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KINDERGARTNERS WHO BECOME FRIENDS: CLASSROOM INFLUENCES ON

INTERACTIONS AND PATTERNS OF STABILITY AND CHANGE

by

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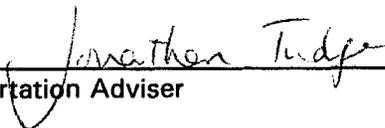
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This research was a year-long longitudinal study examining the friend making activity of kindergarten children. The subjects were a diverse sample of 38 children, attending two kindergarten classes in a suburban public school in North Carolina. The sample included 15 girls (mean age 65 months), and 23 boys (mean age 67.6 months). Median income of subjects' families was $40,000. Spot observational methods were used to record children's social interactions. Observational data were aggregated by seven coding periods to identify frequent playmates. Teacher and child nominations of individual's common playmates were recorded at the end of each coding period. The three methods of playmate identification were compared to determine the concordance between them. It was hypothesized that concordance between all methods would exist.

Individual children were identified as friends by the frequency, stability, and quality of their interactions, and the concordance between at least two identification methods. It was hypothesized that the individuals who became stable friends with classmates would engage in more interactions outside of the proximity of teachers, and during free activity times. It was also hypothesized that boys would be more likely than girls to be identified as stable friends.

By using observational data, three stability-change types of individuals were identified. Marginals were relative social isolates. Changers were children who changed play partners. Consistents had one or more frequent and lasting play partners. Data signifying the level of joint activity and positive reciprocal interactions by types were compared. Graphs were constructed showing the variability of these interactions by types across the year under varying conditions of the proximal setting variables, teacher presence and classroom structure.

Results showed a lack of concordance between assessment methods during the first semester (average agreement level 48.8%). Teacher and child nominations demonstrated concordance during the second semester (agreement level 84.3%). Children identified as

friends were more likely to interact with all partners outside of teacher presence and during freely structured activity times. Boys were no more likely to be identified as friends than girls. Proximal setting conditions demonstrated a marked influence on the frequency and variability of stability-change types' joint and positive social interactions.

APPROVAL PAGE

This dissertation has been approved by the following committee of the

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CHAPTER I

INTRODUCTION

"The individual is both the picture and the artist" --A. Adler

In this dissertation observational, self-report, and teacher report methodology will be

compared and integrated in an examination of the friend-making activity of children in two

kindergarten classrooms. This examination of interaction patterns and perceptions of

relationships builds on the foundations laid by researchers who have offered explanations of the

contents, functions, and development of early friendship interactions (Buhrmester & Furman,

1986; Corsaro, 1985; Howes, 1988; Ladd, 1990; Rizzo, 1989), and by those who have offered

theoretical explanations of the importance of early peer relationships (Hinde, 1979; 1987; Piaget,

1965/1932; Rizzo & Corsaro, 1988; Selman, 1981; Sullivan, 1953; Vygotsky, 1978; Youniss,

1980).

Why Study the Friend-making Process?

The practical motivation for the description and analysis of the children's early friend-

making attempts in school arises because it is known that friendships are important to many

kindergarten age children. In the United States at least, this has been affirmed by what parents,

teachers, and children themselves say (Howes,1988; Ladd, 1990). Children seem to be

concerned from an early age with social identity and with having a sense of "belonging" (Carini,

1982; Ladd, 1990). During their first years in school, being accepted by peers is a primary

concern for children (Buhrmester & Furman, 1986). Identification with a consistent playmate, or

group of consistent playmates, who may become one's friends, is an important part of the

acceptance process. Additionally, "because friendship is one of the earliest forms of a close peer

relationship, it becomes the arena for developing views on cooperation and intimacy" (Nelson &

Aboud, 1985, p. 1009). As development occurs, peers generally, and friends particularly,

become an increasingly important source of influence in the lives of children and young adults (Buhrmester & Furman, 1986; Cairns, Neckerman, & Cairns, 1988; Dunn, 1993; Selman, 1981; Youniss, 1980).

In order to understand the activity of friend-making as a social developmental phenomenon it is important to understand its genesis within a particular sociocultural setting. Vygotsky's (1978) citation of P. P. Blonsky is relevant, "Behavior can only be understood as the history of behavior" (p. 65). Since public school classrooms represent a common sociocultural setting for young children in the United States, the examination of the early history of children's social activity in kindergarten classrooms should yield meaningful information about the friend-making process. Of particular practical interest is the question of how the structuring and organization of these classrooms, both physically and temporally, may exert an influence on the friend-making abilities of children.

Further strong motivation for the study of friendship formation in the kindergarten year is provided by Rizzo (1989; 1992) and by Higgins and Parsons (1983). These latter authors assert that entering the school setting constitutes a "dramatic shift in the social life of the child" which corresponds with "major changes in social cognition" (p. 17). Rizzo (1989), provides further support for this assertion of a concurrence between shifts in social environment and social cognitive development in his book on the development of friendships during the first grade school year. He reports that Corsaro's (1985) study of three- to five-year-old children in a part-day nursery school showed that children conceptualized friendship as "external and reactive." In his own study, Rizzo found first graders' (six- to seven-year-olds) concept of friendship to be generally "internal and proactive." These empirically grounded assertions imply that an important developmental transition is taking place among five- to six- year-old kindergartners. By the careful examination and description of kindergarten children's interactions across an entire school year, a greater understanding of this transitional process may be attained.

Objectives of the Study

A basic objective of this longitudinal study is to provide an in-depth description of the development of individual kindergartner's patterns of relationships with classmates. These patterns initially are most clearly defined as companionships, or "associations" (Hinde, Titmus, Easton, & Tamplin, 1985). With time they can develop into what may be more clearly defined as friendships.

Another objective is to use observational data to investigate the relation between organizational features (constraints) of the classroom and the particular interaction patterns that may emerge in children's day-to-day interactions over the course of the school year. Important organizational constraints include whether or not teachers are in close proximity to children during activity, time in structured versus free choice activity, whether such activity takes place inside or out, and activity in small versus large groups.

A further primary goal of this study is to determine the concordance between different methods of identifying friends. As Hartup (1988) has declared, such concordance "has been assessed less frequently than one might imagine" (p. 48). Three methods for ascertaining the existence and stability of interpersonal relationship among kindergartners are compared: peer nominations; teacher nominations; and observations of children's classroom activity.

The methods of friend identification cited above were used in combination to determine whether or not individuals became stable friends. The stability-change patterns of the children were then assessed to determine their fit into one of three differing ratios of stability and change in close relationships (Krappmann, 1985). The stability-change types include: marginals (solitary children), changers (children who make friends but change partners), and consistents (children who maintain exclusive friendships for a relatively long period). The year-long interaction histories of individuals from the different types are examined in order to understand more completely the circumstances of their development. Therefore, a final objective of this study is to ascertain how environmental factors might influence the interactions of marginals, changers, or consistents.

CHAPTER II

LITERATURE REVIEW

Theoretical Positions Establishing the Importance of Early Friendships

The importance of young children's peer relationships and friendships in particular has long been recognized by theorists concerned with developmental and clinical issues (Adler, 1930; Sullivan, 1953). These theoreticians have focused on the importance of friendships for the healthy psycho-social and emotional development of individuals as they become adults. Other developmental theorists, notably Piaget and Vygotsky, have concentrated more on the importance of peer relationships in cognitive and moral development. The fact that these seminal theorists have recognized the importance of young children's peer relationships constitutes an encouragement for the study of how friendship begins to form in early childhood classrooms.

Adler and Sullivan. The individual psychology of Alfred Adler was based upon his own clinically and philosophically derived convictions. Darwin's influence on Adler's thinking was evident in his situating of human interpersonal development in an evolutionary frame of reference. Hans Vaihinger's (1925) philosophy guided Adler toward the notion that humans have evolved goal-directed adaptive intellectual abilities within a social milieu.

Adler maintained that early development was characterized by an inherited (and biologically adaptive) motivation toward the satisfaction of pan-human needs or goals. Chief among these was establishing individual power or superiority. Adler's clinical work led him to the conviction that early development was crucially influential in the life of the adult. He believed that as children develop an individual self identity, they fix a goal of becoming superior in relation to others in their social worlds. Once the child discovers that this goal of superiority is unachieveable, resultant feelings of inferiority trigger the creation of a compensatory and personal-subjective view of social life. This personal-subjective view of reality, guided by the

individual's interpretation of life events and situations and by family influences, results in the child's active construction of a "style of life" (Adler, 1930, p. 8). Adler postulated that this relatively stable style of life is established during the preschool period.

According to Adler, "a crucial and deciding factor in normal development" (p. 11) is that a child is able to develop "social feeling" as part of his/her style of life. In large part this is because the social or communal setting is the arena in which all the solutions to the problems of life are discovered. Adler fixed great importance on the school as the social setting where early "mistakes" in development could be discovered and compensated for. Such mistakes, resultant largely from social-interpersonal factors within the family, were assumed to be at the root of a child's lack of social feeling. Adler posited that a "good way of finding out the degree of social feeling of a child is to observe him at a time when he enters school" (p. 11). If social feeling is absent at this time the child will have great difficulty meeting people and getting along with friends. He may become isolated or ostracized. Although the underlying causes may be more complex than Adler has put forward, some children do appear to be socially isolated in their early school years (Asher, Hymel, & Renshaw, 1984; Coie & Dodge, 1983; Ladd, 1990). Adler's strong conviction was that a well-trained teacher could recognize differences in social feeling and educate the child and the child's parent(s) toward setting new life goals that include healthy social contacts as desirable norms.

Harry Stack Sullivan's ideas about the importance of interpersonal relationships in the development of the self were based in large degree on Adler's postulate of the importance of social feeling. This can be seen particularly in Sullivan's definition of the mature and psychologically well-adjusted person as one who focuses not on the self nor on the other exclusively, but on the relationship between them. For Sullivan, "the mature person seeks with others 'consensual validation of personal worth'" (Youniss, 1980, p. 2, emphasis added). Sullivan, like Adler, allowed that a great deal of the individual's psycho-social developmental pattern is set before the age of five years, and that abnormal development could be affected by

poor early parenting as well as by organic defects. Sullivan asserted, like Adler, that the individual's interpersonal relationship system within the family was intimately linked with the formation of subsequent peer relationships. However, he gave greater emphasis to the importance of the peer system and focused his analysis on the developmental changes that occur as the individual's interpersonal focus expands beyond the family.

Sullivan noted that at the end of what he termed the "childhood period" (around four to five years) children begin to create imaginary friends or playmates who are not fantastic nor animal-like, but who are children similar to themselves (Sullivan, 1953). This development signalled the child's need to begin seeking out real-life "compeers" as companions and potential friends. Sullivan had a strong belief in the reparative effects of healthy interpersonal exchanges between compeers which happen around the time children begin entering school (Sullivan, 1953, pp. 227-228). It must be noted that "the beginning of school" was commonly between six and seven years when Sullivan wrote. Contemporary American children begin full day kindergarten between five and six years.

Sullivan's theory maintains that, during the juvenile period (from about six to nine years), children will seek out compeers based on similarity to themselves. In a sense the theory sees the early school period as a time when the children test out their social skills, and learn through two fundamental modes of relating--competition and compromise. The juvenile era at its best allows acquisition of a "particular complement of interpersonal aptitudes" (1953, p. 241). These include: gaining a knowledge of how interpersonal relations fulfill personal needs; the circumstances within the social world in which these needs may be met, and learning to defer immediate desires in order to maintain more salient social and personal goals. Sullivan, then, sees the early school period not as a time when friendships become lasting and intimate, but as a time when the child first uses interpersonal relationships with peers to accomplish particular "interpersonal competencies."

> In particular, social competencies develop through experiences in interactions that require these competencies. . . . When children encounter a type of interaction that is structurally novel and beyond their current skill level, they are pressed to expand their competence to the level demanded by the new social task (Buhrmester & Furman, 1986, p. 44).

This view of development in the social interpersonal domain finds strong parallels with both Vygotskian and Piagetian views of development in the social cognitive domain.

Sullivan's developmental theory moves toward the idea that the system of relationships that come to be established with peers is influenced by, but separate from, the parental-family relationship system. Robert Hinde's theoretical position (Hinde, 1979; Hinde, Perret-Clermont, & Stevenson-Hinde, 1985; Hinde, 1987) moves further toward the separation of these systems. Hinde sees the two systems as of a different character--influenced by different immediate functional needs, and different sociocultural environments.

