
Girls	476.2	365.7

Note. Means having the same subscript are not significantly
different at p < .01.
[a]n = 6 for each group.

Time in shared literal enactment was the only shared activity
variable related to age, r (24) = .26, p < .15. However,
girl acquaintances and boy friends were, on average, the
youngest children in the sample. The positive correlation
between age and time in shared literal play is in the
opposite direction to the mean differences evident in Table
8. Thus, the observed trend in time in shared literal play

did not reflect age differences. Examination of within group distributions revealed that one dyad of girl acquaintances engaged in an unusually high amount of literal play.

To determine whether friends spend more time in shared pretend than acquaintances, the univariate test for time in shared pretend play was examined. Results indicated that friends and acquaintances spent similar amounts of time sharing pretend play activities, F (1, 20) < 1.0, N.S. (Ms = 123.5s and 91.0s respectively; see Table B3).

To test the hypothesis that pretend play would be shared more often than literal play regardless of friendship status, the proportions of pretend and literal play (including enactment, framing, and acknowledgement) that were shared were compared. Untransformed proportions were used because there was considerable variability in skewness across groups, and any transformation had differential effects across groups. Furthermore, when the analysis was run with arcsine-transformed variables, tests of multivariate homogeneity indicated greater heterogeneity than that found with untransformed variables (see Appendix D). A 2 (Friendship) by 2 (Sex) by 2 (Activity) repeated-measures ANOVA, with activity as the repeated measure, was used. Mean proportions of literal and pretend play that were shared appear in Table 9. No significant differences in play type emerged, although there was a trend towards a friendship by sex interaction, F (1, 20) = 3.7, p < .07, see Table B4). Boy friends and girl

Table 9

Mean Proportions of Shared Literal and Pretend Play

Group[a]	Literal	Pretend
Friends		
Boys	.50	.45
Girls	.31	.31
Acquaintances		
Boys	.27	.22
Girls	.54	.36

[a]n = 6 for each group.

acquaintances tended to share all play activities proportionately more often than did boy acquaintances and girl friends. Given that shared literal play was much more frequent than pretend play, and that the repeated measures analysis did not differentially weight the two proportions, a secondary analysis of the proportion of all play that was shared appeared warranted. This was not analyzed, however, as it was found that the proportion of all play that was shared was strongly related to time in shared literal, r (24) = .90, p < .001. Thus, the observed trend in proportion of shared play was redundant with the finding that girl acquaintances and boy friends spend more time in more shared

literal enactment than do girl friends and boy acquaintances.

Communication About Play Activities

Correlations among communication variables. Three
different aspects of communication about play were examined:
explicit framing statements (i.e., planning done outside of
the play frame), proposals, and focus on partner or dyad.
For all analyses of communication variables, the total number
of turns in the transcript was covaried to control for
individual differences in talkativeness. The partial
correlations between the variables, controlling for
talkativeness, appear in Table 10. Framing statements and
statements focused on the partner or dyad were significantly
and positively related.

Table 10

Partial Correlations Among Metacommunication Variables

Metacommunication variable	2.	3.
1. Explicit framing	.30	.57[*]
2. Total proposals	-	.21
3. Focus partner/dyad		-

Note. n = 24.

[*]$p < .01.$

Planning of play. The hypothesis that friends spend less time explicitly planning play activities than acquaintances was tested with a 2 (Friendship) by 2 (Sex) analysis of covariance (ANCOVA). Explicit framing of literal and pretend play were summed for this analysis. Total number of explicit framing statements was the dependent measure and the total number of turns were covaried. Friends and acquaintances used framing statements equally often (adjusted Ms = 31.1 vs. 28.8 respectively; see Table B5).

Type of communications. To test the hypothesis that friends would use polite forms of influence attempts more frequently than acquaintances, number of proposals was examined, with total number of turns covaried. Friends and acquaintances used proposals equally often (adjusted Ms = 4.9 and 6.6, respectively; see Table B6).

Interpersonal focus of communications. The hypothesis that friends would include their partner in suggestions for upcoming play activities more often than acquaintances was tested using an ANCOVA. Focus on the partner and focus on the dyad, examined separately, were positively and significantly related, r (24) = .73, p < .001. Hence, the combination of these variables was justified. The number of metacommunicative statements focused on the partner or the dyad was the dependent variable, with total number of turns covaried. A significant friendship by sex interaction emerged, F (1, 19) = 4.46, p < .05, see Table B7).

Examination of group means indicated that this effect was due to girl acquaintances and boy friends, who included their partner in more metacommunicative statements (adjusted Ms = 54.6 and 50.7, respectively) than did girl friends and boy acquaintances (adjusted Ms = 32.8 and 46.5 respectively). Tukey comparisons indicated that differences between means were not significant.

Because the pattern of group differences that emerged in this analysis was similar to that found for sharing of literal play, the relationship between shared literal play and focus on partner or dyad was examined. The variables were not related, r (24) = .06, N.S., nor were they similarly related to potential confounding variables of age, r (24) = .25, N.S., for shared literal versus r (24) = .21, N.S., for focus on partner or dyad; positive popularity, r (24) = .07, N.S., versus r (24) = -.11, N.S., respectively; or negative popularity, r (24) = -.40, N.S., versus r (24) = -.02, N.S.

It had been assumed that metacommunicative statements focused on the partner or dyad would reflect a greater concern for the partner. However, the relatively low frequencies of proposals made this unlikely. Most partner-focused statements that were not proposals were directives, that is, imperatively-stated influence attempts. Controlling for talkativeness, a positive partial correlation, r (22) = .87, p < .001, was found between the number of statements focused on the partner or dyad and the number of directives.

Thus, the number of statements focused on the partner of dyad

is more likely an index of directiveness, and does not

necessarily reflect concern for the parter.

Characteristics of Shared Pretend Play

Elaborateness. It was expected that friends' shared

pretend would be more elaborate than that of acquaintances.

Two elaborateness measures were calculated. The first was

the highest elaborateness score assigned to shared pretend

and the second was mean elaborateness (i.e., the sum of all

elaborateness scores assigned to shared pretend, divided by

the number of turns in shared pretend receiving an

elaborateness score). The two measures were strongly

related, r (24) = .86, p < .001. Thus, the hypothesis was

tested in a 2 (Friendship) by 2 (Sex) ANOVA, using the

highest elaborateness score assigned to shared pretend as

dependent variable. The highest elaborateness score assigned

to the pretend play of friends was, on average, very similar

to that assigned to acquaintances ($\underline{M}$s = 2.50 vs. 2.17);

hence, no group differences were found (see Table B8). The

number of turns receiving an elaborateness score was

moderately related to both highest and mean elaborateness, r

(24) = .51, p < .01 and r (24) = .45, p < .05, respectively,

indicating that number of turns in shared pretend play

episodes accounted only partially for elaborateness.

Affective themes. The hypothesis that friends' shared

pretend play would refer to affective themes more often than

the play of acquaintances was tested using an 2 (Friendship) by 2 (Sex) ANCOVA, with number of turns in which a theme was present as dependent variable and number of turns in shared pretend as covariate. Both variables were transformed with square root transformations to eliminate heterogeneity due to significant positive skew. Means were similar across groups (adjusted Ms = 8.76 for friends, 7.41 for acquaintances; see Table B9).

Discussion

The primary purpose of the present study was examination of the social interaction and play behaviors of early elementary school-aged friend and acquaintance dyads in a free-play setting. It was thought that the nature of social and play behaviors observed within the relational contexts of friendship versus acquaintanceship might provide clues as to the manner in which friendship impacts upon behavior, and in turn, development. Because little is known about social pretend play in the age range studied, it received particular attention.

Social Involvement

Children spent, on average, 83% of the 20-minute play session interacting socially. Although groups did not differ on the amount of time they spent in social interaction, there was a trend towards a friend group by sex interaction on time spent in shared activities. The predominant activity was literal play, and the interaction was primarily due to differences in this activity. Girl acquaintances spent the most time sharing literal play, boy friends an intermediate amount, and girl friends and boy acquaintances spent the least. Shared pretend play occupied a small amount of the children's time and, contrary to prediction, groups did not differ on time spent in shared pretend play. The proportion of pretend play that was shared was equivalent to the proportion of literal play that was shared.

The percentage of social interaction observed in the

present sample is relatively high (83%). This reflects the relatively good social skills on the part of the children in this age group, in that they could maintain social interactions for considerable durations. The hypothesis that friends would interact more than acquaintances followed Hartup et al.'s (1988) findings that this was true of preschool-aged children. Questionnaire data (Mannarino, 1976) suggests that this is also true of elementary school-aged children. However, it may be the case that Mannarino's findings reflect the fact that friends spend more time together than nonfriends. The present findings suggest that when in a dyadic situation, elementary school-aged children are capable of sustained social interaction, whether with a friend or an acquaintance.

The amount of time children spent sharing their play activities was intended to reflect reciprocity and responsivity in play interactions, and is conceptually distinct from, although a subset of, social interaction. The criteria used to score sharing of play were considerably more stringent than those used for the scoring of social interaction. Shared activities were defined as activities in which children cooperated towards a joint focus and/or purpose. Children spent, on average, approximately 37% of the play session sharing their activities, which contrasts sharply with the 83% spent in social interaction. As stated above, girl acquaintances and boy friends spent more time in

shared literal play than did girl friends and boy acquaintances. The presence of group differences for time in shared activities, but not for time in social interaction, suggests that the measure of social interaction was not sufficiently sensitive to detect differences between friends and acquaintances.