The functional relationships of children within a non-familial group setting, and with a largely same-age peer group, are different from those of the infant-toddler constrained by the spatial and relationship possibilities of the home. Even if the home environment allows for a large kin network of caregivers and interpersonal relationships, the child's general position within the parental-home system is different from his or her position in the peer system of the child care or early school environment. The parental-home system places young children into a position of relative dependency. Relationships are focused around the needs of the child to survive and thrive. With movement into a peer group environment, children, often with the aid of the security provided by a teacher, become less dependent on parents and more reliant on social relationships of an egalitarian nature (Hinde, Perret-Clermont, & Stevenson-Hinde, 1985). The peer system is more comparison-oriented and symetrically structured than the home system. These fundamental differences mean that the process of the child's development within one system may well be largely independent of the prior system of relationships.

Piaget's view of the importance of peer relationships. In most recountings of Piagetian theory, the emphasis is on the way in which the individual child develops internal logical

structures. It is certainly clear that the focus of Piagetian theory and his explanation of the development of both intellectual and moral understandings involve descriptions of individual structural transformations. However, Piaget also acknowledged the importance of the social milieu in this development (Tudge & Winterhoff, 1993). In order for children to develop both cognitively and morally they must experience a clash of perspectives with an equal status individual or social peer. "Human intelligence develops in the individual in terms of social interactions--too often disregarded" (Piaget, 1971, p. 224 f). Thus, the functional interactions of peers are also central factors in the Piagetian view of human development.

The ability of children to take the perspective of others, to decenter, was thought by Piaget to be crucial to the development of mature persons (Piaget, 1932/1965). He posited that in order for children to truly understand and benefit from the perspective of others, those others must be roughly equal in status to the children themselves. With these equal-status peers children are much more likely to engage in argument and discussion about particular problems. This process of completely airing viewpoints and truly listening to the views of others carries with it the potential for genuine cognitive restructuring--and adaptation in thinking.

Piaget clearly believed that parents and other authoritative adults fulfilled important socialization functions for children before the concrete operational stage. Children need the steady guidance of knowledgeable adults as they begin their developmental journey. The authoritative role of adults creates an asymmetric relationship between adults and children, and as they grow to the preschool age it is natural for children to continue to take the submissive role in reasoning about particular problems or issues with adults. Instead of truly reasoning, children adopt a subjective but copy-like version of the adult reasoning. Therefore, when reasoning with adults, children do not engage in the true argument or discussion Piaget considered necessary for the process of cognitive restructuring and growth. Fortuitously, from an early age children begin discussing and exchanging perspectives with individuals not invested with the authority to put across unquestioned viewpoints, namely their peers. Piaget argued that it was in

conversations with peers that children as young as three or four begin to demonstrate an understanding of the need to recognize the point of view of others--to understand perhaps, the need for cooperation. Piaget wrote, "the [functional] usefulness of these exchanges cannot be overestimated just because they show an effort toward mutual understanding and a sharing of viewpoints" (Piaget, 1926/1959, p. 248). These exchanges between preschool peers signal the beginning of a long developmental course as childhood egocentrism wanes and children become more able to take the perspective of others during the concrete operational stage. Piaget wrote that as this development occurs, adults, both parents and teachers, must learn to create an atmosphere in which children are allowed the freedom of social activity and discussion necessary to develop skills in logical thought and social cooperation (Piaget, 1959/1926).

The relative roles of adults and peers in children's lives in Piaget's analysis of moral development and cognitive development bear a striking similarity (1965/1932). Again the focus is on the asymetry-symetry dichotomy. Adult authority "constitutes a necessary moment in the moral evolution of the child", but children develop a sense of justice "only through the progress made by cooperation and mutual respect--cooperation between children to begin with..." (1965/1932, p. 319).

In the moral sphere Piaget emphasized the importance of developing a sense of cooperation within the peer society. However, it appears that there is less potential for cooperative activity in the larger social group constituting the peer society. Piaget described the development of group solidarity and cooperation among children between the ages of five and twelve. In the earliest stage of that development, the societies formed by children of five to seven, Piaget perceived an "amorphous and unorganized" whole made up of children

> simultaneously egocentric and impersonal, yielding to every suggestion that comes along and to every current of imitation. In their case the group feeling is a sort of communion of submission to seniors and to the dictates of adults (1965/1932, p.320).

Evidently, although Piaget recognized the capability of pairs of young children to begin the process of discussion and perspective-taking that leads to cooperation, he took a less sanguine view of their capacity for this activity within the larger peer society. Piagetian theory thus presents an image of an early childhood society (or classroom) which seems to be strongly in need of adult structure. Piaget observed a society in which children as a group, are largely incapable of cooperation and "organic solidarity" (p. 320). Nonetheless, within a structure of group control, teachers and caregivers need to recognize that peer relationships, especially dyadic and small group relationships, have already become highly important and intellectually productive for children as they embark on their school lives. Classroom friendships are one form of such relationships.

According to Youniss (1980), both Piaget and Sullivan characterized the early school years as a time in which children experience the crumbling of the certainty of their individual, family-based, and rule-bound worlds. They begin to realize that different individuals have developed different rules for action and social norms within their own families. This is why the early school time can be quite tumultuous and fraught with anxiety for children, and also why children probably naturally seek out compeers who resemble themselves, assuming that these peers will carry with them a similar set of rules for action. It may be that similarity-seeking constitutes a first peer-communal structure within a largely adult-structured social world.

The cognitive developmental theory of Piaget has been applied directly to the process of friendship development through the work of Selman (1981). The basic thesis is that children's understandings and actions with regard to friendships follow a similar stage progression as does their cognitive development. Children are not generally capable of establishing reciprocal relationships characteristic of active friendship until they have attained concrete operational thinking (around seven years of age) when they are capable of taking the perspectives of other children in play and conversation. Once this development has solidified, true reciprocal friendships begin to form. The power of this thesis about friendship development arises in part

from Piaget's fusing explanations of the processes of intellectual and moral development (Piaget, 1959/1926; 1965/1932). Children becoming friends must understand one another intellectually, and they must begin to understand principles of simple justice and equality ("fairness"). Piaget asserted that both of these processes were advanced by the cooperation between peers that begins to be common at the concrete operational stage: "...in the moral sphere, as in matters of intelligence it [cooperation] plays a liberating and constructive role" (Piaget, 1965/1932, p. 403).

Vygotsky: Melding the interpersonal and sociocultural. The development of understandings about friend-making and skills in cooperation are important aspects of the overall individual developmental process. Vygotskian theory emphasizes general sociocultural influences on the child's overall development as well as interpersonal social influences. In this regard his theory is much broader than that of Piaget who, although he mentioned the possible effects of different educational settings on cognitive development (Piaget, 1959/1926; 1965/1932; 1970), did not emphasize the overarching influence of cultural setting.

As noted earlier, Sullivan's theory of the development of interpersonal competence parallels the Vygotskian view of development. Both assert that development arises out of activity in the social arena; that in order to develop new competencies and skills the school age child must exercise those skills with peers or adult caregivers.

> Every function in the child's cultural development appears twice: first on the social level, and later on the individual level; first, between people (interpsychological), and then inside the child (intrapsychological) (Vygotsky, 1978, p. 57).

Vygotsky, more than Sullivan, emphasized the role of the more competent other, and the social-ecological setting in the sharing of new understandings.

Although Vygotsky did not write specifically about friendship development, a clear implication of his theory is that children are exposed to issues, problems, and solutions related to being or becoming friends through every day activity with peers and adults within a specific socio-culturally constrained setting. Through subsequent activity with potential playmates and friends,

children address their concerns and problems jointly and communally within their peer culture (for example, the classroom group). The ways that children construct activities and preferences for becoming friends are not isomorphic with those of adults or more competent peers, but are their own translations, which arise from the particular sociocultural and personal factors inherent in their own lives (Corsaro & Rizzo, 1988; Rizzo, 1989).

Interpersonal relationships like friendships do not exist in a vacuum. Vygotskian theory recognizes the broader sociocultural arena as a context affecting the course of development (see also Valsiner, 1989). The early socioculturally organized activity of children with peers, for example in a day care setting, may result in a certain precocity of development with regard to friend-making. In this case sociocultural norms for group childcare (with non-parental adult caregivers and peers) encourage the development of social skills at a younger age than previous theory expected. Indeed several writers have noted that children in the present-day United States seem to establish lasting reciprocal relationships before the ages expected by cognitive-developmental theory (Gershman & Hayes, 1983; Gottman, 1983; Howes, 1988). This seems not unlikely based both on Piaget's observations of the beginnings of cooperative conversations in three to four year olds almost 70 years ago, and Vygotsky's emphasis on the influence of cultural organization on development.

Summary. A number of developmental theorists have recognized the importance of early peer relationships and friendships. While interacting with peers and friends, young children learn to decenter, are led to higher level thinking and understanding, and gain perspective and definition with regard to the self in relation to others. This latter function becomes apparent especially as children begin full-time schooling and seek out companions similar to themselves and become exposed to children different from themselves who have different orientations or rules for action in the social sphere.

The theorists mentioned here all explicitly assert that social interaction is crucially important in the development of self understanding, and in cognitive and moral development. All

also recognize individual children as agents of change in their own development. However, these writers diverge in their emphases, and their methodologies. Sullivan and Adler emphasized the individual goal of healthy psycho-social development, and the ways in which early social relationships, including friendships, can affect attainment of that goal. Hinde's analysis of relationship development frees itself form the consequences-for-adulthood paradigm that guide these more clinically oriented views (Hinde, Perret-Clermont, & Stevenson-Hinde, 1985). Hinde and colleagues insisted that children's activity within a system of relationships encountered during one developmental stage need not be predictive of their activity in a wholly different system. Piaget emphasized structural changes in the individuals' thinking as they interact in meaningful exchanges with peers. Vygotsky emphasized functional changes in the individual's activity necessitated by changes in both the immediate interpersonal and the broader sociocultural environments.

All of these theoretical views of the importance of early school peer relationships would support the notion that early patterns of friendship or playmate relations could be quite varied. This variability is influenced by: different early interpersonal histories (Adler and Sullivan), by individual differences in adjustment to the transition from one system of relationships to another (Hinde), by the sociocultural norms of understanding of more competent peers or adults variously interpreted and transformed by children (Vygotsky), or under the influence of their personal cognitive developmental readiness to take another's perspective (Piaget).

Additionally, if children do establish relationships which may be considered friendships, the paths they traverse to establish them are likely to reveal some particular patterns, based on specific sociocultural and personal influences.

Identifying Friends and Friend-making Activity in the Social World of the Classroom

Methodological efforts to define children's friendship development have fallen into two classes. First are studies which examine children's own understandings of the concept (La Gaipa, 1981; Selman, 1981; Youniss, 1980), and second are those which observe children's activities

with peers (Corsaro, 1979; Hinde, et al., 1985; Howes, 1985; 1988; Rizzo, 1989; 1992).

Findings from both methodologies may be used to construct definitional criteria for further study.

Rizzo & Corsaro (1988) recognized two classes of children's conceptions of friendship. First, children may have "reflective" conceptions that are perceived by researchers through the use of interview methodologies. Second, they have "practical" conceptions that are perceived through observations of social activity. After comparing their own findings concerning practical conceptions in two ethnographic studies (Corsaro, 1985; Rizzo, 1989), with the findings of studies of reflective conceptions (Bigelow & La Gaipa, 1975; Selman, 1981), Rizzo and Corsaro concluded that "children's reflective concepts of friendship may not be well-grounded in their everyday experiences with friends" (p. 236) These two writers expressed the notion that children's verbal understanding of the concept of friendship lags behind the "understanding" they express through practical activity. From Corsaro's study of children in nursery school (1985) he found that preschoolers who play with a partner in a truly cooperative fashion verbally express only that they happen to play near friends. Rizzo (1989) found that first graders who express verbally that friendship means "liking the same stuff," practically demonstrate both loyalty and intimacy in relation to friends. These latter displays are often used to characterize the friendships of much older children in studies which rely on reflective conceptions for the definition of friendship. With regard to the children's developing understandings of friendship, this process of reflective conceptions following from practical activity fits nicely within Vygotsky's sociocultural theory of development (Rizzo & Corsaro, 1988) and with Sullivan's view of the development of interpersonal competencies (Buhrmester & Furman, 1986). Although it is less well known, Piaget (1959/1926) also cited examples in which children functionally act out a "tendency toward cooperation" in conversation with peers even though their cognitive-structural level was one of egocentrism.