The group differences observed for time in shared literal play were unexpected, however. As stated above, sharing was intended to reflect reciprocity and responsivity in play interactions. Newcomb and Brady (1982) found that when working on a problem-solving task under varying contingency conditions, including a non-competitive condition, Grade 2 and Grade 6 boys who were friends were more likely than acquaintances to share task-related information, attend to each other, and to issue mutual commands (rather than individually directed commands). Furthermore, friends' greater mutuality and responsivity were present regardless of contingency. The present finding that boy friends spent more time sharing literal play than boy acquaintances is consistent with Newcomb and Brady's findings. Newcomb and Brady did not include girls in their study. On non-competitive tasks, it seems that few studies have either examined or found sex differences (Berndt, 1982). However, girls report that they would share more with a friend than with an acquaintance, whereas boys say they would share equally with both (Berndt, 1982). Thus, there is

little in the research literature that would predict the present study's finding that girl acquaintances share literal play more than girl friends.

The finding that friends and acquaintances spent equivalent amounts of time in shared pretend play was unexpected. Observations of preschoolers' play have revealed that social pretend play occurred more frequently between friends than nonfriends (Gottman & Parkhurst, 1980), and increased with playmate familiarity (Matthews, 1978). Four interpretations of the present findings are possible. Firstly, the absence of differences may be veridical; it may be the case that shared pretend play is not a preferred activity for Grade 1 to 3 children and that children in this age range do not often engage in it. This interpretation of the finding is consistent with Piaget's (1962) view of age changes in pretend play. However, there are alternative explanations of the finding that must be considered. The setting used in the present study may have inhibited pretend play, in that the children were very aware of the adults' presence in the room. Many of the children whispered rather than speaking in normal voice, and many of them looked or smiled self-consciously at the observers, particularly when pretending. Gottman (1986) cautioned against making the assumption that the presence of adults does not affect children's interactions after he found, in a sample of preschool and early elementary school-aged children, that the

presence of an adult seriously disrupted friends' interactions. A third explanation is the sample size, in this case 12 friend dyads and 12 acquaintance dyads. However, the means were virtually identical and this indicates that an increased sample size would not affect the results. A fourth explanation of the observed similarity of friends' and acquaintances' time in shared pretend centres around the measure that was used. The average amount of shared pretend was 9% of the 20-minute session. This constituted, on average, approximately half of all the pretend that was observed. Shared pretend was defined as activities in which transformations and/or story themes were shared by the partners. The same criteria were used by LeBeau (1990), and in that study, the measure did not differentiate preschool-aged friends from acquaintances in the absence of adult observers. Differences between friends and strangers were observed, however, and the difference between friends and acquaintances was in the expected direction. Thus, the strictness of the scoring of shared pretend may be responsible for the failure to find group differences. In my opinion, the inhibitory effect of the setting was the major problem, and the lack of differences should not, therefore, be taken as definitive evidence that elementary school-aged friends do not differ from acquaintances in terms of the amount of time they spend in shared pretend.

The problems of interpretation that apply to shared pretend also apply to the finding that the proportions of literal and pretend play that were shared were equivalent. That is, because of the relatively low frequency of shared pretend and the presence of the observers, it can not be assumed that elementary school-aged children typically share literal and pretend play equally often.

Communication About Play Activities

Examination of the children's communication in literal and pretend play activities revealed that friends and acquaintances explicitly planned play from outside the play frame equally often. The use of polite forms of planning statements did not differ across groups. However, girl acquaintances and boy friends used planning statements focused on the partner or dyad significantly more often than did girl friends and boy acquaintances. Because of the low frequency of polite forms of planning statements, focus on the partner or dyad occurred most often in imperatively stated plans for play. Thus, focus on the partner or dyad in this study was an index of directiveness.

Gottman and Parkhurst (1980) found that when preschool-aged children used polite forms of suggestions, rather than imperative forms, friends were more likely to comply. Although the present finding that elementary school-aged friends and acquaintances use polite forms equally often, differential success of these statements can not be assessed

with the present data. Work presently being done in our laboratory will address the question of relative success. However, statements focused on the partner or the dyad, which were found to constitute directiveness, were made most often by boy friends and girl acquaintances. The directiveness of boys' interactional style has been noted in other studies (e.g., Berghout Austin, Salehi, & Leffler, 1987; Serbin, Sprafkin, Elman, & Doyle, 1982). However, the present findings contrast with those of Berghout Austin et al. (1987) in that those investigators found no differential effects of friendship status. The finding that acquainted girls were also more directive is intriguing and may suggest that girl friends are reluctant to be directive, perhaps because they perceive directiveness as a threat to their friendships. Alternatively, girl friends may be less directive because the directives they do make are relatively successful. This issue requires further research.

Characteristics of Shared Pretend Play

As stated above, friends and acquaintances spent equivalent amounts of time in shared pretend play activities. The quality of their pretend play storylines was also equivalent, and they incorporated affective issues in their pretense equally often. These findings are unexpected and are likely due to inhibitory effects of the observational setting.

Limitations of Study

As discussed previously, the presence of the observers
may have obscured group differences on variables related to
pretend play. Other design problems may have contributed to
the failure to find expected group differences. Because the
larger sample from which the sample for the present study was
drawn contained a small number of identified reciprocal
friends, the sample size in the present study was relatively
small. This resulted in relatively low power for statistical
tests. More importantly, assignment to friendship groups was
weak. First, as noted in the method section, only 4 of the
12 friend dyads were identified as mutual friends on both
assessments of friendship. Second, the children all had, at
minimum, a familiarization session before participating in
the play session of interest in the present study, and 6 of
the 12 acquaintance dyads had participated in a play session
before the one observed for this study. Thus, children in
acquaintance dyads may have known each other better than do
most acquaintances. Thirdly, teachers made their friendship
nominations from lists of participating children (rather than
from the entire class lists). The quality of friendships
thus identified is unknown, in that teachers may have
identified as friends children who were not very good friends
at all, but were simply the most reasonable nominations
possible from the list of participating children. In
summary, the friendship groups may not have been distinct

groups, and this may have contributed to with-in group variability.

Assignment to friendship groups for observational work of this type would best be achieved by obtaining consent to collect friendship nominations in the classroom independently of consents to participate in the observation sessions. This procedure results in a higher consent rate for the nominations and thus avoids the difficulties inherent in assessments done with incomplete participation. After consents to participate in the observation sessions were obtained, children could be assigned to friend and nonfriend dyads with confidence. This procedure would necessitate large initial samples, but the resultant confidence in assignment of friendship status would be worth it.

Despite the weaknesses outlined above, the study was well-controlled in many aspects. Friend and acquaintance groups were equated on positive and negative popularity ratings, and all but one child in the acquaintance group was known to have at least one mutual friend. These controls reduced the number of confounding factors and allowed for the elimination of alternative interpretations of the findings.

Conclusions and Future Directions

It was found that girl acquaintances and boy friends shared literal play more often than girl friends and boy acquaintances. When planning play activities, boy friends and girl acquaintances were more directive than boy

acquaintances and girl friends.

Although the pattern of group differences was similar for time in shared literal play and directiveness, directiveness was not related to time in shared literal play. Therefore, it can not be inferred that greater directiveness resulted in increased amounts of shared literal play, nor can it be inferred that literal play is an activity characterized by directiveness.

Considering the view that relationships may be a context for socialization, the present findings suggest that friendship and acquaintanceship provide different socializing experiences for boys and girls. Specifically, it appears that boys practice imperative forms of influence when playing with friends and use fewer influence attempts in general when playing with acquaintances. In contrast, it appears that girls may practice imperative forms of influence attempts primarily when playing with acquaintances. However, these findings should be replicated with a larger sample and higher-quality friendship assessments before being taken as representative of elementary school-aged children's behaviors with friends and acquaintances. Future studies of elementary school-aged children's behavior with friends and acquaintances would benefit from a within-subjects design. It would also be worthwhile to provide as natural a setting as possible, to avoid the inhibitory effects of adult presence.

Work currently underway in our laboratory will extend the present work by examining the degree of success of polite versus imperative influence attempts. We are also examining the affective tone of children's interactions, to determine whether friends differ from acquaintances on that dimension. In addition, age and sex differences in sharing of activities, communication about play, and quality of pretend play will be examined in the larger sample from which the present sample was drawn. These investigations will further clarify the nature of elementary school-aged children's play interactions, and will add to our understanding of friendship relations.

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Appendix A

Observational Coding Manual

Social Interaction

Social Interaction (04X)

At minimum, is one initiation-response sequence, i.e. an
initiation which receives a response within 5 seconds. An
initiation is defined as any attempt to engage another child
in social interaction. This refers to any bid for attention,
leadership attempt or behavior specifically directed towards
a peer in order to elicit a response. Physical gestures
(offer toy, wave, show), deliberate physical contact (touch,
pat, hit), verbal directives or requests (ask, command,
comment on), play behavior, imitation and active, directed
smile/laugh are included. Play behavior includes contacting
someone with a toy, e.g. zooming an airplane around another
child's head, or contacting someone else's toy such as taking
a toy which another child is using or was using and is still
in the vicinity of. Imitation can be regarded as an
initiation attempt if it is immediate and if the peer is in
the vicinity. In order to assume that an initiation has
occurred, it must be possible for the observer to identify
the target to whom it is directed.

A response is defined as any acknowledgement by the
target of the social bid directed toward him. All behaviors
described under initiations could also serve as responses.
In addition, a response may be indicated by a look, smile,
frown, compliance with a command, cry, or acceptance of an
offered object.

Begin scoring 04X there is, at minimum, one response-initiation sequence in which an initiation is responded to within 5 seconds. End 04X when 15 seconds in which there is no initiation-response sequence has passed.

Solitary Activity (14X)

In contrast, solitary activity does not involve any type of initiation-response sequence. Typically, children will be playing on their own, at a distance from their partner.