Further difficulties can arise when asking young children themselves to identify specific classroom friends because they sometimes confuse friendship and popularity. When children are

asked to name potential classroom friends the nomination question should be framed in terms of playmates as opposed to "friends" in order to avoid the lack of clarity that can result. Often young children respond to such questions with nominations of children who they would like to be friends, as opposed to the children who are truly companions or playmates (Hinde, Titmus, et al., 1985). When children respond to a question about friends as a measure of wished-for-friend, then the nomination procedure does become a measurement of popularity instead of companionship. "Popularity and friendship really reflect different constructs, since even an unpopular child can have a close friend" (Gershman & Hayes, 1983, p. 170). Findings of Mendelson and colleagues (1994) also affirm the difference between friendship and popularity.

In the following, some of the theoretical and research background from studies both of reflective and practical conceptions of friendship will be outlined. This will give the reader a stronger sense of the aspects of children's activity and understandings which define friends and the friend-making process.

Children's reflective conceptions of friendship: Activity styles of friends as children describe them. A logical way to begin to define children's friendships is to ask children themselves to describe how friends act together, and perhaps how friends differ from other companions. Selman's (1980) theory of interpersonal development has been the fountainhead for this approach to friendship development. As mentioned earlier, it is based on Piaget's cognitive developmental theory and also derives from data gathered from interviews with children (see also, Selman & Schultz, 1990). The theory characterizes children's formations of interpersonal relationships, including friendships, as dependent on the accomplishment of particular internal understandings. Selman follows Piaget in placing utmost importance on children's developing ability to decenter, to take the perspective of the other.

Selman describes a five stage invariant developmental process through which children progress. Specifically, at the "level one" stage of development that Selman identifies with early childhood (ages five to eight) children have recognized that "another person's subjective

thoughts, feelings, and intentions are distinct from the self's" (Selman, 1981). In order to be capable of forming the most rudimentary friendships based on common activity, children must have reached this stage of expressing a basic recognition of the other's difference. In order to define a relationship between young children as a friendship, researchers using this reflective conception approach must either ascertain or assume that the children involved have demonstrated an understanding of this rudimentary level of social awareness.

The identification of children's developmental levels of interpersonal understanding has been most often accomplished by using a personal interview methodology, presenting hypothetical interpersonal conflict situations to the child and then recording the child's answers to questions "designed to demonstrate the level of understanding which characterizes and informs his/her resolution of the interpersonal conflict" (Selman, 1981, p.406).

One important problem arises within this approach to friendship definition. What children say in a "calm one-to-one interview situation" (p. 407) may not necessarily predict their actions in the social arena (Berndt & Perry, 1986; Rizzo & Corsaro, 1988). Therefore, it seems imperative that stage-bound definitions of friendship be validated by observations of children in social activity (Gottman, 1983). This critical objection notwithstanding, Selman's five levels of interpersonal understanding have been highly influential in the formation of operational definitions of friendship in other studies of children's reflective conceptions (Berndt & Perry, 1986; Bigelow & LaGaipa, 1975).

The definitions of children's friendships that Youniss (1980) formulated also come from interview data. According to data derived from interviews with 41 six- to eight-year-olds, friends were defined as individuals who played with and shared with the interviewed child. Further, "best friends" were differentiated from "just friends" simply by quantitative designations: "best friends play together all of the time and share everything" (Youniss, 1980, p. 175).

In a study that, like Youniss', used cross-sectional data consisting in verbal and written reports to identify the changes in children's definitions of friends, La Gaipa (1981) also found a

stage-like developmental progression in children's understandings. At four years children define friends chiefly by proximity--a friend is someone close by to play with. La Gaipa stated that at about six years children begin to understand that cooperation and reciprocity are important in friendship, but that children were not concerned with mutual interests or the friend's needs until around the age of nine. The reported changes that occurred between four and six years, like the findings of Corsaro (1985), and Rizzo (1989) in ethnographic studies of friend's social activity in nursery school and first grade, illustrate the fact that the kindergarten year involves a period of significant transition in children's understandings of friendship.

In summary, relatively consistent data have been derived from individual interviews and written reports in which adult researchers ask children to define friends or friendship. They reveal a clear picture of five- to six-year-old friends as being children who are often in proximity (circumstantially close), who can cooperate (in play), and act reciprocally (in sharing). The definition of children's friendships proceeding in developmental stages is consistent with the theoretical postulates of both Piaget and Sullivan (Youniss, 1980). However, such theoretically driven definitions must be affirmed by observations of children in action.

Activity styles accompanying friend-making identified in observational studies. Many studies define friendship among young children predominantly in terms of the frequency and stability of dyadic interactions over time (Hartup, 1988; Hinde, Titmus, et al., 1985; Howes, 1988). Indeed, both time spent in interactions and frequency of interactions with particular others have been central components of observational studies of early friendship (Rizzo, 1989). Although the research questions driving these studies differ, the fact that they make fundamentally similar assumptions about how to identify friends in school or group care settings links them for the purposes of the present study. Their findings tend to converge on a particular constellation of activity styles or behaviors that accompany the interactions of children who maintain frequent and stable contact.

Typically, these studies of young children establish some threshold percentage of observational periods spent in the proximity of other individuals, and then define particular others as "friends," "strong associates," and so on, if they exceed that percentage. Based on frequency distributions, mapping percent of time that children were observed "nearest neighbors," Hinde and colleagues (1985) used a 30% "arbitrary durational criterion" to define "strong associates" (p. 236). Howes (1988) also maintained a 30% criterion. Other studies have used 10% and 25% respectively (Attili, Hold, & Schleidt, 1986; Hartup, Laursen, Stewart, & Eastenson, 1988).

Although time spent together is crucial to any observational definition of children's friendships, the qualities of children's interactions must also be considered. Howes (1988) added to her temporal criterion the proviso that, to be defined as friends, preschool children must be coded at least once in interactions showing signs of mutual positive affect (for example, smiling and laughing together).

Hinde, Titmus, and colleagues (1985) coded the interactions of preschool children (42-50 months old) using a protocol that identified behavioral items such as "physically friendly," "gentle control," and "reactive hostility" (pp. 235-236). A significant amount of the variance in 50-month-old girls' "role taking" (imaginative play) interactions was explained by whether the girls involved were strong associates or not. These strong associates (friends) tended to interact with imaginative play more often than non-associates. Also significant was the amount of variance in reactive hostility behaviors explained by associate type. Non-associates were more likely to behave in this way than strong associates. Nonetheless, a greater portion of variance in most interactive behaviors measured was explained by who the individual subject was rather than by whether children were with a "strong associates" or not. For example, children who behaved in a "physically friendly" way tended to do so with many of their interaction partners, not just with a strong associate (p. 240).

Hinde, Titmus, and colleagues' study was carried out with preschoolers, and many of the children studied were together only a few days each week and only for the morning hours.

Considering these facts one might not expect strong interaction consistencies to develop between such young associates. It might be expected that for slightly older children or for those in full-time settings, particular interactive behaviors will be more salient as markers of developing friendships.

In another study of friendships among preschool children in group settings, Gershman and Hayes (1983) used an observational coding scheme to demonstrate some concordance between the stability of particular social behaviors and children's nominations of friends. The coding scheme used in this study was based on Parten's (1932) play categories. Children designated by their nominations as reciprocal friends (mutually nominated) demonstrated greater stability in proximal parallel and cooperative play than unilateral friends ("one-way" nominations). Stability was affirmed by observations across two assessments four to six months apart (Gershman & Hayes, 1983).

In addition to having children nominate friends, Gershman and Hayes asked the preschool children to report "why is _____ your best friend?" The overwhelming majority (91.4%) of the children's responses were classifiable in the following categories: propinquity, common activities, general play, and reciprocity of liking.

In his ethnographic research with first grade children, Rizzo (1989) concluded that three factors were present in all the friendships he studied: mutual recognition of friendship (verbal or written), time together (especially during recess), and continuity (maintaining the first two factors for at least three consecutive days). Eight friendships that lasted for longer than one month were identified in the classroom Rizzo observed. In coding the interactions of these friends Rizzo found that they contained frequent displays of sharing, helping, ego reinforcement, loyalty, similarity, and intimacy.

Gottman's (1983) observational investigation identified particular behavioral markers characterizing friendship development between children in home settings. In two studies Gottman audiotaped the interactions of unacquainted dyads (26 three- to six-year-olds and 18

three- to nine-year-olds) as they played together in the homes of dyad members. Gottman found three process variables correlating with mothers' reports as to whether dyads were already, or, in fact, became friends. These variables (all occurring in children's initial meetings) were establishing a common ground activity, managing/resolving conflict, and successfully exchanging information (Gottman, 1983).

The frequency and resolution of conflict among friends. Children involved in relationships as friends in kindergarten may engage in some conflictive, oppositional interactions (Hartup, 1989; Rizzo, 1992; Vespo & Caplan, 1993). These studies assert that the way friends resolve conflict may be a defining characteristic of their relationship. The issue of what constitutes a conflict between children is important to consider here. There are conflictive episodes which involve plainly aggressive behavior (either physical or verbal). There are also conflicts which involve momentary disagreement or simple opposition without aggression (Shantz, 1987). In surveying the literature on conflict and social relationships, it is important to keep this distinction in mind.

By closely examining the prior and subsequent interactions surrounding American first-grader's non-aggressive conflicts, Rizzo (1992) concluded that "children initiate some disputes with their friends in an effort to induce positive changes in their friend's behavior" (p. 108). Rizzo's use of ethnographic, participant-observer methods allowed him to perceive subtle disagreements (sometimes clearly of the nature of momentary disagreements). However, in a similarly designed ethnographic study with preschoolers, Corsaro (1985) did not perceive the children using such strategies. It may well be that kindergarten age children are not yet "confident and knowledgeable" (Rizzo, 1992, p.118) enough about the meaning of friendships to attempt the kind of considered conflict with friends that Rizzo describes in first-graders.

Conflict between potential friends may be difficult to observe in classrooms because conflictive behavior is prevented from occuring. In fact the percentage of aggressive-conflictive activity in public school classrooms may be quite low (Zern, 1993). Even in some preschool

classrooms this percentage has been found to be negligible (Innocenti, Stowitschek, Rule, Killoran, & Boswell, 1986). Therefore, among kindergarten children in classrooms, it is expected that aggressive conflicts will be quickly and consistently controlled (even if not resolved).

Summary. In considering the question of what activity or constellation of activities to look for in defining friendships among young children, the research offers some clear direction. There is some convergence between the amount of time preschool and early elementary school companions spend together and particular forms or qualities of social activity. In particular, the following: being in propinquity, parallel play, smiling and laughing together, imaginative play, cooperative play, establishing common-ground activity, clarity of communication, and helping all seem empirically supported as activities that may be added to a simple temporal measure of the stability of interactions to help distinguish friends from companions in observational studies. These process variables have all been used in studies of early friend relationships.

It seems likely that children identified as friends, because they spend more time together and because their actions are interdependent, would tend to have more overt conflictive interactions than non-friends. However, this may not be the case in classrooms for both environmental and personal reasons. First, conflict is strongly discouraged in the highly constrained setting of the school classroom (LeCompte, 1980). Secondly, children in their first year of school may not have established their own interpersonal definitions of friendship to such a degree that they might attempt to change a friend's action through purposeful conflict. An in-depth participant-observer methodology (as Rizzo, 1989) may be essential in order to uncover the subtle verbally-based conflicts or arguments which friends engage in at times.

Concordance Between Three Methods Used to Identify Friendship

Over the past decade there has been a good deal of interest in examining friendship in young children (Berndt & Perry, 1986; Corsaro, 1985; Hartup, Laursen, Stewart, & Eastenson, 1988; Hinde, Titmus, et al., 1985; Howes, 1988; Ladd, 1990; Rizzo, 1988, 1989). The methods used to gather the data have been quite varied; some researchers have used child nomination

(sociometrics) or teacher nomination assessment measures only, while others have conducted observational or ethnographic (participant-observer) studies. Some investigations have reported measures of concordance between methods (Hartup, et al., 1988; Howes, 1988; Marshall and McCandless, 1957).

In her wide-ranging study of early peer interaction, Howes (1988a) used peer sociometric nominations, teacher nominations, and observational measures with a large sample of toddlers and preschoolers. By computing chi squares on agreements between methods Howes established that there was statistically significant concordance between all three methods of assessment. She determined that child sociometrics and teacher nominations of friends were in agreement for 78% of the dyads; that behaviorally identified friends and child-nominated friends were in agreement for 72% of the dyads, and that behaviorally identified and teacher-nominated friends were in agreement for 85% of the dyads.

Howes' observational measure of friendship did include the proviso that friends so identified must have engaged in at least one coded instance of mutually positive affective exchange (p. 15). This addition of a character-of-interaction marker of friendship in combination with proximity measures seems sensible, for even very young children begin to show some differential affection for peers. As children age and develop however, it does appear that the behavioral markers of friendship change (Hartup, 1988).

Hartup and his colleagues (1988) compared conflict resolutions between four year old friends and non-friends, using both observationally and sociometrically derived measures of friendships. "Significant concordance" (p. 1595) was found between the measures in the results of this investigation. A high percentage of mutually nominated playmates (identified as someone "especially" liked) were also observed in proximity for more than 25% of their free play time.

In a pioneering study Marshall and McCandless (1957) observed the social behavior of 36 preschool children in order to examine the consistency of observational measures of friendship with sociometric nominations and teacher judgements. They created a "best friend score" from

observational data for their analysis. Best friends were those three children with whom the focal child had the most "associative play" and "friendly approach" interactions over the course of the study. They found that "choices of the child's three best friends in the picture sociometric technique and in the judgement of teachers agreed beyond chance with those observed in play" (p. 158).

These studies provide indications that children's nominations may concur more closely with observed friendly interactions than teacher nominations as children reach later preschool age. In the Marshall and McCandless (1957) investigation a higher percentage of children's nominations matched observational measures of friends than did teacher nominations of friends. In the Howes (1988) study, even though teacher nominations showed a higher level of agreement with observational measures than did child nominations when assessed across all ages, "teacher's friendship nominations were less consistent with behavioral friendship identification in the older groups [four- to six-year-olds] than they were in the younger groups [three-year-olds]" (p. 22). Hartup and colleagues (1988) also found a relatively high level of agreement between child nominations and observed friends.

Of the six studies that included an observational assessment of friendship cited earlier, five were carried out with preschool age children (Attili, et al., 1986; Hartup, et al., 1988; Hinde, et al., 1985; Howes, 1988; Marshall & McCandless, 1957). The range of mean ages among the studies was 44-54.5 months. Since relationships with peers become increasingly important at entrance into school (Ladd, 1990), an assessment of whether or not observational and nomination data are comparable and consistent measures of older children's classroom companionships seems in order. Data collected by different means may not yield the same results since friendship relations become more complex and more difficult to identify with development (Rizzo, 1989; Sullivan, 1953).

The Influence of Gender on Friendship Formation and Stability

Extensive work has been done to outline some of the effects that individual difference variables exert on friendships, especially with regard to the effects of gender, age, ethnicity, and achievement level (Berndt & Perry, 1986; Epstein, 1988; Ladd, 1988; Singleton & Asher, 1979; Tuma & Hallinan, 1979; Vespo & Caplan, 1993). In another recent study (Rubin, Lynch, Coplan, Rose-Krasnor, & Booth, 1994), behavioral similarities in terms of individual's play styles and preferences were found to be a factor in friend selection among seven-year-olds.

Gender, in particular, has been found to be a powerful influence on friend selection and friendship formation among young children. There is a broad base of data, both within and across cultures, which affirms that from two to three years of age and continuing through adulthood, males tend to befriend males and females to befriend females (Lewis & Feiring, 1988; Tuma & Hallinan, 1979; Whiting & Edwards, 1988). Also, in the literature on early to middle childhood friendships it has been asserted that before age seven boys tend to establish fewer, more long-lasting, and more highly differentiated relationships, while girls tend to establish larger networks of friends. After age seven a reverse of this trend has been observed (Foot, Chapman, & Smith, 1980; Ladd, 1988). There is also evidence that girls report having overall larger social networks than boys in a sample of four-to five-year-old African-American Head Start attenders (Bost, Cielinski, Newell, & Vaughn, 1994). However, the assertion that young boys form more intense and longer-lasting friendships than girls, is contradicted in Howes and Phillipsen's (1992) study of 40 children (17 girls) as they aged from around 16 months to four years. These scholars found that girl-girl and cross gender friendships were more likely to be maintained than boy-boy friendships.

In a final piece of evidence bearing on the issue of the relation of gender to early friendship, Mendelson, Aboud, & Lanthier (1994) found that kindergarten friendships "benefitted from masculine-type traits" (p. 431). In their study of 70 children these authors found ratings of friendship quality and observed friendliness of target children were predicted by the target's social

cognition and "especially by destructiveness items that concerned physicalness, attention

seeking, and dominance" (p.413). Mendelson and colleagues write that "the appeal of

destructiveness to a young friend may involve high interpersonal energy" (p. 432). If, indeed,

such high energy is generally a masculine trait at the kindergarten age, then one might expect

more close long lasting male than female or cross-gender friendships in the kindergarten year.

However, the issue of the relation of friendship intensity and maintenance to gender remains an

open question.

Classroom Context: Structural and Organizational Influences on Friend-making Activity

In his theory of human development, which is in many ways an elaboration of Vygotskian

theory, Bronfenbrenner (1979, 1988) proposed that any individual or dyadic characteristics (such

as friend-making activity) cannot be understood without reference to contextual features, both

socio-cultural and physical. There is good evidence that contextual factors play an important role

in children's friendship formation. As examples, family organization, social class, and high within-

household density, have all been shown to influence children's developing relationships (Erwin,

1993). Less well understood is the influence of the activity setting of the school itself, and the

goals, activity, and attitudes of the caretakers in that setting (Asp & Garbarino, 1988). As Epstein

(1988), has written,

> A crucial hidden factor [in understanding the development of friendship] may be the
> design of the educating and socializing environments in which students make friends. It
> is no longer feasible to study or explain the selection of friends with attention only to
> psychological constructs and child development terms. It is also necessary to give
> attention to the designs of the school classroom, family, and other environments. . . (p.
> 183)

The influence of classroom organization. According to Sherif (1936) "social norms"

directly affect individual psychological functioning and norms for individual behavior. Therefore,

the nature of the interactions between individuals that emerge in the social setting of the

classroom is partly determined by the social norms apparent in the actual physical setting (see also

Allen, 1981). The organization of time and space and the expectations and activities of the

classroom teacher are important constraining influences on the formation of these norms, especially for children in their first year of formal schooling (Bossert, 1979; Higgins & Parsons, 1983; LeCompte, 1980; Pellegrini, 1983).

Organizational aspects of classrooms do seem to make a difference in how and with whom children make friends. In a study of 9- to 14-year-olds, Hallinan (1976) found that patterns of friendship choices differed according to whether subjects' classrooms were "open" or "traditional." According to Hallinan's research, in open classrooms there were fewer social isolates than in the traditionally structured classrooms. Also, friendships tended to be longer lasting in the open settings, and there was a "more uniform distribution of popularity" (p. 263) in these settings as compaared to the traditional settings. By contrast, in traditional classrooms children tended to have more friends but for shorter periods.

In an in-depth ethnographic study of social relationships in third and fourth grade classrooms, Bossert (1979) found that classroom task organization structures influenced peer association choices. In a "recitation dominated" class in which comparative task performances were highly visible, children tended to associate more with and befriend children who performed at similar levels (p. 91). In multitask-organized classes (that were less teacher directed and featured less recitation) friendship choices showed little relation to academic task performance.

Children's social activity in classrooms is "highly constrained" (Hartup, 1988) and those constraints appear to influence the formation of early friendships. Such constraints might be seen at least two levels (Vygotsky, 1978). First, there is the sociocultural level which involves the expectations of the particular culture for child activity and the provision of settings and caregivers to guide such activity (Valsiner, 1989; Weisner, 1984; Winterhoff, in press). Second, there are the constraints that are imposed at a more "local" (microsystem) level by the assumptions, presence, and styles of different teachers/caregivers working with children in classrooms, by the particular physical settings in which children interact, and by the organization of children's time together imposed by classroom schedules. The amount of time that children are required to

engage in structured (teacher-task related) as opposed to free play activity has been linked to differences in the social relationships that develop in classrooms (Bossert, 1979; Pellegrini, 1983; Rizzo, 1989).

The teacher's role and influence. The inculcation of classroom rules constitutes a large part of every kindergarten teacher's agenda during the beginning of each school year (Higgens & Parsons, 1983; LeCompte, 1980). Such rules, which constrain and enable children's interactions with each other, with materials, and with the teacher, are essential for the establishment of social control. This control is necessary because of the peculiar nature of the institution of the school.

> As a result of the large population of people who must safely and productively share a small amount of space, the great number of involuntary clients, and the relatively small amount of staff, control is a critical issue in the schools (Asp & Garbarino, pp. 170-71).

In order for 25-30 five- to six-year-olds to live together harmoniously for around six hours every week day teachers must insist on compliance with classroom rules. Classroom rules are at the heart of what several writers have dubbed "the hidden curriculum" (Asp & Garbarino, 1988; Jackson, 1968). According to the largely unwritten tenets of such curricula children should (at least in the US--see Tobin, Wu, & Davidson, 1989) "be friendly," "talk out their problems," "be appropriately quiet," and "attend carefully to the teacher," among other things. If friend-making is to develop in school, it is within the constraints of this hidden curriculum that it must happen.

Not only do teachers expect child activity to conform to rules aiming at the maintenance of social control, but they also carry with them certain beliefs and assumptions about the value of friend-making for children. Many teachers have recognized that particular friends need to be separated in the classroom because of their disruptiveness (Grant & Sleeter, 1986; Mendelson, Aboud, & Lanthier, 1994). Most have probably also attempted to manipulate children's seating or placement in groups in order to encourage the development of particular friendships (Cooper, Marquis, & Edwards, 1986). These actions by the teacher are well within her prerogatives as a professional and, skillfully done, enhance the social development of children.

In addition to the more abstract area of teacher attitudes and beliefs, an important influence on children's interactions in the classroom is the simple presence or absence of the teacher in the interactive spaces of children. In a study of preschool children's peer interactions, Innocenti and colleagues (1986) found that "teacher interaction with a child, in any activity context, retarded peer interaction by that child" (p. 141). Rizzo (1989) found a similar pattern in his study of first graders' friendships. In his study of three and four year olds, Pellegrini (1983) found that teacher presence inhibited the occurence of dramatic play among friends. Given the fact that the teacher is the source of classroom rules, and must maintain, to some degree, an air of authority, it follows that children's activities with friends are often altered in the presence of the teacher.

Stability and Change in Friend-making Interactions

In a longitudinal study in which children were observed and surveyed at 10 and again at 12 years of age, Krappmann (1985), identified differing ratios of stability and change in individual children's close relationships. By examining these ratios, the following categories were distinguished: "marginals", "changers", "consistents", and "intensives" (p. 154). Marginals were children who established very few or no close relationships during the study period. Changers were children who had close relationships, but with different children at ten years (fourth grade) than at 12 (sixth grade). Consistents were children who had several stable relationships, most of which were maintained over the two year study period. Intensives were children who maintained close, stable relationships from fourth to sixth grade, but who had also "given up some close relationships and entered new ones" (Krappmann, 1985, p. 155). Intensives then were children who combined the stability-change character of both changers and consistents.

Of course, the relationships of kindergarten children are not as complex as those of fourth to sixth graders (Ladd, 1988; Rizzo, 1989). However, the typology outlined by Krappmann may apply to kindergarten children in a simplified form. There do seem to be individuals who go through the kindergarten year without establishing any close relationships, those who change

friends over a relatively short period, and those who maintain particular friendships for longer periods (Ladd, 1990).

Summary and Rationale for the Current Study

Summary. The literature reviewed here on preschool and early school age children's friend-making reveal the following about this important process. First, that there is general agreement on how young friends act together and on how children themselves define friends and understand freindship. Second, that there seems to be concordance between teacher nomination, child nomination, and observational methods of identifying friends at preschool age. These methods need to be compared in an investigation of kindergarten (beginning school-age) children in order to understand if it is necessary or even possible to observe friend-making at this transitional period. Third, that although gender is an important determinant of who will be friends during the early school years, it is an open question as to whether girl-girl and boy-boy relationships are of a different character. Fourth, the social and physical ecologies of classrooms manifestly influence the character of children's friend-making interactions.

Agreements about the self-definition and social activity of young friends (Hartup, 1988; Hinde, Titmus, et al., 1985; Howes, 1988; La Gaipa, 1981; Selman, 1981; Youniss, 1980) provide a reliable guide for forming an observational definition of kindergarten friendships. The observational definition should consist in a combination of frequency and temporal stability of activity together, and relatively frequent observations of positive joint-reciprocal activity.

Several studies have revealed concordance between different methods of identifying preschool friends (Hartup, et al., 1988; Howes, 1988; Marshall and McCandless, 1957). However, the increasing complexity of social interactions that come with development (Rizzo & Corsaro, 1988), means that such concordance may not be assumed for kindergartners. The importance of completely understanding friend-making during the transition to school necessitates an examination of the concordance of methods of assessment in a study carried out during this period.