Activity, Communication, and Toys

In this pass, the nature of the children's activity, the communication which occurs about it, and whether or not it is shared will be coded, as well as the toys being used.

Nature of Activity

The nature of each child's activity is to be coded for every turn. Definitions include exclusionary criteria and therefore contain information also provided by the definitions for other modes of activity.

In general, if two activities occur in the same turn (for example, if a child engages in and frames their activity in the same turn), code the activity which predominates. If activities are equally predominant, then code the one which occurs last. The exceptions to the rule are for: a) acknowledgement of pretend or non-pretend play that is accompanied in the same turn by framing or engagement, in this case, code framing or engagement; and b) for "other activities", which is coded for a given turn only when no

codable activity is observed.

If no activity code can be assigned, then assign "Other Activities". "Other Activities" is also to be coded for uncodable turns - for example, when one child does not understand what the other is saying, and is engaged in no other activity.

In the absence of clear evidence that children have shifted to a new activity, assume that the previous activity is continuing through the turn now being coded. In other words, always assume that the child is continuing in the same activity if a new activity code cannot be confidently assigned. For example, in the absence of clear evidence that non-pretend play has been temporarily suspended while framing occurs, engagement in non-pretend play will be assumed to have continued.

Although coding on a turn-by-turn basis allows us to capture subtle shifts in the orientation of the children's activities, observers should focus their efforts on quickly and accurately identifying major transitions into new activities. In other words, observers should avoid obsessing over how to code what seems to be a brief and ambiguous shift into another activity.

Engagement in non-pretend play (10xx). Non-pretend play includes manipulating objects to build something, dressing-up, drawing, playing a game with a partner, or just horsing around and being silly. Note that metacommunication can

occur without necessarily disrupting engagement in non-pretend play. When children are clearly preparing to play (as opposed to drifting from object to object trying to find something to play with), code them as engaging in play.

It is distinguished from the framing of non-pretend play by an active, ongoing engagement in the playful activities for most of the turn being coded. Children have not stopped manipulating the objects they are playing with, or continue to be involved in the kinds of activities which constitute play (see definition of framing of non-pretend play).

It is distinguished from pretend play by the treatment of objects, people, and setting in a literal manner - that is, according to common and appropriate use.

It can often be distinguished from non-play activities and from conversations by the use and manipulation of objects. It does not, however, necessarily require the use of materials. For example, tag, word games, teasing are coded as engagement in non-pretend play even though objects are not necessarily involved.

It can be distinguished from exploration by the treatment of objects as if posing the question, "What can I do with this?", as opposed to "What is this?" or "What am I supposed to do with this?") Children's behavior during play often appears more purposeful during exploration, especially when the exploration involves drifting from object to object.

Framing of non-pretend play (11xx). Framing of non-

pretend play occurs when children have clearly suspended or interrupted their non-pretend play to talk in some way about it, either prior to being or after having become engaged in it. Children may temporarily stop manipulating the objects that they have been playing with to describe what they have done or will do. In all cases, framing of play activities may only last for one turn or may continue for several minutes and must clearly co-occur with the suspension of engagement in play. Suspension may be quite brief but it must occur. Framing is always accompanied by meta-communication. The exception to this rule is when one child responds to the other's framing of non-pretend play with a simple "yes" or "no", in which case framing of non-pretend play is accompanied by an engaged statement.

It is distinguished from engagement in non-pretend play by the temporary cessation of the activity which constituted their play for the purpose of describing, directing, planning, or proposing play activities, or of responding to a partner's metacommunicative statements. Similarly, they may make such statements prior to engaging in the actual play. The combination of these criteria with the criteria given above for engagement in non-pretend play distinguish this category from pretend activities, conversations, and exploration.

Acknowledgement of non-pretend play (12xx).
Acknowledgement of non-pretend play is coded when the target

child acknowledges the other child's non-pretend activities without engaging in non-pretend play him or herself. Non-pretend acknowledgement may be indicated by the child's smiling or laughing at a the other's activity, or by any comment indicating an awareness of play without explicitly describing or directing it (such explicit descriptions or directions would get coded as non-pretend framing). Code acknowledgement only when engagement or framing of non-pretend activity cannot be coded for any portion of that turn. Unlike simple onlooker behavior (which is coded under "other activities"), the child participates, albeit to a limited degree, in tne other's play through active acknowledgement of it. Furthermore, acknowledgement is unlikely to last more than three turns, whereas onlooker behavior can last longer. Therefore, if one child's "acknowledgement" of the other's activity seems to last for more than three turns, observers should seriously consider "other activities" as the more appropriate code.

Engagement in pretend play (13xx). Pretend play refers to any activity which involves the transformation of identity, setting, object, action plan or of the child's actual situation. Such activities can occur with or without meta-pretend communication. Objects used in the play may be assigned qualities which they do not actually possess. For example, a toy telephone may "ring" or a toy car may be made to go "vroom". Children's role enactment may be signalled by

a change in the pitch of their voice, exaggerated physical gestures (e.g., strutting around the room with chest puffed out), by the content of their speech (e.g., "Doctor, come here and help me with this patient"), or by an exaggerated attitude (e.g., feigned anger). To identify when a child has taken on a role, observers can try comparing the child's tone of voice, gestures, and posture during what is clearly non-pretend play to that which occurs during what appears to be pretend play. Note that the use of miniature objects without elaboration in the form of pretend gestures or vocalizations is not scored as pretend but as non-pretend play. Refer to the section on "Role/Object Transformations" (Appendix A, pp. 104-107) for examples of such transformations.

Engagement in pretend play is distinguished from framing of pretend play by the active and ongoing transformation of identities, settings, or objects for that turn, that is: a) intonation or gestures associated with a particular role are present; b) objects are actively transformed by having attributes assigned to them, or by being animated, imagined, or substituted for other objects; or c) objects are manipulated in a manner that is clearly consistent with a previously announced transformation.

Engagement in pretend play is distinguished from all other categories by the non-literal treatment of identities, objects, or setting.

Framing of pretend play (14xx). Framing of pretend play

occurs when children have clearly suspended or interrupted their pretend play to talk about it in some way, either prior to being or after having become engaged in it. Children may temporarily stop manipulating the objects that they have been transforming to describe what they have done or will do. Similarly, they may speak without the intonation or gestures associated with a previously adopted role. They may explicitly propose a role or object transformation to a partner before actually performing it. Statements which frame pretend play are often stated in the past, future, or conditional tense (e.g., "Let's say you were..."). In all cases, the suspension of pretend activities may last for only one turn or may continue for several minutes and must clearly involve the suspension of engagement. For turns coded as framing of pretend play, observers must also code meta-communication about play behavior for that turn (see "Meta-Communication about Play Behavior", Appendix A, pp. 80-91). The exception to this rule is when one child responds to the other's framing of pretend with a simple "yes" or "no", in which case the response is scored as a framing statement with an engaged metacommunicative code (i.e., 14x1). Observers must also be careful to note that Giffin's (1984) "storytelling" category (the proposing of transformations with a particular sing-song cadence) is considered as pretend framing unless it is accompanied by enactment.

Acknowledgement of pretend play (15xx). Pretend

acknowledgement is coded when the target child acknowledges the other child's pretend activities without engaging in pretend him/herself. Acknowledgement must clearly indicate an awareness of the act of pretending, and is almost always of the other child's pretend enactment. Acknowledgement of pretend framing, on the other hand, is likely to be rare since it will usually be explicit enough in and of itself to be coded as pretend framing. Pretend acknowledgement may be indicated by the child's smiling or laughing at a transformation, or by any comment indicating an awareness of pretend without explicitly describing or directing it (explicit descriptions or directions would get coded as pretend framing). Code acknowledgement only when engagement or framing of non-pretend activity cannot be coded for any portion of that turn. Unlike simple onlooker behavior (which is coded under "other activities"), the child participates, albeit to a limited degree, in the other's pretending through active acknowledgement of it. Acknowledgement is unlikely to last more than three turns, whereas onlooker behavior can last longer. If one child's "acknowledgement" of the other's activity seems to last for more than three turns, observers should seriously consider "other activities" as the more appropriate code.

Conversations (16xx). These include any discussions that occur about events independent of engagement in pretend or non-pretend play. Conversations about events independent

of the play context (e.g., classroom incidents, what each child did over the weekend) would be coded here. The children are not talking about what they will play next or about how to use a certain object. If conversations co-occur with engagement in another activity, the predominant activity should be coded. If one child attempts to converse and the other ignores him/her, code the first child as engaging in non-shared conversation (1611).

Exploration (17xx). Exploration occurs when the child asks the question, "What is this", "What am I supposed to do with this", or "How am I supposed to use this?" either overtly or through actions such as simple touching or looking. During exploration, the child's actions are governed by the nature of the object. A child simply turning an object over in their hands and examining it carefully is almost always engaged in exploration. A child who drifts from one object to another, trying to decide which to play with is coded as engaging in exploration, as is a child who is primarily concerned with trying to figure out how to make something work properly. As soon as the child begins to behave more purposefully, as if asking the question "What can I do with this" either explicitly or implicitly (e.g., arranging things, playing with toys repetitively), then s/he is playing. In contrast to exploration, behavior during play seems to be guided by some goal or intent in the child's mind other than that of discovery of the properties of objects.

If children are acknowledging a partner's exploratory behaviors in any way, then both children are coded as engaging in exploration.

Other Activities (18xx). These include: a) interaction with an adult; b) unoccupied or onlooker behavior; c) total interruptions of all play, conversations, or exploration; and d) otherwise uncodable turns. Acknowledgement of pretend or non-pretend play is unlike simple onlooker behavior in that the child participates, albeit to a limited degree, in the other's play through active acknowledgement of it. Acknowledgement is also unlikely to last more than three turns, whereas onlooker behavior can last longer. Therefore, if one child's "acknowledgement" of the other's activity seems to last for more than three turns, observers should seriously consider other activities as the more appropriate code.