The widely recognized propensity of children to form same-gender friendships during childhood seems to be linked to the phenomenon of "similarity seeking" cited by Sullivan (1953). Several writers have commented on the differences between the stability and intensity of girl-girl vs. boy-boy relationships (Foot, Chapman, & Smith, 1980; Howes & Phillipsen 1992; Ladd, 1988). Since findings from these studies seem to be contradictory it remains to be seen whether girls or boys tend to form more consistent and lasting friendships during kindergarten.

Theoretical assertions of the importance of both proximal and broader sociocultural settings and promotions on the development of children's social activity and their social understandings (Bronfenbrenner, 1988; Valsiner, 1989; Vygotsky, 1978) are becoming more widely discussed (Super and Harkness, 1986; Tudge, Shannahan, & Valsiner, in press; Weisner, 1984). There are also theoretical grounds (Hinde, Perret-Clermont, & Stevenson-Hinde, 1985; Hinde, 1987) for the contention that the social organization of the kindergarten classroom is the arena of the child's first foray into the novel system of peer relationships. A system in which the child will be functioning for a number of years to come. Evidence has been reported above showing how classroom organization and the presence or absence of teachers directly affect the types of activity children engage in, and thus how readily they are able to engage in the consistent reciprocal social activities necessary for friend-making in these classrooms (Bossert, 1979; Higgins & Parsons, 1983; LeCompte, 1980; Pellegrini, 1983; Rizzo, 1989). Thus, through affecting children's activity, these proximal and ongoing ecological variables, affect the development of children's understanding and subsequent adaptation of this important interaction skill within the peer relationship system (Rizzo & Corsaro, 1989; Vygotsky, 1978).

Rationale. The majority of observational studies of early peer relationships have been carried out among children younger than the kindergarten age. Therefore, there are few observational studies which also assess children's perceptions of their friendships at this critical societal threshold in the United States (entrance into school). One recent study that defined and assessed kindergarten friendships, Ladd (1990), used peer nominations of friends (validated by

parent report) for definition. An observational study that examined nominally "kindergarten" social relationships (Attili, et al., 1986) concerned subjects in Germany and Italy with a mean age of 44 months (much younger than American kindergartners).

In addition, studies which have examined the concordance of friend-identifying methodologies have also been carried out almost exclusively with preschoolers. An examination of agreement between observations, and teacher and student nominations of playmates and friends at the kindergarten age will be an important addition to the literature. This examination may provide guidance to future researchers with respect to choosing an assessment method.

Despite their analytical sophistication, neither the Howes (1988) nor Hinde, Titmus and colleagues (1985) studies of young children included frequent observations of children's interactions over a long period. Thus, they do not provide a definition of friendship which incorporates temporal as well as conceptual complexity. Howes' study has a longitudinal component, but long periods (up to one year) lapsed between observations. As already mentioned, the children in the Hinde, Titmus, and colleagues (1985) study were in preschool together on an irregular schedule (two to three days a week), and they were observed only twice, at 42 and 50 months. In attempting to understand the development of a complex activity like friend-making, a longitudinal design incorporating frequently collected data would seem most appropriate for revealing the uninterrupted flow of friendship development over time.

Although some have examined the influences of historical factors, for example, child care quality, on subsequent social relationships (Howes, 1990; Ladd, 1990), many of the studies cited here have not paid sufficient attention to proximal processes in the classroom. Variables such as teacher presence and interactions in structured versus free time might well interact with individual difference and historical variables to clarify explanations of patterns of friend-making. Also, the study of friendship development over the course of a school year should account for differences in teacher attitudes and actions in order to accurately appraise their influence on children's developing relationships.

Finally, as Rizzo (1989) and Hartup (1988) have written, there still is a great need to provide longitudinal observational data describing the formation and maintenance of children's friendships. Within this longitudinal framework, different interaction patterns of stability and change between children (Krappmann, 1985) may be combined with data on the social and physical circumstances of those interactions to deepen this description. Such descriptive data of interactions has import both because it is a means by which children's practical conceptions of friendship might be further understood, and because it may well provide hypotheses which would further illuminate the meaning and importance of friendship for young children in their first years of school.

Research Questions

Four questions will be addressed through the completion of this study. Three testable hypotheses will be generated from questions one and three. Questions two and four will be addressed through the reporting and graphical presentation of data gathered over the course of the school year. These data may indeed lead to the formation of further hypotheses.

1. Do teachers' and self assessments of children's common play partners and friends agree with each other and with observational data based on children's social activity in kindergarten classrooms?

2. a) What percentage of the individuals participating in this longitudinal study of kindergarten children are identified as friends--in that they are identified by at least two of the assessment measures--by the fourth or fifth assessment dates (December 1; December 17)? b) What percentage of friend partners retain that status after the Winter holiday, and also are affirmed at the end of the school year by best friend nominations, and thus may be considered to be strong friends?

3. a) Do numbers of identified friends vary by classroom, and are different levels of classroom environmental constraints and teacher presence during interactions associated with

friends' and non-friends' interactions? b) Are kindergarten boys more likely than girls to be classified as friends by study criteria?

4) Are types of relationships characterized by "stability-change" ratios (Krappmann, 1985) discernible from the observational data? Given that they are, how do types' percentages of joint activity and positive reciprocal interactions vary by differing "classroom ecology" conditions of teacher presence and organizational structuring of children's activity? The four possible classroom ecology conditions are 1)teacher presence and high level of structuring, 2) teacher presence and low level of structuring, 3) teacher absence and high structuring, and 4) teacher absence and low level of structuring.

Hypotheses

1) Concordances between assessments. Percentages of matches of target children's playmates identified across assessments (at each assessment period) will be greater than chance (i.e. assessment measures will be consistent with each other). However, it is expected that the percentage matches will be highest between observational assessments of children and child-nomination assessments of playmates (Hartup, et al., 1988; Marshall & McCandless, 1957).

2) Classroom proximal processes. Individuals who are identified as friends (continuing, unilateral, and strong) will be coded with a greater percentage of their observed interactions taking place in the context of unstructured or free activity than non-friends. Friends will also be observed with greater numbers of interactions taking place outside the context of teacher presence.

3) Gender differences. The number of friendships carried on into the second semester of the school year will vary by gender (that is, be affirmed by two assessment measures in both the sixth and seventh coding periods). More lasting friendships will form between boy-boy than between girl-girl or mixed dyads.

CHAPTER III

METHODS

<u>Subjects</u>

The participants were 40 children, attending two kindergarten classes in a public school in the Piedmont section of North Carolina. Two children were dropped from the final data analysis because they did not attend school for the full data collection period. The final sample of 38 used in analysis included 15 girls (mean age 65 months, ranging from 60 to 69 months), and 23 boys (mean age 67.6 months, ranging from 62 to 77 months). Twenty six of the children were Caucasian, seven were African American, and five were of East Asian, Middle Eastern, or South Asian ethnicity. Parents of 32 study participants each completed a survey questionnaire. These surveys revealed a range of gross family incomes from less than $10,000 per year to greater than $85,000 per year. Half of the reported income levels were above $40,000 and half were below that figure.

<u>Design</u>

Longitudinal data were gathered across the course of the entire school year. The observational data were collected simultaneously and on nearly identical schedules in the two kindergarten classrooms. Data collection during children's free-play time outside, and during their lunch periods began during the first week of school in both classrooms and continued for two weeks. After the initial period of children's adjustment to the new routines of their classrooms, observers began to collect data during other times inside and outside in both classrooms[1], but again observational schedules were nearly identical in both. At the end of the initial three weeks of school, child and teacher nominations of two favored playmates began, and continued being

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[1]Teachers in the study school requested this "grace period" with no observers in the classrooms.

collected at regular intervals of one approximately every three weeks until the beginning of the

Winter school holiday (mean days between assessments was 21.5 days with a range from 16 to 28

days). Regular observations in both classrooms continued after this holiday and extended

through early February (January 5 to February 3). During this January-February coding period,

one nomination of favored playmates was recorded from teachers and students (February 3). A

final observation and nomination period extended from the last week of April to the end of the

school year (April 27 to June 1) to assess long term stability of the established relationships.

Table 1 lists the dates of the observational periods, the number of days coded in each class

during each period, and the numbers of rounds of observations taken in each class during each

period.

Thus, there were seven coding periods across the duration of the entire study. These

periods corresponded to the intervals between the teacher and child nominations of playmates.

Observational data recorded during each period were aggregated (see below) and systematically

compared to teacher and child nomination data to determine whether or not concordance

between the three methods of assessment did, in fact, exist.

Procedures of Friendship Assessment

In this study of kindergartners, friendships were defined as stable relationships in which

particular children consistently worked and played together over time. In other words, friendship

for any pair of these kindergarten children was "a voluntary, sustained relationship" (Werbe &

Baudonniere, 1991). Three different assessments of friendship as defined were taken.

Observationally coded, these relationships were indicated by high relative frequency of

interaction between partners, involving some combination of such consistent proximity along with

at least one instance of joint activity or marker of mutual positive affect during the coding period

(Hinde, Titmus, et al., 1985; Howes, 1988; Rizzo, 1989). Children's repeated reports of favored

playmates, and teachers' repeated nominations of favored playmates (described below),

constituted two other methods for assessing similarly defined friendships.

Table 1

Observational assessment periods and observational coding schedules in each class

Assessment Period	Dates (From - To)	Number of Days Coded		Observational Rounds	
		Class 1	Class 2	Class 1	Class 2
1	Sept. 8 - Sept. 22	5	5	20	20
2	Sept. 23 - Oct. 13	6	6	24	23
3	Oct. 14 - Nov. 10	6	6	21	23
4	Nov. 12 - Dec. 1	5	5	20	20
5	Dec. 2 - Dec. 17	5	5	20	20
Winter Holiday	Dec. 18 - Jan. 3				
6	Jan. 5 - Feb. 3	13	10	30	31
7	Apr. 27 - May 26	11	10	30	29

It was expected that the collection of these data periodically over the course of the kindergarten year would allow for the description of patterns of individual friend-making.

Observational assessment. Each class was observed at identical intervals throughout the school year. Trained coders observed each class for four hours per week during this period.

Coders observed all study participants in random order (changing each day) using a combination of modified spot observational and time-sampling methods (Bakeman & Gottman, 1986; Ellis, Rogoff, & Cromer, 1981; Parten, 1932; Whiting & Edwards, 1988). As a rule, each class was observed two days per week throughout the study period. However, special circumstances of classroom activity or scheduling made it necessary to change this pattern a few times. All observations took place during the mid-week (Tuesday, Wednesday, or Thursday).

Observations on individual children were gathered every minute, with the 20 seconds prior to the observation being used to make sense of or contextualize the activity underway. The remaining 40 seconds were used to code (see Appendix A for a copy of the coding sheet), make brief notes about context or special circumstances, then locate the next child and observe the context of his or her interaction. Coding continued in this fashion through the entire list of class participants, repeating from two to five observations per child through a particular day's coding period (occasional variability due to scheduling anomalies, special events, and so on). Each child was observed approximately three to four times in each of 51 days for Classroom 1, and in each of 47 days for Classroom 2. This meant that each child was observed about 165 times (mean observations per child was 162.5, the range was 135 to 167). At each observation interactions with two proximal partners were coded if possible. Therefore each child was coded in approximately 300 interactions (mean was 292, range was 242 to 317). If necessary, notes about context or special circumstances were elaborated immediately following a round of coding and before proceeding to begin the next round.

Observers coded three proximal setting variables. 1) Physical/organizational setting, including the target child's physical setting (outside or inside), and general activity constraints (structured or free choice). 2) The social setting, including the coded individual being solitary, in a small group of peers (three or less), or in a large group (more than 3). 3) Teacher presence or absence in the coded individual's interactive space.

Interactive space was defined as the space defining the physical context of the interaction between children. For examples, a table where all are playing a game, a rug designed for block play; outside, a set of monkey bars, or a circle defining a ball game. Teachers were considered in a child's interactive space if the children were in such organized spaces and being directed by the teacher in some activity. During free choice activity times inside teachers were also considered present for children if the teacher was within two meters of the coded child, and outdoors within five meters of the child. The distance was increased for outdoor activity because the greater

space available necessitates a wider focus of teacher attention. Outdoors children are more widely dispersed, move with greater speed, and communicate with more volume.

Also coded were the identification numbers of the two children (partners) most closely involved with the target child in "interactive episodes" (Corsaro, 1985; Hinde, Titmus, et al., 1985; Rizzo, 1989). Each target-partner interaction was coded as embodying one of eight interactive behaviors.