Total interruptions may occur because a child's microphone needs to be adjusted, because of an announcement over the school intercom, etc. Uncodable turns may occur when one child does not understand what the other is saying (e.g., "What?"). However, if "other activities" occur in the same turn as codable behavior (i.e., play, conversations, or exploration) code the latter. The exception is when a total interruption of play, conversations, or exploration occurs for greater than 5 seconds. In this case, code "other activities" even if play, conversation, or exploration occurs

during the same turn.

Sharing of Activities

All activities will be coded as shared (1x0x) or not shared (1x1x).

Shared activities (1x01). These are activities in which children cooperate towards a common goal. For activity to be coded as shared, children must first be engaged in the same mode of activity as their partner for adjacent turns. That is, both children must be engaged in play activities, pretend play activities, conversation, exploration, or other activities. A child engaged in pretend play is considered to be involved in the same activity as a partner who is framing or acknowledging their pretend play (and the same for non-pretend).

In addition, children must be working together: a) towards a common goal that both are aware of and agree upon; or b) around a common theme, topic, or purpose when no other goal is apparent in the play of either child. A "goal" is some over-riding plan guiding a child's behavior in an activity. While goals can be as complex as acting out a camping script or as simple as trying to figure out how to put on a dress, they rarely change within 5 turns of their original inception except when engagement in any activity is very superficial, or when this activity represents a brief shift out of a more enduring activity. To code sharing of pretend play, the pretend theme or pretend goal has to be

shared. Specifically, both children evidence awareness of the theme and contribute to it.

It is important to note that this category overlaps with the index of social interaction. Social interaction is a necessary but not sufficient condition for shared activities. However, in shared activities both children acknowledge and adjust to their partner's goal or purpose in addition to maintaining social interaction.

To begin coding an activity as shared, one of the following conditions must be met: a) a directive, plan, or proposal for the dyad's or the partner's action or activity that is consistent with current or future goals (1xx3/5/7 + 28/9x) is acted upon by the partner; or b) social bids exchanged during engagement in an activity demonstrate an awareness of and adjustment to the partner's or the dyad's goals.

It is important to note that when a social bid, directive, plan, or proposal has been made in an attempt to initiate joint activity, the activity is not to be coded as shared until the social bid, directive, plan, or proposal is acted upon. Moreover, sharing a set of toys is not sufficient to code the children's activity as shared.

Once a shared activity has been coded, children must demonstrate that such sharing has been maintained in one of the following ways at least once every six turns: a) a description, directive, plan, or proposal for the dyad's or

the partner's action or activity that is consistent with
current or future goals (1xx3/5/7 + 28/9x) is acknowledged or
acted upon by the partner; b) social bids exchanged during
engagement in an activity demonstrate, at minimum, awareness
of the partner's or dyad's goal; or c) non-verbal behavior is
evident that is consistent with and specific to previously
announced and agreed upon shared goals, so long as sharing of
the activity has not lapsed since intentions were originally
announced.

Non-shared activities (1x0x). Following scoring of
sharing, absence of sharing is to be coded at the first turn
that does not meet the criteria for shared activities.
Activities are also to be coded as non-shared when children:
a) become engaged in dissimilar activities; b) clearly ignore
a partner's social bids, directive, plans, and proposals
around the goal; or c) do not shift goals when their partner
has done so.

Meta-Communication About Play Behavior

All turns must be coded as being a) non-verbal, b)
engaged communication, or c) meta-communication. The purpose
of this set of codes is two-fold. Specifically, the codes
are designed to distinguish verbal and non-verbal turns, and
to describe communication about play.

Non-verbal Turns (1xx0)

This code designates all non-verbal turns, that is, all
turns not involving comprehensible words or phrases.

Paralinguistic sounds such as "Ah" and "Uh-huh" would be coded here, as would turns in which the child does not speak.

Engaged Statements (1xx1)

This category includes all verbal communications that are not descriptions of behaviors the children are presently engaged in or activities that the children are currently concerned with. These communications are consistent with and necessary to being engaged in their activity, and occur within the frame of that activity. All verbal communication is assumed to fall into this category, except metacommunicative statements. Engaged communication will almost always be in the present tense, although communication in the present tense is not necessarily engaged communication. Questions and answers that are about what the children are doing and that are not thinly-veiled proposals will be coded as engaged statements. Simple attention-getting statements such as "Look" and "Wait" will also be coded here, unless they are in response to a clear directive. Simple "yes" or "no" responses and inaudible utterances would be coded as engaged statements. Also note that all verbal turns occurring during exploration, conversation, or other activities will be coded as engaged statements, because we are not interested in metacommunication during those activities.

Introduction to Meta-communication Codes

Because we are specifically interested in meta-

communication that occurs during pretend and literal play,
codes that are described below will only be scored during
engagement, framing, and acknowledgement of pretend and non-
pretend play. Also note that the statement associated with
the predominant activity is to be coded. In contrast to the
engaged statements described above, metacommunicative
statements require that the child talks about current play
activities in order to describe, direct, plan, or propose
features of the play. These statements will usually involve
the use of verb "to be" in one of its many forms (e.g., "I
am/was/will..." or "This is/was/will be..."). Other forms
may involve "to have to" or "can". Care must be taken when
children do not complete their sentences; in this case,
observers must imagine how the complete sentence would have
sounded, and then evaluate it on that basis. If, however,
there is any reasonable doubt as to its possible content, it
should be coded as an engaged statement. Meta-communication
is classifiable along two dimensions: the degree of active
structuring, and focus.

Degree of Active Structuring

Description of present play (1xx2). Statements are
coded as descriptions of present play if they describe the
physical characteristics, states, actions, or activities
which are part on the ongoing play (e.g., "I'm colouring mine
blue"). A child who describes their present play may be
talking about what something is, what is happening, what they

are doing, or what they are feeling right now. As such, these descriptions can be of the physical characteristics or behavior of people or objects, as well as of the broader activities in which they are engaged. Statements concerning what objects or people are capable of (e.g. "this guy can play hockey") as opposed to what they are going to do (e.g. "this guy is going to play hockey") are coded as descriptions rather than directions. Descriptions will almost always be stated in the present tense. However, observers must be careful to rely more on the intent of the child than the tense of the verb. If a child uses the future tense to describe something as they are actually doing it (i.e., the child acts on it as s/he says it) code this as a description and not a direction. However, if they describe something in the future tense and do not act on it immediately, this is a directive, even if the statement and the action occur in the same turn. Naming of objects would also be coded here. Descriptions are made in a matter of fact way (e.g. "This is a torn dress", "This iron is hot", "I need the doctor's mask"). In some cases, it is as if the child is speaking to themselves or is engaged in a monologue, or is drawing too much attention to obvious or irrelevant details as in Giffin's (1984) category of underscoring. At other times, descriptions may be part of a dialogue between the children. Examples: 1. "This hat is a bit big."

2. "This guy can play hockey."

> 3. "too small, too small" (while trying to put on
> a hat that is too small)
>
> 4. "I think I can open it."

Direction of immediately upcoming play (1xx3). These
statements direct what is going to happen or what the child
will do or be in the immediately upcoming play (e.g. "This is
going to be a big house" or "You put on this hat and I'll put
on that one"). Directions always suggest the introduction of
new elements into the play. Such statements often use past,
future, or conditional tense, especially during pretend play.
Statements such as "I gotta/have to..." would be coded here.
If a child uses the future tense to describe something while
they are actually doing it (i.e., they are acting on it as
they are saying it) code it as a description and not a
direction. However, descriptions of something in the future
tense that are not acted upon immediately are coded as
directives even if they occur in the same turn.

While directions of the immediately upcoming play are
similar to plans in that both are about future activity, the
former directs the play one step or event at a time and is
stated with the expectation that it is to be acted upon
immediately. Simple directives such as "Wait" should not be
coded here unless they are clearly in response to a specific
directive from the partner.

Directions are similar to proposals in that both serve
to introduce new elements, but directions are stated more

strongly and imperatively, and with more certainty. Note that the child who mentions a new element when engaged in shared pretend enactment is not scored as attempting to direct the immediately upcoming play unless attention is clearly drawn to the new element, as in Giffin's (1987) categories of underscoring or ulterior conversation.

Examples: 1. "I'm gonna go to a wedding."

2. "I'm going to build a house with these blocks."

Plans for future play (1xx5). In describing plans for future play, contingencies. multiple play components, or multiple play events are outlined with the intention of being acted out at a point in time that is clearly distinct from the present or immediately upcoming play. This is most apparent in descriptions of scripts involving two different events to be acted out in a particular sequence (e.g., "You're going to pretend that you broke your leg and then I will bandage you up" or "Put down that guitar and come help me with this wig"). Other times, the way in which the description is worded indicates that the child expects the component to be acted upon after some intervening event. For example, a child may say, "I will have to give you a needle after". Had the child not used the word "after", such a statement would have been coded as a direction of the immediately upcoming play. Plans may be jointly constructed over several turns, in which case each new element or event

added or contingency described is coded as a plan as long
they are in adjacent turns.

While both plans and proposals may serve to introduce
new elements into the play in a specified sequence, the
former are stated more strongly and imperatively, and with
more certainty and always involve contingencies or multiple
components.

Proposals for play (1xx7). Like the directing or
planning of play, proposals are clearly intended to structure
the upcoming play by introducing new elements. Proposals can
be as simple as directions for upcoming play or as complex as
plans for future play. They extend the full range of
complexity with regard to structuring. However, proposals
are distinct from the direction of immediately upcoming play
and planning of future play in that they have an element of
flexibility not present in the other two types of statements.
Proposals for play are stated as suggestions, that is, they
allow the player to accept or reject them. Their tone is
congenial, hesitant, questioning, or friendly rather than
matter-of-fact or imperative. Phrases such as "Let's do
this...", "Maybe I/we can..", "I think I will...", or "How
about if we" often indicate proposals. The use of the word
"let's" almost always indicates that a proposal is being
made. However, proposals should be interpreted in terms of
their intent more than their wording. Thus, nonverbal cues
such as gestures may indicate a proposal even when the

wording of the accompanying communication does not. For example, one child may say "Try this hat on" while offering it to the other child and the form of the gesture clearly indicates that the child's statement is intended as a proposal.

Examples: 1. "Let's play snakes and ladders."

2. "Let's say you were the doctor and I was the patient".

Focus of Communication

These codes are designed to capture the interpersonal focus and degree of abstractness with which children describe or direct their play. Observers should code the content associated with the predominant activity. If more than one focus applies to that verbalization, the highest level is to be scored. As described below, observers should be careful not to rely solely on sentence structure (e.g. the object of the verb) or the use of personal pronouns to infer focus.

Other focus (250). The focus of the child's communication falls into none of the categories which follow.

Object focus (260). The focus of the child's communication is on some object in their immediate environment. For example, they may describe what it is or what it can do. When the focus is explicitly on what the child can do with the object (e.g., "I am going to make this car go off the hill") then code focus as being on the person performing the action, not on the object.

Distinguishing between object and self focus can be tricky. If children say "he/she/it" when animating a playmobile figure, code the focus as on the object. Also, if children are talking about performing an action on an object that is unique to that object or immediate class of objects, code them as being focused on the object instead of being focused on themselves. For example, a child who says "Oh oh, I put the head on wrong" is referring to an action s/he has taken but the action is unique to the toy they are playing with, so it is coded as an object-focused statement. However, if children have taken on a role when animating Playmobile figures (i.e., when they are speaking in the first person while animating figures), code the statement as focus on self.

Examples: 1. "This needle is sharp."

2. "That necklace is pretty."

Focus on self's actions (277). The child is clearly focusing on some aspect of their own actions. If children have taken on a role while they are animating a playmobile figure (e.g., use the pronoun "I" while animating the figure), code as focus on self. If they are speaking to an imaginary person/object, code focus as being on self. When children are talking about something they have done or will do to an object, code them as being focused on themselves only if that same statement could be made with reference to many different objects. For example, they may say "I think I

know how to use this". This would be coded as focus on self because it is a statement which can be made about almost any object. All communications involving the self's actions, movement, and physical behavior will be coded here.

Examples: 1. "I'm going to try this hat on."

2. "I have a car".

3. (to imaginary patient) "Put this on your leg".

Focus on self's activities (278). The child is clearly focusing on their own activities. The sole difference between focus on self's actions and focus on self's activities is that statements focused on activities concern sets of interrelated actions that are subsumed under the activity that is named. That is, an activity is a group of actions. The child does not specify a particular behavior but rather refers to a range of possible behaviors. Any reference to the play frame would be coded here.

Examples: 1. "I want to play mother."

2. (walking to doctor's kit) "I'm going to play over here."

3. "I'm just playing."

Focus on partner's actions (287). The child is clearly focused on some aspect of the other child's actions. All communications involving partner's action, movement, and physical behavior will be coded here.

Examples: 1. "You try this hat on."

2. "You be the patient now."

<u>Focus on partner's activities</u> (288). The child is clearly focused on some aspect of the other child's activities. The sole difference between focus on partner's actions and focus on partner's activities is that statements focused on activities concern sets of interrelated actions that are subsumed under the activity that is named. That is, an activity is a group of actions. The child does not specify a particular behavior but rather refers to a range of possible behaviors. Any reference to the play frame would be coded here.

Example: 1. "Go play over there."

<u>Focus on dyad's actions</u> (297). The focus is clearly on some aspect of the actions of both members of the dyad. All communications involving the dyad's action, movement, and physical behavior will be coded here.

Examples: 1. "I'll try this hat on and you try that

hat on."

2. "Let's build a house."

<u>Focus on dyad's activities</u> (298). The focus is clearly on some aspect of the activity of both members of the dyad. The sole difference between focus on dyad's actions and focus on dyad's activities is that statements focused on activities concern sets of interrelated actions that are subsumed under the activity that is named. That is, an activity is a group of actions. The child does not specify a particular behavior

but rather refers to a range of possible behaviors. Any reference to the play frame would be coded here.

Examples: 1. "Let's play doctor".

2. "Let's play with the blocks".

Toys Used

Each category of toy a child is playing with is recorded using a 7XX score. If more than one toy is being used, code the predominant one. Note that toys do not need to be coded for every turn. Code toy categories only when they change. The following is a list of the codes that will be used:

700--No toy

708--Other (e.g., blackboard, garbage can, radio microphones)

Set I: 701--Dressup and entertainment set (microphones, guitars, tambourine)

702--Playmobil

703--Doctor's kit

705--Telephone

Set II: 711--Dressup materials (pieces of fabric, lamp shade, wooden "microphones", etc.)

712--Construc toy

713--Objects contained in the "suitcase"

(small containers, pipe cleaners, etc.)

715--Cones with switches and phone cord

Context of Social Pretend Play, Psychosocial

Issues, and Role/Object Transformations

General Notes

On a separate pass through the tape, the theme or themes
of each episode of pretend enactment and framing are scored
as well as the occurrence of identity and object
transformations. The coding is done whenever a) at least one
child is enacting, framing, explicitly acknowledging, or
engaging in preparations to pretend that are relevant to
previously announced intentions, and b) both children are
interacting socially. The coding is applicable to every
conversational turn with the exception of the elaborateness
of pretend, which is coded at the end of a given pretend
episode.

Instead of relying on time-based rules for ending
ambiguous pretend enactment (e.g. ending a role if no
directly relevant behavior has occurred in 10 seconds),
observers will rely on a two exchange rule. That is, for
context, psychosocial issues/valence, roles, and object
transformations, if no behavior consistent with the criteria
for the previously entered code occurs within two exchanges
for a given child (e.g. 1-2-1 for child 1), end that code at

the next turn. That is, if child 1 is clearly enacting a role
at turn 123, but then engages in behavior ambiguously
consistent with that role at turns 125, 127, and 129,
observers enter an end-of-role code at turn 129. If, on the
other hand, the play has changed such that a previously
entered code is clearly invalid, observers will immediately
end that code. For example, if the child engages in behavior
clearly inconsistent with enactment of the previously assumed
role at turn 125 (e.g., steps out of the pretend frame to
negotiate it), then end the role at turn 125. Check each
relevant section to see what behaviors are clearly or
ambiguously inconsistent with a given code.

Some codes are relevant to the coding of pretend
enactment only, whereas others are relevant to the
negotiation, acknowledgement, and/or preparation of pretend
enactment as well. Specifically: a) the context and
continuity of pretend framing or enactment is coded whenever
there is enactment, framing, explicit acknowledgement, or
directly relevant preparation; b) psychosocial issues and
their valence are coded whenever there is pretend enactment
or framing; and c) roles, object transformations, and
elaborateness of pretend are only coded for pretend
enactment.

If both enactment and framing are present in a single
turn, give predominance to the coding of the components of
pretend enactment. For example, roles and object

transformations are ended by framing. However, if role enactment, object transformations, and framing all occur in the same turn, code the enactment. If framing follows the object transformation or role enactment, treat these components as having ended in the subsequent turn unless behavior in the subsequent turn is consistent with or explicitly involves role enactment. If the framing precedes role enactment or object transformation, allow these codes to continue in accordance with the criteria outlined for each (see Appendix A, pp. 104-107).

Finally, observers do not need to enter codes into the computer for every single turn: a) context and continuity codes need only be written when these codes begin, end, or change; b) role and object transformations, and psychosocial issues and valence should be scored only when they begin and end; c) level of elaborateness should be entered at the last turn before the end of context code signals the end of that segment of pretend, for those segments in which there has been pretend enactment.

Observers should always enter the codes in the following sequence: 4/5XX, 6XX, 2XX. When a play session does not begin with a pretend context code, observers should enter 500 for the first turn of each child. Similarly, observers should insert a 600 or 200 after 4/5XX at the beginning of pretend-related sequences which do not begin with a psychosocial issue and/or role/object transformation.

Continuity, Context, Psychosocial Issues and Valence

Codes for the continuity, context, and psychosocial issues of social pretend play are adapted from Fein (1987b) and Rosenberg (1985). The first digit refers to the continuity of the theme (4/5XX), or whether the code deals with a psychosocial issue (6XX). The second digit following a 4/5XX indicates context, and the third digit the elaborateness of pretend enactment. The second digit following 6XX indicates a particular psychosocial issue, and the third digit, its valence. Social pretend framing or enactment can occur unaccompanied by a psychosocial issue (as indicated by an 600). Continuity and context must be scored whenever social pretend framing or enactment is observed.

Continuity (4/5XX). Observers should code a storyline that is new to the sessions as soon as they see it occur, by entering 4XX. Enter 5XX for: a) the second turn in a new storyline, whether it is clear or ambiguous; b) if a story is resumed following a break in the pretend, whether the break is due to cessation of pretend or of social interaction; or c) following an intervening story-line score. Although all subsequent utterances in that storyline will be coded, observers need only enter codes at turns marking the end of context (4/5X0), those involving a new storyline (4XX), and the first turn continuing a storyline.