The target child's activity was considered the starting point for coding the following interactions (also listed in Appendix A): (a) **Negative reciprocal** was recorded if the target child and his partner(s) engaged in overt conflictive activity, for example, mutually hit, kicked, called each other names and so on. (b) Two classes of **negative unreciprocated** interactions were recorded depending on whether the target child or the partner acted or spoke with conflictive intentions toward companion(s), but the behavior was ignored or the companion was exercising restraint. (c) **Propinquity** was recorded if the target child was within the interactive space of other child(ren) but not actively involved with them. (d) Two classes of **positive unreciprocated** were recorded (just as with negative unreciprocated) if the target or her partner was attempting to positively engage a companion but the other was unresponsive. (e) **Joint activity** was recorded if the child and her partner(s) engaged in activity marked either verbally, or motorically by mutual interest. These were situations in which children are jointly focused on the same game, toy, or common work activity, or were engaged in extended conversation. (f) **Positive reciprocal** was recorded when children were engaged in joint activity also marked by signs of positive affective involvement (smiling or laughing explicitly with each other, hugging, holding hands, and so on). (g) **Solitary** activity was also noted and coded. Thus, this study examined the nature of the interactions between kindergarten play partners over the course of a school year. Using this data, the relative frequency of different types of interactions for individuals will be reported--from affectively charged negative reciprocal exchanges to positive reciprocal ones.

In a pilot study preliminary to the design of the present research, it was ascertained that across three months of observed interactions in two kindergarten classrooms, less than one percent of the 3,729 coded interactions involved conflict (negative reciprocal or unreciprocated). Therefore, it was expected that conflict resolution would not be the focus of attention in the current assessment of friendships. However, the coding category was retained and data from the present study affirmed earlier results.

The study's principal investigator served as reliability coder on 25% of all coded observations. Reliability coding took place during each period of the study, and insured that coding continued to be consistent. The reliability data for all study codes are included in Table 2. The data used for these codes included all initial disagreements between coders. The range of the Kappas calculated to measure reliability were high, ranging from .743 for interaction codes with the child's second partner, to .949 for agreements on the physical setting.

Table 2

Reliability Coefficients (Cohen's Kappa) for All Observational Codes

Code (possible values)	N = observations (% of total)	Kappa
Physical Setting (4)	1515 (24%)	.9487
Teacher Presence (2)	1514 (25%)	.7704
Social Setting (3)	1513 (25%)	.8237
First Partner (25)	1507 (24%)	.9208
Second Partner (25)	1488 (24%)	.8403
Interaction Code 1st (8)	1501 (24%)	.7623
Interaction Code 2nd (8)	1485 (24%)	.7429

When coding was done for reliability purposes, coders met immediately following the day's coding and recorded agreements and disagreements for all codes on the primary coder's sheet. Disagreements were discussed and resolved. Resolution was reached by determining which coder had the better view of the situation, and by consulting notes and sharing information which was relevant to making a clear decision. Agreed-upon codes were entered on the same sheet.

Method for the identification of observed playmates. Observations of individual children's classroom interactions were aggregated within each assessment period (see Table 1). A criterion was established for the observational definition of playmates for each assessment period. This was accomplished by determining the mean percentage of total social interactions with all interaction partners for each of the 38 focal (target) children across the entire study period (Attili, et al., 1986). The percentage of codes that each target child had with each of the other children averaged over the entire sample provided a marker of the average percentage of total interactions with specific others. This mean percentage plus one standard deviation was used as a threshold criterion to judge if a pair were playmates during each of the six assessment periods. Specific partners of target subjects with a frequency of interactions above this threshold and with at least one interaction within the coding period that included joint activity or positive reciprocal activity were considered observed playmates (OP) during the period.

Peer and teacher nominations. Once per assessment period at regular (approximately three week) intervals during the study, children were asked to respond (in private) to the following question: "When you are able to choose, like at center time or at recess time, who do you play with most at school?" and then "Who else do you play with?" After the child had responded, the experimenter asked, "Are _____ and _____ the children you play with the most?", allowing the child to think about and affirm or change his or her choices. Codes of the nominated friends were entered as child-nominated (CN) playmates for the assessment period in the order of preference that the child gave. If the child offered more than two children as fitting these categories the

identification numbers of all children named were recorded. However the child was still asked to affirm his/her choice of the first and second most common playmates.

On the same day as the children's nominations, lead teachers were asked to report in writing: "Which child in your class does (target child) play with most at school? Please name one other classmate who (target child) plays with frequently"? Teacher choices for each assessment period were recorded as teacher-nominated (TN) playmates.

Best friend nomination. An additional question was added to the final nomination session. After they had been asked the standard question about common playmates, both teachers and children were asked to respond to the appropriate form of the following: for children, "Of all the children you know at school or at home, who is your best friend?" and for teachers, "From all the knowledge you have of this child, who would you name as his/her best friend"? This additional question allowed for an assessment of the extent to which the children differentiate between those they play with most commonly at school and those who are their best friends. It also provided direct evidence of the identification of particular classmates as strong friends.

The Identification of Playmates and Friends

Playmates. As stated above, a criterion was established for the observational definition of playmates. Of course, using this cutoff criterion measure meant that some children did not have observed playmates as defined—a realistic situation in most classrooms. Child-nominated and teacher-nominated playmates were identified by simply recording the responses of children and teachers at each nomination session.

Simple, continuing, unilateral, and strong friends. Partners who were identified together by two of the three assessment methods during the fourth or fifth coding periods were identified as simple friends. Periods four and five were chosen as the point at which it was possible to begin designating children as friends because they fell during and after the third month of school. It has been posited that after about two to three months newly acquainted kindergartners' social

relationships have evolved into steady companionships or friendships (Ladd, 1990). Both coding periods were used for identifying simple friends (as opposed to just one period) to prevent children's absences for an extended time during period five from precluding their designation as friends. For many children, different partners were identified as observed playmates in each of these periods. All period four and five observed and nominated playmates were eligible to be identified as friends.

Partner nominations by both teachers and students during periods four and five were compared to each other and to the observed playmates identified. Playmate pairs identified by both nomination assessments, or by one nomination assessment and the observations, or by all three assessments were identified as simple friends.

The study's definition of simple friends allowed that some children could have more than one friend, and also allowed for the identification continuing friends, and of unilaterally and mutually nominated "best friends." After data had been collected across the entire school year some pairs of children met the criteria for defining their relationships as continuing, unilateral, and strong friendships. Continuing friends were defined as those children who maintained at least one simple friendship through the last two coding periods. Again the partnership had to be affirmed by two of the three assessment measures. Unilateral friends were children who met the criteria of being designated continuing friends. Unilaterals were also children who were members of dyads in which one of the two partners nominated the other as best friend at the end of the year. Strong friends were defined as continuing friends who mutually nominated each other as best friends at the end of the school year. Table 3 provides an summary of the defining criteria of the different friend designations.

Teacher Reports and Interviews Regarding Classroom Friendships

Teachers reported in December on their relative awareness of each child's classroom activity. That is, they were asked to choose from five categories for every child by laying a card printed with the child's name on a grid of five choice statements. Statements ranged from "I have

a very high level of knowledge of this child's school activity" to "I have a very low level of

knowledge of this child's activity" (see Appendix B for Teacher Knowledge of Classroom

Table 3

Friend Designations: A Summary of Defining Criteria

Friend Designation (n)	Defining Criteria
Simple Friends (32)	Indentified during coding period 4 or 5 by agreement of two or more assessment measures.
Continuing Friends* (13)	Simple Friends continuing to be identified by two or more measures during coding periods 6 & 7.
Unilateral Friends* (7)	Continuing friends, one of whom nominates the other as best friend at the end of the year.
Strong Friends* (4)	Continuing friends, mutually nominated as best friends at the end of the year.

* Individuals from these three groups were included in as friends in comparative analyses of friends and non-friends.

Activity Form). Percent agreements between teacher nominations, child nominations, and

observations were calculated for children identified at the extreme ends of this scale to examine

how teachers reported knowledge of children compared to the calculated levels of agreement

between teacher nominations and the other two assessment measures.

Also, at mid-year, during the January-February coding period of the study, lead teachers

in each classroom were interviewed to ascertain basic points about their attitudes and beliefs

concerning classroom friendships. The interviews were audiotaped and transcribed.

Transcriptions were reviewed and teacher statements sorted into two content categories

(LeCompte, 1980). First, those relating to specific attitudes about friendships and second, into

categories related to specific actions taken to promote or discourage friendships (see Appendix B for a copy). Both teacher report and interview data were used to inform the interpretation of classroom differences.

Parent Report Data

In order to ascertain specific demographic information about the study children's home environments and child care and education histories, questionnaires were sent to the parent(s) of every study participant in October (one month after the beginning of the study). A copy of that questionnaire is attached (see Appendix C). Follow-up phone calls were made in order to encourage full participation. After a single call was unsuccessful in convincing twelve of the parents to send in questionnaires, a phone interview was undertaken with six parents, using the same questionnaire form. Six families declined to participate in the questionnaire phase when called a second time.

Data on family composition and income, and parents' racial/ethnic origins and educational backgrounds were collected by this questionnaire. Using the same instrument, data were gathered on how much, both during the study and before, particular children spent time with school classmates, and with other friends outside of school. The latter data were used to inform interpretations of the descriptive data on individual children's interaction profiles. However, contacts with school playmates outside of school proved rare across the group of children whose parents responded to the survey. Four of 32 families reported that their child had been making play contacts with classmates outside of school for more than two months. Only one of these four was identified as a continuing friend (that is, a friend from the fourth or fifth coding period to the end of school) with her outside-of-school contact. Two of the other three were identified as continuing friends, but not with the children named on the survey.

Descriptive Methods Using Observational Data

Observational data which recorded the frequency of positive, neutral, and reciprocal interactions between children were used for purposes of hypothesis testing and for purposes of

description. If descriptions warrant, such data may be used for future hypothesis generation. These data, along with playmate nomination data from teachers and children were used to identify individuals who made friends over the course of time. Friends, so identified, have been contrasted as a group with non-friends to examine relations between environmental and individual influences which combined to help explain their status as friends.

For all individuals it was possible to categorize their relationships using a modification of Krappmann's (1985) typology of stability and change. Individual children were first classified as marginals, changers, and consistents by virtue of the frequency and stability of their observed interactions with particular playmates through the course of the year. Observational data only were used in the formation of these categories because they were planned before hypotheses about concordances between methods had been tested, and because the observational data included interaction codes which were directly linked to the observed interactants. These interaction codes could therefore be directly linked with stability-change categories in analysis of group-level data.

Marginals were defined as children who were not identified as observed playmates with any other child for any two consecutive coding periods through the year. These children had also been coded without an observed playmate for at least one period in the beginning half of the year (over the course of the first five coding periods).

Changers were defined as children who were observed playmates with one partner for one period or two consecutive periods. Changers subsequently dropped that playmate in favor of another with whom they remained observed playmates for at least one of the two final periods. For changers to be so identified there had to be no evidence of maintaining a particular observed playmate relationship from the fourth to the seventh periods.

Consistents were defined as children who maintained at least one observed playmate relationship following the third coding period to the end of the school year. Consistents may have

had more than one maintained relationship, and they also may have shown evidence of changing friends, so long as at least one playmate was observed consistently to the end of the year.

Data on the interaction settings and interaction codes of the differing types have been aggregated by coding period. These data will be used to construct developmental trajectories of the different stability-change types' joint activity and positive reciprocal interactions as they vary by the classroom proximal setting variables, teacher presence and physical structure/organization.

CHAPTER IV

ANALYSES/RESULTS

Interaction Frequency and Friend Selection Data

The analysis of study results were derived from aggregated observational data and from nomination data. In Table 4, the first of two frequency tables, the three proximal setting variables are presented. These data present the frequencies of interaction settings, both physical/organizational and social, and the frequencies of teacher presence or absence in the interactive spaces of children as they were being observed. In Table 5 the frequencies of the nine types of interaction codes for the target with the first partner are presented. These show clearly how few conflict interactions were observed. Also this table illustrates that within the structured setting of the school classroom, a majority of observations were characterized by simple propinquity. Another notable fact here is the relatively high percentage of "solitary" codes.

Hypothesis 1: Concordances Between Assessments

It was expected that the percentages of matches of target children's playmates identified by the different methods at each assessment period would be greater than chance. It was also expected that the percentage matches would be highest between the observational assessments and the child-nomination assessments of playmates.

The observational data consisted of approximately 6,000 spot observations of the activity of individual children in two classrooms. These data were aggregated by participants within coding periods in order to put them in a form that could be compared with the periodic playmate nominations of teachers and children.