Observers must be careful not to automatically code a change in storyline based on an apparent superficial change

in context area due to variations or additions to a continuing storyline. For example, in one case a child began pretending to be a prince, and then begin talking about astronauts. By watching the tape a little longer, it became clear that the child was talking about a prince who was an astronaut. In addition, it is important to note that different stories may be enacted within the same general context area (e.g., children may enact two different stories based on a doctor theme). However, observers should assume that the current story is a continuation of the previous one unless there are clear indications that it is not.

Context. Context codes are indicated by the third digit of 4/5XX. Context refers to the topic of the pretend, that is:

        0- no context

        1- family activities

        2- sports, skating, skiing

        3- doctor, dentist, nurse

        4- good guys, bad guys

        5- generalized character (e.g., lady, gentleman)

        7- entertainment (e.g., performer, audience)

        8- space

        9- other

Important points about coding context:

    a) If more one than context code is applicable, the predominant one should be scored. Score the category which

is most descriptive of the nature of the events which unfold.

b) In some cases, it is possible that children will be engaged in shared social pretend that has multiple context codes, or be focusing on different aspects of multiple contexts (e.g., using the skiers in a space episode, or playing a family that is going to the doctor). In these cases, score the predominant context.

c) If the children are interacting socially but not sharing the pretend theme give two context codes.

d) If one child is engaged in the preparation or enactment of pretend and the other is doing neither but is interacting socially with the first, assign a context code to the first child.

e) It is important to distinguish between prolonged and directed preparation (e.g. greater than 10-15 turns or 1-2 minutes in duration, whichever is more) that gradually becomes indistinguishable from non-pretend exploration of the objects or setting. While a content code continues for preparations, it must be ended for non-pretend exploration. Most of the time, extensive preparation should be considered to have ended as soon as it is no longer clearly and specifically related to explicit intentions or agreement to pretend.

Use the no context code (500) to indicate the end of pretend-related behavior. Assign the end of context code: a) immediately when the children are not actively engaged in

either enactment or framing of pretend, or preparation directly relevant to previously announced intentions to pretend, or b) after two exchanges (i.e., A-B-A) when the children are ambiguously engaged in preparations to pretend.

Psychosocial Issues and Valence A psychosocial issue refers to the emotional challenge to be dealt with. If more than psychosocial issue is observed, the predominant or most salient one (i.e., the one which seems most important) should be scored. Children may not be dealing with the same emotional issues despite their joint pretend enactment, and thus may be coded differently. Unlike codes for role and object transformations, psychosocial issues may be coded during the framing of pretend.

To be coded initially, psychosocial issues must be explicitly present in the child's behavior in a pretend role and/or in the elements of the storyline. That is, they should not be inferred from the child's behavior. For example, it should not be inferred that children pretending to be doctors are necessarily concerned with physical well-being. On the other hand, if one says "this patient must be cured", then the theme of physical well-being can be said to be present in the play, at least for the child making the statement. Once explicit mention of an issue has been made, observers need only look for behavior consistent with that issue to allow it to continue. In some cases the concern will be quite obvious. Sometimes the child's continuing

concern is explicitly demonstrated through their verbal statements (e.g., a concern for physical well-being is clearly evident when a child says, "This shot will make you better"). At other times a continuing concern is implicit in verbal statements or non-verbal behaviors (e.g., having once demonstrated a clear concern for a partner's "health", a child may continue to treat the "patient" by applying bandages and checking their temperature).

Observers must be careful to code the valence of issues as they characterize the current state of the child's pretend scenario and not as they characterize what the child explicitly intends to do in the upcoming sequence. For example, a child acting out a doctor sequence with a partner may say, "I'll have to do something to fix that broken leg". That child will be coded as demonstrating a concern for physical well-being with a negative valence until s/he actually does or says something that indicates that the leg is "fixed", at which point the valence is changed to positive.

Psychosocial issues should be ended by coding a 600 when the focus of the play changes in such a way as to suggest that the psychosocial issue is no longer relevant. This can occur a) through an explicit termination of pretend, b) through an explicit termination of the social interaction, c) through a shift in the pretend storyline that cannot readily accommodate the previous issue, or d) if no explicit or

implicit behavior relevant to the issue is apparent within 2 exchanges (A-B-A).

Valence (6X0/1/2). Psychosocial issues always have a positive or negative valence. It is important to note that valence refers to the positive or negative emphasis of the issue, not to the emotions expressed by the children while playing (e.g., killing with glee is negative). Valence (6XX) is coded as 6X1 if positive, or 6X2 if negative. Code 600 if there is no psychosocial issue of concern to the child.

Connectedness (61X). Connectedness refers to explicit portrayals of interpersonal relations. Positively valenced connectedness (611) includes themes of affiliation, affection, reunion, nurturance, friendship. A code of connectedness with a positive valence may be assigned whenever friends or friendship is mentioned. Visiting a friend's house or going to a party would likely be scored here. Negative aspects (612) are separation, isolation, rejection, being alone.

Physical well-being (62X). A score of 62X is scored for explicit portrayals of states or conditions affecting the bodily well-being of self or others. Examples are themes of health, recovery, and safety (positive valence) and illness, danger, and disability (negative valence). Storms, disasters or accidents would likely be scored here. While pretense involving the enactment of doctor/patient roles often involves themes of physical well-being, explicit mention of a

state of illness (e.g. mention of an injury or its
consequences) or a restoration to health ("This will make you
better") is needed for an explicit concern to be coded. Once
a concern for physical well-being has been made explicit,
probably any doctor-type behavior is sufficient for a concern
to continue to be coded. Note that any accidents which
explicitly involve humans (e.g. someone flying a spaceship
and saying "It's going to crash") are assumed to demonstrate
a concern for physical well-being. If an injury is
intentionally caused by another person, then code the injured
child as being concerned with psychological empowerment, with
a negative valence.

Psychological empowerment (63X). Psychological
empowerment refers to explicit portrayals of competence and
power in the interpersonal realm. Examples are themes of
mastery, control and prowess (positive) and failure,
helplessness and dependency (negative). Themes of loss of
protection or vulnerability (e.g. a child getting lost) would
likely be scored here. When the helplessness or failure of
the character has consequences for their health (e.g., "Help
me. I've crashed my spaceship and am hurt!") that are
explicitly identified, physical well-being should be scored.
Injuries that are intentionally caused by another person
denote a concern for psychological empowerment (negative
valence) for the injured child. When the power exerted by
one individual over another is due to social roles that each

is enacting (e.g. doctor-nurse, teacher-student) social regulation should be scored.

Social regulation (64X). Social regulation refers to explicit portrayals of social expectations, rules, and obligations. Examples are compliance, approval, and conformity to social expectations (positive), and disobedience, transgression, and punishment (negative). One character ordering another around (e.g., telling them to clean the house) would be scored here. If the individual being ordered round complies, they receive 641 and if they disobey, then they receive a 642. The appropriateness of the attempt to socially regulate must be noted in order to code the valence of the attempt or the response to it. For example, if the attempt is reasonable, in the best interests of the child, or done in a nice way, then code a positive valence for the child who regulates or who complies, and a negative valence for the child who disobeys. If the attempt to socially regulate is unreasonable, stern, or not in the best interests of the child, then code a negative valence for the child who regulates or who complies, and a positive valence for the child who disobeys.

Respect for property (65X). Respect for property refers to explicitly portrayed concerns over the intactness of material objects. Themes include protection and repair (positive) and destruction and threat (negative). Note that any accidents which explicitly involve humans are assumed to

demonstrate a concern for physical well-being. Also note that if the loss or destruction of personal property is clearly due to the action of another person, then code it as reflecting a concern for psychological empowerment.

Mastery (66X). Mastery refers to concerns with the approximating of reality. Such concerns may involve the use of words such as "should" or phrases   as "that's not how to do it/this is how...", "doing it well/poorly", etc. Such a theme can be distinguished from the simple act of qualifying a partner's transformation or introducing one's own transformations by looking for mention of this concern as part of pretend enactment. When such concerns accompany concerns with social regulation, the latter should be scored. For example, in a doctor-nurse sequence, if the doctor says to the nurse "No, you should hold the needle this way", social regulation should be scored. In general, concerns with mastery are distinguished from social regulation by the fact that the pressure to conform comes from authority or convention with which the child in role has no specific, socially-defined relation (e.g., attempting to perform a concert "properly"). It is scored for positive valence when someone has "done well", and negative when they have "done poorly'.

No psychosocial issue (600). A code of 600 indicates no psychosocial issue, and is used to end a psychosocial issue or to note pretend that involves no psychosocial issue.

Role and Object Transformations

If interaction is categorized as pretend, then object transformations used in the play are coded using an adaptation of codes previously developed (Connolly & Doyle, 1984; Connolly et al., 1983; Doyle, Bowker, Serbin, Gold, and Sherman, 1990; Garvey, 1977). The second digit identifies the presence of a role/object transformation (210). Note that role/object transformations must be enacted to be coded. In other words, when children are preparing or negotiating role and/or object transformations prior to enactment, no score is assigned. Also note that the coding of role and object transformations requires that observers attend to both the verbal and non-verbal components of pretend enactment.

Each utterance is coded as to whether it involves the enactment of a role or an object transformation. Whenever a role or object transformation is enacted, observers will code 210.

Role transformation. There are several ways in which a role may be indicated:

a) Children pretend to do something that they are not actually doing (e.g., sleep).

b) Children explicitly label an identifiable role and perform some behavior clearly appropriate to the role.

c) Children speak in an artificial voice and through what they say or do, indicate some identifiable role.

d) Children speak in the first person while animating a playmobile figure, as if they are speaking for the figure.

Note that once a child has begun enacting a role, they do not need to continue to label their role in order for role enactment to be indicated in subsequent utterances. However, to score subsequent behaviors as maintaining a previously indicated role, the child must perform some behavior that is clearly consistent with that particular role. This includes: a) altering voice in a role-appropriate way; b) saying (in the first person) something consistent with and specific to role; or c) engaging in behavior that is appropriate and specific to their role. For example, a child may pretend to be a doctor and carry on a conversation with a patient, telling him to come and to get his broken arm fixed. In the course of this pretend conversation, the "patient" may say, "so I'll see you at two and you can treat me?", to which the doctor may say "Yes, bye". In this case, the "Yes, bye" would be coded as role enactment because the affirmative response to the patient's question is appropriate if the other child is a doctor. The criteria for clearly consistent role enactment are sufficient for indicating the resumption of a role following a break (e.g., break for framing or preparation) provided the resumed role is clearly the same as that which was previously.

Observers must be careful to note when role enactment ends. Role enactment should be ended by coding 200 when the

focus of the play changes in such a way as to suggest that the specific role is no longer relevant. This can occur through: a) an explicit termination of pretend or social interaction; b) a shift in pretend storyline that cannot readily accommodate the previous role; or c) two exchanges (e.g., A-B-A for child A) when behavior is ambiguously consistent with the role. Role enactment should also be ended for utterances which involve framing of pretend.

Object Transformations

Observers also code 210 whenever an object transformation occurs. Transformations include any of the following:

a) a replica of the represented object is used or doll is animated (e.g., giving a shot with a toy syringe);

b) an object is transformed into something similar (e.g. large piece of cloth is a cape or a coat) or dissimilar (e.g., a block is animated by making it talk);

c) a child invents an imaginary object or uses gestures to signify an absent object. Explosions and fires are coded as long as some consequences of their action are enacted (e.g., sounds).

Object transformations should be ended by coding 200 under the following conditions: a) there is an explicit termination of pretend enactment (including breaks for framing or preparation) or social interaction; b) there is a shift in pretend storyline that cannot readily accommodate

the previous transformation; or c) nothing consistent with the transformation occurs within two exchanges (A-B-A).

Notes on object and role transformations specific to PCVID study. It is enough for a child to imitate the sound of an object that is not present to code the object. For example, if a child goes "Buzzz...There's the school bell, let's go" or "Dring, dring. Bob, get the telephone", score a transformation if no such objects were used.

If the Kermit puppet is used as a patient or as any other human character, code this as a transformation. If cotton is used as snow, code this as a transformation. The use of a microphone is coded as a transformation when it is clear that the children are no longer simply seeing if it actually works or when its use is accompanied by role enactment. This does not mean that a role should be coded whenever the microphone is being transformed but only when some other gesture indicates role enactment (e.g., exaggerated dancing).

Elaborateness

The coding of the elaborateness of children's pretend enactment has been adapted from Botvin and Sutton-Smith's (1977) work on the development of structural complexity in children's fantasy narratives. More specifically, the present system borrows the concepts of primary and secondary plot units. Primary plot units are:

elements which represent both the ... impetus for action

on the one hand, and the resolution on the other. That is, Narrative N proceeds from state A to state B, where both A and B represent primary plot units.... The impetus and resolution are related in that both represent distinct events that unfold over time in a meaningful storyline. It is important to note that the impetus for action represents an unresolved state intrinsic to a pretend script — that is, simply announcing an intention to pretend prior to actually pretending does not constitute an "unresolved state". Secondary plot units are elements which represent action or potential action that is preparatory, intermediate, or consequential to the establishment of the boundaries of the narrative" (Botvin & Sutton-Smith, 1977; p. 378).

In the present study, we will distinguish between:

a) simple elements, or actions/events that occur outside of any plot;

b) impetus, or some initial unresolved state like sickness or danger;

c) resolution, or the attainment of some state of relative equilibrium such as health or safety;

d) secondary states (secondary plot units), or elements that intervene between the impetus and resolution of a problem;

e) episodes, or primary plot units that are repeated;

f) chained plot units, or related plot units in a single

story that are coherently linked to one another but are not, unlike episodes, simple repetitions of a unit; and

g) embedded plot units, or primary plot units that intervene between an initial impetus and its resolution.

The elaborateness of pretend enactment is coded for all continuous segments of pretend in which there has been enactment (i.e., whenever there has been role enactment or an object transformation). Thus, if children cease pretend enactment several times but always return to the same story, level of elaborateness should be entered at the last turn before the end of context code signals the end of each segment of the pretend. The elaborateness code assigned to a given segment of a story represents the elaborateness of the story to that point, and thus includes elements present in previous segments.

If a new story is begun, elaborateness coding is begun for that story. A story may be defined as a collection of related make-believe actions or events that center on a single theme or context area and that may or may not unfold over time. Observers will code elaborateness as follows:

Simple elements. Pretend enactment that involves a single action or event. For example, someone makes a playmobile figure "ski".

Multiple simple elements. Pretend enactment involving similar but independent or unlinked events. For example, one Playmobile figure is made to ski and then another is made to

join him.

Impetus but no resolution. An unresolved state is apparent without resolution, either implicitly or explicitly. For example, a child may say "It's time to race", make a playmobile figure ski, and then stop without any indication that the "race" was finished.

Primary plot unit. A story involving an impetus and its resolution. For example, the child animates a Playmobile figure as in example above, and when he is finished he says "yeah", or waves his arm in a gesture of victory, or says "I won". The impetus and resolution are related in that both represent distinct events that unfold over time in a meaningful storyline.

Primary and secondary plot units, and episodes. As in category above except that something intervenes between the impetus and its resolution. For example, the events in the example given above occur and while racing, the skier is made to avoid a tree, or prior to racing must be dressed.

In an episode, the same primary plot unit is repeated. For example, the events in skier races and then the child says "now I have to race again" and proceeds a second time, with a clear resolution. Plot units need not be identical to be scored as episodes, only similar in the nature of the impetus and it resolution.

Chained plot units. Primary plot units that are meaningfully linked but not simply repeated with slight

modifications as with episodes. For example, a child may make the ski race described above then say "Now I'm going to ski home" and proceeds to do so. The second impetus must be clearly resolved for this category to be scored.

Embedded plot units. Primary plot units that intervene in a meaningful way between an initial impetus and its resolution. For example, the child may say, "I'm going to ski in this race", makes two playmobile figures ski, and then says "I have to get rid of this other skier to win", makes one crash into the other and knock it off the course, and then has the remaining skier "win".

Appendix B

Source Tables for Analysis of Variance Procedures

Table B1

Number of Turns in Transcript ANOVA

Test of Homogeneity

Bartlett-Box: F (3, 720) = 0.50; p > .68.

Source	Sum of squares	DF	Mean square	F	p
Friendship	2752.042	1	2752.042	.17	.688
Sex	1751.042	1	1751.042	.11	.748
Friendship by Sex	1426.042	1	1426.042	.09	.772
Within	330757.833	20	16537.892		

Table B2

Time in Social Interaction ANOVA

Test of Homogeneity

Bartlett-Box: F (3, 720) = 0.67; p > .5.

Source	Sum of squares	DF	Mean square	F	p
Friendship	1.405	1	1.405	.00	.993
Sex	13785.723	1	13785.723	.77	.391
Friendship by Sex	14525.906	1	14525.906	.81	.379
Within	358346.367	20	17919.318		

Table B3

Time in Shared Activities MANOVA (Transformed Variables)

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Tests of Homogeneity

Bartlett-Box

Shared literal enactment: F (3, 720) = 0.11; p > .95.

Total shared pretend: F (3, 720) = 1.15; p > .30.

Shared conversations: F (3, 720) = 1.01; p > .35.

Shared exploration: F (3, 720) = 0.42; p > .70.

Box's M = 45.2; F (30, 1099) = .92; p > .55.

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Multivariate F test

Effect	Pillais	F	Hypothesis df	Error df	p
Friendship	.340	2.19	4	17	.114
Sex	.092	0.43	4	17	.784
Friendship by Sex	.388	2.70	4	17	.066

<hr>

Table B3 (continued)

	Univariate F tests				
Source	Sum of squares	DF	Mean square	F	p
Friendship					
Shared literal enactment	10.02	1	10.02	0.22	.641
Error	893.59	20	44.68		
Total shared pretend	5.09	1	5.09	0.13	.726
Error	804.74	20	40.24		
Shared conversations	19.56	1	19.56	1.48	.239
Error	265.05	20	13.25		
Shared explorations	34.32	1	34.32	6.51	.019
Error	105.49	20	5.27		
Sex					
Shared literal enactment	20.55	1	20.55	0.46	.505
Error	893.59	20	44.68		

(table continues)

Table B3 (continued)

Source	Sum of squares	DF	Mean square	F	p
Total shared pretend	16.34	1	16.34	0.41	.531
Error	804.74	20	40.24		
Shared conversations	10.04	1	10.04	0.76	.394
Error	265.05	20	13.25		
Shared explorations	4.51	1	4.51	0.85	.366
Error	105.49	20	5.27		
Friendship by Sex					
Shared literal enactment	286.60	1	286.60	6.41	.020
Error	893.59	20	44.68		
Total shared pretend	27.31	1	27.31	0.68	.420
Error	804.74	20	40.24		
Shared conversations	5.52	1	5.52	0.42	.526
Error	265.05	20	13.25		

(table continues)

Table B3 (continued)

Source	Sum of squares	DF	Mean square	F	p
Shared explorations	7.69	1	7.69	1.45	.241
Error	105.49	20	5.27		

Table B4

Proportion of Shared Literal and Pretend Play Repeated

Measures ANOVA

Test of Multivariate Homogeneity

Box's M = 22.20; F (9, 4583) = 2.02; p > .03[a].