The initial manipulation of observational data was done in three steps. The first was done in order to derive a grand mean of the percentage of observations that all individuals spent with particular partners (M = 3.3%, SD = 2.8%). The mean was summed with its standard deviation to

Table 4

Frequencies of Proximal Setting Variables by Classrooms

	Frequencies		
	Class 1 (% of Class Total)	Class 2 (%)	Total Sample (%)
Physical/ Organizational Setting			
Outside Free	190 (6.2)	255 (9.0)	445 (7.5)
Inside Free	1120 (36.5)	598 (21.0)	1718 (29.0)
Inside Structured	1665 (54.3)	1914 (67.2)	3579 (60.5)
Outside Structured	93 (3.0)	81 (2.8)	174 (2.9)
Social Setting			
Solitary	185 (6.0)	228 (8.0)	413 (7.0)
Small Group (≤3)	606 (19.8)	696 (24.5)	1302 (22.1)
Large Group (>3)	2268 (74.1)	1921 (67.5)	4189 (71.0)
Teacher Presence (In Target's Interactive Space)			
Teacher Absent	1992 (65.1)	1591 (51.7)	3583 (60.7)
Teacher Present	1069 (34.9)	1255 (44.1)	2324 (39.3)

yield a cut-off criterion (6.1%) to apply to data on children's observed interactions with classmates. In step two, observations of target-partner interactions were aggregated by coding period. Any child and particular partner whose percent of interactions within a coding period exceeded 6.1 were eligible to be considered as observed playmates for that period. In the third step data on the types of interactions these selected pairs had in each period were examined. Observed playmates were identified by this matching process, target individuals and their partners

Table 5

Classroom and Total Sample Frequencies of Target's Interaction Codes with First Partner

	Frequencies		
Interaction Type	Class 1 (% of Total)	Class 2 (%)	Total Sample (%)
Solitary	634 (10.4)	844 (14.9)	1478 (12.6)
Negative Reciprocal	11 (0.2)	5 (0.1)	16 (0.1)
Negative Unreciprocated by T*	6 (0.1)	0 (0.0)	6 (>0.1)
Negative Unreciprocated by P*	11 (0.2)	4 (<0.1)	15 (0.1)
Propinquity	3958 (65.0)	3826 (67.7)	7784 (66.0)
Positive Unreciprocated by T	7 (0.1)	9 (0.2)	16 (0.1)
Positive Unreciprocated by P	24 (0.4)	11 (0.2)	35 (0.3)
Joint Activity	1261 (20.7)	892 (15.8)	2153 (18.3)
Positive Reciprocal	171 (2.8)	64 (1.0)	235 (2.0)

* T = Target child; P = Target's interaction partner.

evidencing a higher percentage of interactions than the cut-off criterion, and at least one episode of positive reciprocal or joint activity interactions were coded as observed playmates for the coding period being examined. This process yielded some variation among the study subjects' numbers of observed playmates in each period. Some had as many as five observed playmates and some had none. The mean percentage of targets' total interactions with observed playmates by coding period was 10.6% (Range = 7.1% - 36%). In other words the average target child was coded as

nearby or jointly interacting with his or her observed playmate in 10.6% of all coded interactions during any particular coding period.

In order to calculate agreement between assessment methods, the percentages of hits and misses between all possible nominations and observed playmates at each assessment period were calculated. Nomination data on individuals were also pooled by assessment periods because each nomination procedure yielded two partners (in most cases) for each target child at the end of each assessment period. Any agreement between assessments was considered a hit for the period. For example, if a child's second playmate nomination matched with a teacher's first playmate nomination for a period this was still considered a hit. If both teacher and child nominations matched for one target, or if two single assessment nominations matched with two observed playmates for a particular target in a coding period this was considered as only a single hit. When a child had no observed playmates for a period there was an automatic miss between nomination and observational data. Percentages of agreement between methods of assessment are presented in Table 6.

The data show that teacher and child nominations consistently yielded the highest percentage agreements. Although there is some variability across time, generally there is improvement in percentage agreements across the school year for all methods. The average agreements for the first semester of the school year were 41.6% between teachers and observers, 46.3% for children and observers, and 58.4% between children and teachers. After the winter holiday the average agreements are 59.2%, 50%, and 84.2% for the three methods respectively. Especially during the second semester, teacher and child nominations demonstrated a high level of concordance.

Teachers' relative knowledge of children's daily activity. Teachers responded to questions about their relative knowledge of students' activity by use of a Likert scale format. It was found that the teacher in classroom two was relatively accurate across the school year in her characterizations in these choices. She was in agreement 60.3 percent overall with child

Table 6

Percent Agreements between Teacher Nominated (TN), Child Nominated (CN), and Observed

Playmates (OP) at Each Coding Period

	Percent Agreements		
Period (Dates)	TN/OP	CN/OP	TN/CN
1 (Sept 8 - 22)	34.2	36.9	42.1
2 (Sept 23 - Oct 13)	52.6	60.5	71.1
3 (Oct 14 - Nov 10)	52.6	47.4	55.3
4 (Nov 12 - Dec 1)	26.3	36.8	60.5
5 (Dec 2 - Dec 17)	42.1	50.0	63.1
– WINTER HOLIDAY –			
6 (Jan 5 - Feb 3)	52.6	39.5	81.6
7 (Apr 27 - May 26)	65.8	60.5	86.9
8 "Best friend nomination"* (June 1)			44.8

*Agreement between teachers and children only

nominations and observed playmates concerning children for whom she had "a very high level of knowledge." For children about whom she professed a low level of knowledge her agreement level fell to 27.7 percent, confirming some accuracy in her characterization of knowing little about these children. The teacher from classroom one proved less accurate in her characterizations of "low knowledge children". Although her agreement rate on "high level of knowledge" children was almost identical with the other teacher, 60.8%, she demonstrated an even higher agreement rate concerning "low knowledge level" children, 63.4 percent.

Chi Squares for measuring concordance. Chi square tests of agreement have been used to measure concordance between assessment methods in two important studies (Howes, 1988; Marshall & McCandless, 1957). However, it is apparent that in assessing possible playmate choices within the present study's classrooms, this method takes clear advantage of chance. That is because the expected frequency of agreement between two assessors in considering the linkage of one child with 26 possible others would be a very low number (1/52). The lowest agreement level reported here (28.9% between teachers' nominations and observed playmates for coding period four) yields a chi square of 3572.2 ($p < .0001$). Siegel (1956), states that results of chi square tests are not meaningful with such low expected frequencies of agreement.

Hypothesis 2: Classroom Proximal Processes

Individuals who were identified as either continuing, unilateral and strong friends were expected to be coded with a greater percentage of their observed interactions taking place in the context of unstructured or free activity than non-friends. They were also expected to be observed with greater numbers of interactions taking place outside the context of teacher presence.

This was tested by comparing percentages of interactions in the context of free activity and in teacher presence for individuals identified as friends versus those who were not so identified. Initially, since unique classroom structures and dissimilar teacher activity could affect these percentages, differences between classrooms were analyzed. Individuals from Classroom 1 had higher percentages of interactions coded as unstructured or free than those in Classroom 2 (Mann-Whitney-Wilcoxin Test, $Z = -5.264$, p two-tailed $< .0001$). Individuals from Classroom 1 also had a higher percentage of interactions coded away from the presence of teachers when compared to the children in the other class ($Z = -4.561$, p two-tailed $< .0001$). Since these differences were significant further analyses were carried out on each classroom separately.

It was originally proposed that analyses comparing friends with non-friends would compare individuals identified as members of strong friend pairs with the other individuals in the

study. Strong friends were identified in the following way: First they must have been identified as simple friends during the fourth or fifth coding periods (through concurrence of two assessment methods), second they needed to be affirmed as continuing friends by the same standard of concurrence over the last two coding periods, and third they must have mutually nominated each other as best friends at the end of the year. These criteria proved very narrow as a definition of friend pairs for analysis, and only two pairs of friends were identified, both of whom came from the same classroom.

It was therefore decided that a slightly less conservative criteria would be used to construct a friend group for comparisons (see Table 3). Unilateral friends were individuals who maintained stable friendships through the year, but were affirmed as friends by only one of the pair nominating the other as best friend at years end. There were seven such friends, 18.4% of the total sample. The second additional category of friends were continuing friends. These children were identified as simple friends by study criteria before the winter holiday, and were identified as continuing in their friendships after the holiday by agreement of two of the assessment measures during both final coding periods. There were 13 of these individuals, 29.7% of the sample. Therefore the fundamental difference between these differently classified friends concerned only whom they named as "best friends" at the end of the year. Table 7 lists the classes, genders, and ages of all categories of identified friends and the methods by which they were affirmed as friends during the study.

The Mann-Whitney-Wilcoxin test was used to test the significance of differences between the individuals identified as friends (N = 24), and the non-friend individuals in terms of their interactions during structured and unstructured times of the school day, and by teacher presence or absence in their interactive space. This non-parametric test was considered an appropriate choice for these analyses due to small sample size. Additionally, the researcher could not assume with confidence that "the samples have been drawn from normally distributed populations with equal variances" (Daniel, 1978, p. 15).

Table 7

Characteristics and Identification Methods of Three Friend Categories

		Characteristics			
Child ID	Friend Category	Gender	Age in Months	Classroom	Identification Method*
68	Strong Friend	M	70	2	TN/CN
79	Strong Friend	M	73	2	TN/CN
74	Strong Friend	F	64	2	TN/OP; TN/CN
80	Strong Friend	F	62	2	TN/OP; TN/CN
81	Unilateral Friend	M	66	2	All Methods
82	Unilateral Friend	F	63	2	TN/OP; CN/OP
93	Unilateral Friend	F	62	1	All Methods
106	Unilateral Friend	F	65	1	All Methods
101	Unilateral Friend	F	64	1	All Methods
105	Unilateral Friend	M	61	1	TN/CN; TN/OP
111	Unilateral Friend	M	73	1	All Methods
67	Continuing Friend	F	67	2	All Methods
71	Continuing Friend	M	69	2	CN/OP; TN/CN
75	Continuing Friend	F	65	2	TN/CN
77	Continuing Friend	M	62	2	CN/OP
84	Continuing Friend	M	70	2	CN/OP
87	Continuing Friend	F	69	1	All Methods
89	Continuing Friend	M	64	1	All Methods
102	Continuing Friend	M	63	1	All Methods
104	Continuing Friend	M	66	1	All Methods
99	Continuing Friend	M	65	1	All Methods
109	Continuing Friend	M	72	1	CN/OP; TN/CN
92	Continuing Friend	F	71	1	TN/OP; TN/OP
95	Continuing Friend	M	67	1	All Methods

*TN/OP, Initially identified as simple friends by agreement between teacher nomination and observations; TN/CN, agreement between teacher and child nominations; CN/OP, agreement between child nominations and observations.

Hypothesis tests of differences within classrooms were performed. The friends identified in Classroom 1 (n = 13) were more likely to interact outside of teachers' presence than the non-friends (n = 7), (Z = 2.099, two-tailed p < .04). The friends in this class were also more likely to interact in non-structured settings than non-friends (Z = 2.261, two-tailed p < .025). The friends

identified in Classroom 2 ($\underline{n}$ = 11) were somewhat more likely to interact in non-structured settings than non-friends ($\underline{n}$ = 7), though non-significantly so, ($\underline{Z}$ = 1.8, two-tailed $\underline{p}$ < .065). Children identified as friends in this class were not more likely to interact outside of teachers' presence. In fact, although the null hypothesis was not rejected, the mean rank of the non-friend group (10.29) was slightly higher than that of the friend group (9.00).

<u>Hypothesis 3: Gender Differences</u>

It was expected that the number of long term friendships in the sample would vary by gender. It was expected that boys would form more lasting kindergarten friendships than girls across the whole sample and by classroom. That is that more boys would be classified in all friend groups than girls.

The following analysis included only individuals from the group of identified friends ($\underline{n}$ = 24). Since separation by classrooms limited interactions primarily to classmates, two separate Chi-square tests were computed to test these differences in proportions. Although there were greater numbers of boy friends in each class, there were more boys overall in each class.

No gender based differences were found in the tendency to become a stable friend. In fact differences were notably negligible. (Classroom 1 <u>Chi-square</u>(1) = .0767, ns; Classroom 2 <u>Chi-square</u>(1) = .0024, ns). This analysis was based on individual children. However, since no cross-gender friendships were identified in this study, it can be stated that, in this sample, girl-girl friendships were just as likely to be stable and long lasting as boy-boy friendships.