Between-Subjects Effects

Source	Sum of squares	DF	Mean square	F	p
Friendship	0.02	1	0.02	.14	.712
Sex	0.03	1	0.03	.23	.633
Friendship by Sex	0.44	1	0.44	3.68	.070
Within	2.40	20	0.12		

Within-Subjects Effects

Source	Sum of squares	DF	Mean square	F	p
Activity	0.02	1	0.02	.58	.454
Friendship by Activity	0.01	1	0.01	.37	.549
Sex by Activity	0.00	1	0.00	.04	.846

(table continues)

Table B4 (continued)

Source	Sum of squares	DF	Mean square	F	p
Friendship by Sex					
by Activity	0.02	1	0.02	.48	.497
Within	0.73	20	0.04		

[a] Because of equal n's, it can be assumed that the ANOVA is robust with respect to violation of the multivariate homogeneity assumption (Tabachnick & Fidell, 1983).

Table B5

Framing of Play ANCOVA with Total Number of Turns as

Covariate

Tests of Homogeneity

Bartlett-Box

Framing of play: F (3, 720) = 0.30; p > .83.

Total number of turns: F (3, 720) = 0.50; p > .68.

Box's M = 7.18; F (9, 4583) = 0.65; p > .75.

Tests of Factor by Covariate Interactions

Source	Sum of squares	DF	Mean square	F	p
Friendship by Covariate	522.18	1	522.18	1.22	.285
Sex by Covariate	234.24	1	234.24	0.55	.469
Friendship by Sex by Covariate	358.59	1	358.59	0.84	.373

(table continues)

Table B5 (continued)

| | Univariate $\underline{F}$ Tests With Covariate | | | | |
Source	Sum of squares	$\underline{DF}$	Mean square	$\underline{F}$	$\underline{p}$
Covariate	10223.32	1	10223.32	23.46	.001
Friendship	32.82	1	32.82	0.08	.787
Sex	1.02	1	1.02	0.00	.962
Friendship by Sex	289.43	1	289.43	0.66	.425
Within	8281.18	19	435.85		

Table B6

Proposals ANCOVA with Total Number of Turns as Covariate

Tests of Homogeneity

Bartlett-Box

Proposals: F (3, 720) = 0.69; p > .56.

Total number of turns: F (3, 720) = 0.50; p > .68.

Box's M = 5.76; F (9, 4583) = 0.52; p > .86.

Tests of Factor by Covariate Interactions

Source	Sum of squares	DF	Mean square	F	p
Friendship by					
Covariate	1.36	1	1.36	0.09	.771
Sex by					
Covariate	0.11	1	0.11	0.01	.933
Friendship by Sex					
by Covariate	2.32	1	2.32	0.15	.704

Table B6 (continued)

	Univariate F Tests With Covariate				
Source	Sum of squares	DF	Mean square	F	p
Covariate	184.81	1	184.81	14.02	.001
Friendship	16.41	1	16.41	1.24	.279
Sex	7.17	1	7.17	0.54	.470
Friendship by Sex	0.11	1	0.11	0.01	.928
Within	250.53	19	13.19		

Table B7

Focus on Partner or Dyad ANCOVA with Total Number of Turns as
Covariate

Tests of Homogeneity

Bartlett-Box

Focus on partner or dyad: F (3, 720) = 1.95; p > .12.

Total number of turns: F (3, 720) = 0.50; p > .68.

Box's M = 17.9; F (9, 4583) = 1.63; p > .10.

Tests of Factor by Covariate Interactions

Source	Sum of squares	DF	Mean square	F	p
Friendship by					
Covariate	1.86	1	1.86	.01	.932
Sex by					
Covariate	65.52	1	65.52	.27	.612
Friendship by Sex					
by Covariate	256.41	1	256.41	1.05	.321

Table B7 (continued)

Source	Univariate F Tests With Covariate				
	Sum of squares	DF	Mean square	F	p
Covariate	16401.09	1	16401.09	72.19	.001
Friendship	462.30	1	462.30	2.03	.170
Sex	142.57	1	142.57	0.63	.438
Friendship by Sex	1012.18	1	1012.18	4.46	.048
Within	4316.41	19	227.18		

Table B8

Highest Elaborateness in Shared Pretend ANOVA

	Test of Homogeneity				
Bartlett-Box:	F (3, 720) = 0.04; p > .99.				

Source	Sum of squares	DF	Mean square	F	p
Friendship	0.667	1	0.667	.199	.660
Sex	1.500	1	1.500	.448	.511
Friendship by Sex	0.167	1	0.167	.050	.826
Within	67.000	20	67.000		

Table B9

Affective Themes ANCOVA with Number of Turns in Shared

Pretend as Covariate

Tests of Homogeneity

Bartlett-Box

Affective themes: F (3, 720) = 1.50; p > .21.

Turns in shared pretend: F (3, 720) = ¹ 84; p > .13.

Box's M = 16.2; F (9, 4583) = 1.47; p > .15.

Tests of Factor by Covariate Interactions

Source	Sum of squares	DF	Mean square	F	p
Friendship by					
Covariate	0.00	1	0.00	.00	.972
Sex by					
Covariate	0.98	1	0.98	1.34	.264
Friendship by Sex					
by Covariate	1.39	1	1.39	1.90	.187

Table B9 (continued)

	Univariate F Tests With Covariate				
Source	Sum of squares	DF	Mean square	F	p
Covariate	49.29	1	49.29	51.54	.001
Friendship	0.07	1	0.07	.08	.784
Sex	0.75	1	0.75	.79	.386
Friendship by Sex	1.11	1	1.11	1.16	.296
Within	18.17	19	0.96		

Appendix C

Descriptive Statistics and Correlations

For Shared Activity Variables

Table C1

Descriptive Statistics for Time in Shared Activities

Variable	Range	Mean (in sec.)	SD	%cases=0	Skew[a]
Shared literal engagement	10-1175	294.5	268.4	0	1.947
Shared literal framing	0-83	13.4	19.3	33	2.407
Shared literal acknowledgement	0-15	3.2	4.5	54	1.317
Total shared literal	10-1175	311.00	268.5	0	1.80
Shared pretend engagement	0-335	51.75	83.0	17	2.342
Shared pretend framing	0-258	39.2	60.3	21	2.523
Shared pretend acknowledgement	0-67	16.3	14.5	13	1.908
Total shared pretend	0-627	107.2	146.6	13	2.33
Shared conversation	0-203	29.1	46.3	38	2.578

(table continues)

Table C1 (continued)

Variable	Range	Mean (in sec.)	SD	%cases=0	Skew[a]
Shared exploration	0-121	18.8	26.2	33	2.759

[a] Distributions with skews greater than +/- 1.22 are significantly skewed, $p < .01$.

Table C2

Descriptive Statistics for Transformed Shared Activities

(Square Root Transformation)

Variable	Range	Mean	SD	%cases=1[a]	Skew[b]
Shared literal engagement	3.2-34.3	16.09	7.26	0	0.648
Shared literal framing	1-9.2	3.14	2.18	33	1.086
Shared literal acknowledgement	1-4.0	1.78	1.01	54	0.912
Total shared literal	3.2-34.3	16.17	7.18	0	0.563
Shared pretend engagement	1-18.3	5.61	4.71	17	1.310
Shared pretend framing	1-16.1	5.03	3.94	21	1.243
Shared pretend acknowledgement	1-8.2	3.82	1.70	13	0.337
Total shared pretend	1-25.1	8.53	6.09	13	1.041
Shared conversation	1-14.3	4.19	3.61	38	1.133

(table continues)

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Table C2 (continued)

Variable	Range	Mean (in sec.)	SD	%cases=0[a]	Skew[b]
Shared exploration	1-11.0	3.67	2.57	33	0.941

[a] Cases with a score of 1 had a score of zero before transformation. [b] Distributions with skews greater than +/- 1.22 are significantly skewed, $p < .01$.

Table C3

<u>Correlations Among Transformed Shared Activity Variables</u>

		2	3	4	5	6	7	8
1.	Shared literal engagement	.02	-.04	.13	.14	.28	-.10	-.04
2.	Shared literal framing	—	.53	.18	.24	.17	-.03	.11
3.	Shared literal acknowledgement		—	-.28	-.09	.08	-.01	-.17
4.	Shared pretend engagement			—	.89	.58	.05	.46
5.	Shared pretend framing				—	.57	.03	.49
6.	Shared pretend acknowledgement					—	.15	.26
7.	Shared conversation						—	-.09
8.	Shared exploration							—

Appendix D

Rationale for Using Untransformed Proportions of

Shared Pretend and Literal Play

The within-group skews for the proportions of pretend and literal play that was shared are presented in Table D1.

Table D1

Skew Within Groups for Raw Proportions

of Shared Pretend and Shared Literal Play

	Skew	
Group[a]	Shared pretend	Shared literal
Boy friends	0.527	0.808
Girl friends	0.460	1.084
Boy acquaintances	-1.512	-0.058
Girl acquaintances	-0.541	1.224

[a]n = 6 for each group.

Because of the considerable variability in direction and magnitude of skew, transformations would have had differential effects across groups. Furthermore, tests of multivariate homogeneity indicated that an arcsine transformation of the proportions resulted in relatively more heterogeneity, whereas raw proportions were less heterogeneous (see Table D2). Thus, use of untransformed

proportions was warranted.

Table D2

Multivariate Homogeneity Tests for Raw and Transformed

Proportions of Shared Pretend and Literal Play

	Box's M	F (9, 4583)	p
Raw proportions	22.20	2.02	.034
Proportions transformed with arcsine	30.43	2.76	.003