<u>Variation in Stability-Change Types' Interactions</u>

<u>Identifying stability-change types.</u> Stability-change types of relationships (marginals, changers, and consistents) were derived from inspection of the observational data alone. Children coded as <u>consistents</u> were observed playmates in at least two consecutive periods during the first semester and were observed as maintaining that relationship through the sixth and seventh coding periods. <u>Changers</u> were observed playmates in one or in two consecutive first semester periods who took up with another child subsequently. A key factor in this definition was

that changers must have established an observed playmate in all first semester coding periods in order to be so classified.

Marginals. Marginals were children who maintained no longer than one period as an observed playmate of another specific child. Also they were without an observed playmate for at least one first semester period. In the second half of the year they did not maintain an observed playmate across the two coding periods. Some changers established only short term (that is only one period with one partner) relationships. However, they did establish observed playmates in every coding period. Therefore these quick changers were more likely to be socially active than marginals. The data eventually did reveal that they were more likely to engage in joint activity and positive reciprocal interactions than marginals.

After individuals from the three stability-change types were identified, the observed interaction and context codes of the children from each type were aggregated by coding periods. Because the study hypotheses concern ecological or proximal setting variables in classrooms, it was decided that interactions engaged in by the various types would be examined as they varied by the four possible combinations of teacher presence and structured versus free activity. The particular interaction variables of interest were expressed as each particular type's percentage of all their interaction codes that signified joint activity or positive reciprocal activity. Therefore, the data showing percentages of joint and positive reciprocal interaction codes of all individuals from each stability-change type have been calculated for each coding period. Graphs have been constructed (Figures 1-4) demonstrating how these percentages varied by stability-change type and by the ecological variables across the year. Three of the figures (2-4) each represent a different combination of the two primary proximal setting variables, teacher absence with high and low levels of structuring and organization of activity, and teacher presence with high levels of structure. Joint activity and positive reciprocal interaction codes were chosen as the variables of interest because evidence from many of the studies of friend-making reviewed here strongly suggested that these kinds of interactions are integral to the friendships of most five- to six-year-

olds. It was expected that the graphing of these data would differentiate types as their interactions varied across the year.

Analysis of Graphs. Data were graphed showing how the three stability-change types' joint activity and positive interactions varied by classroom proximal setting variables were graphed. The graphs are presented in Figures 1 - 4. They illustrate the variation within coding periods and across the entire study period. It should be recalled that joint and positive interactions were part of the defining criteria for identifying observed playmates, and the three stability-change types are differentiated by the stability or lack of stability of such playmates across the year. However, since only one occurance of joint or positive reciprocal activity was necessary for defining a frequent companion as an observed playmate, classification of an individual as one type or another does not strictly predict the percentage of their social interactions that might have been joint or positive.

Figure 1 traces marginals' (n = 8), consistents' (n = 12), and changers' (n = 13) joint-positive interactions as they took place irrespective of teacher presence or absence and level of classroom organization and structure. This figure reveals relatively consistent and flat curves. For the three types, joint and positive interaction increased after the initial coding period, as children presumably warmed up to each other. Also notable is the fact that the relative positions of the marginals (lowest), changers (middle), and consistents (highest) remained constant through the year.

Figure 2 maps average percentages of each types joint and positive activity when teachers are not in their interactive spaces, and their activity is not strictly proscribed by classroom organization or structure. Examples of these times include recess outside, free choice times when morning work is done, and many (though not all) lunch periods in the school cafeteria. This graph demonstrates greater variability between and within types than the graph of interactions under all conditions. The relative relations among types remain as in Figure 1 until after the winter holiday. The readers attention is especially directed to the group of marginals who dramatically increased their proportions of joint and positive interactions by years end.

Figure 3 is a graph of the percentages of interactions under the condition of relatively high organizational structure but lack of teacher presence in individuals' interactive spaces. This does not mean that a teacher was out of the classroom, only that the codes, as they were taken did not reveal a direct influence by the teacher except with regard to the structure of the activity. Examples would include incidences of large group instruction where the child being coded was far from the teacher, incidences when children were in lines or getting lined up to travel outside the classroom, and times when children were assigned work at centers and the teacher was travelling from child to child, or ensconced in a position waiting for children to bring work. This graph is similar to Figure 1 except in the low interaction percentage for consistents in period one and their dramatic increase in the joint and positive interactions between the first and the second coding periods.

Figure 4 demonstrates the relatively low incidence of joint and positive reciprocal interactions during times when teachers are present in children's interactive spaces and the activity is structured. In this condition the three types remain in a relatively narrow bandwidth during most of the coding periods, with changers and consistents showing the most variability. The relatively low, but almost identical percentages of joint and positive interactions at the end of the last coding period is also notable.

Occurences of joint and positive reciprocal activity were rare during the ecological condition of teacher presence and low levels of structure. They did not occur with enough frequency to construct meaningful graphs.
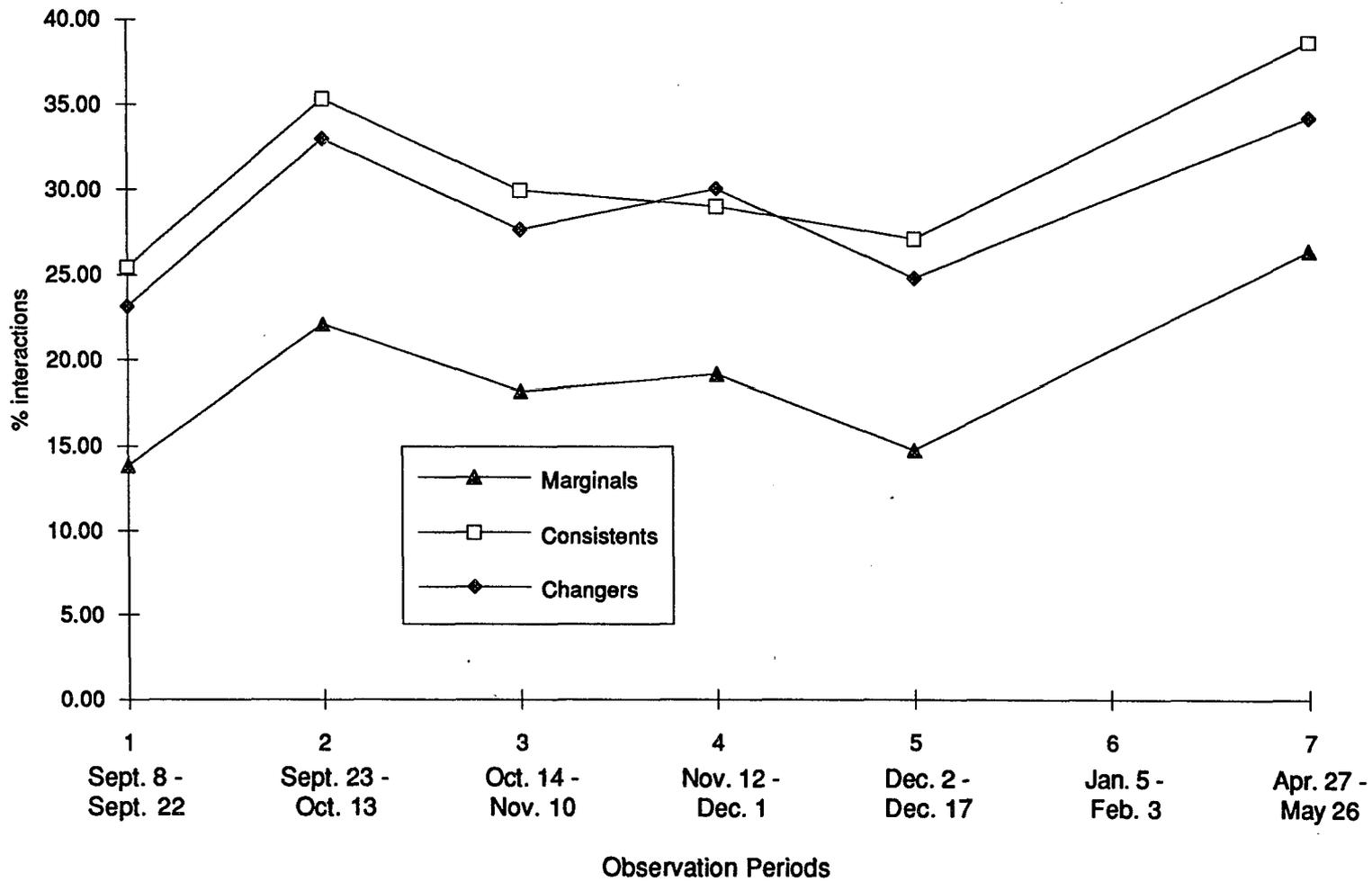
Figure 1. Joint and positive interactions (all conditions)
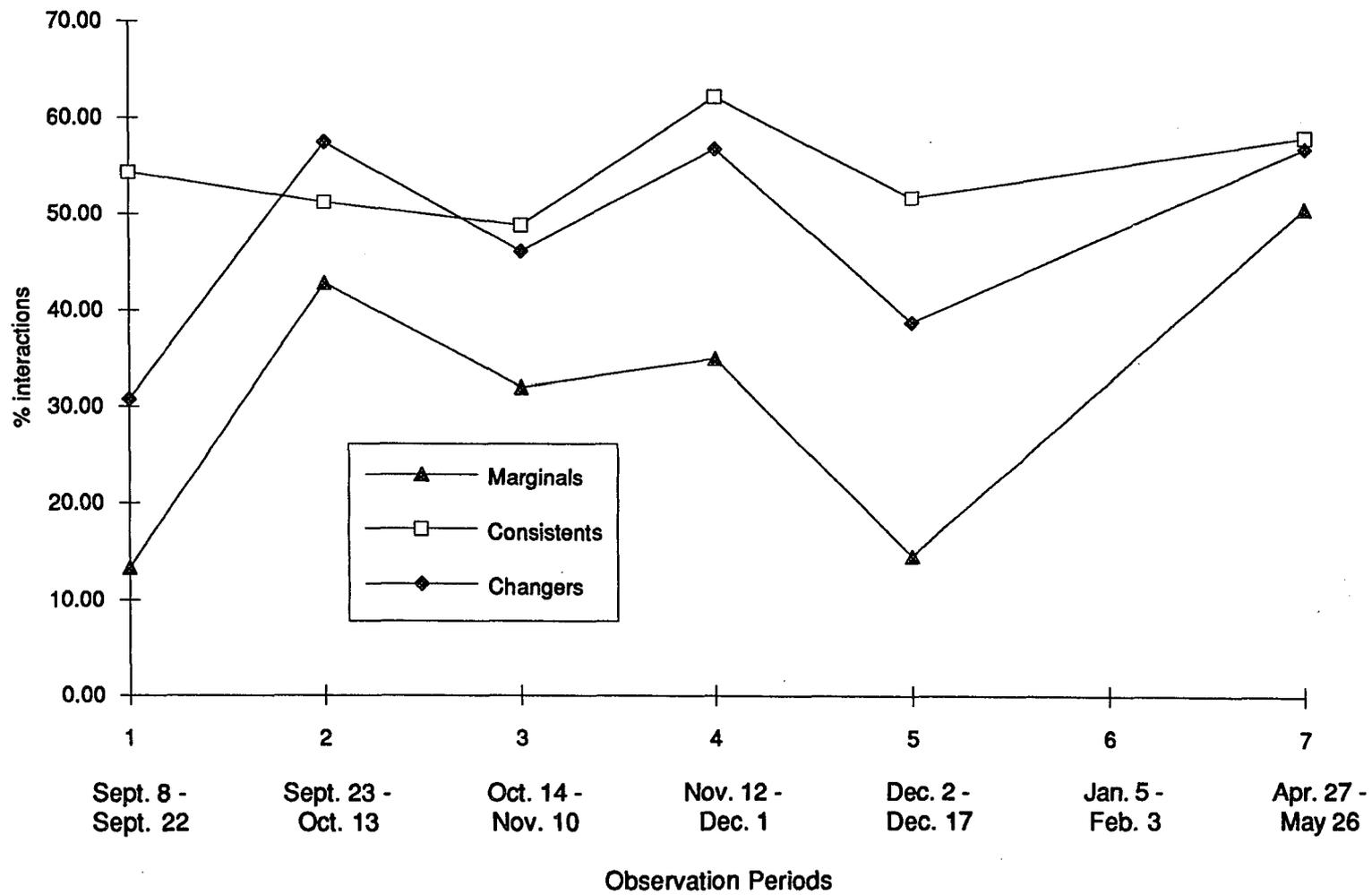
Figure 2. Joint and positive interactions (condition of teacher absence and low structure)
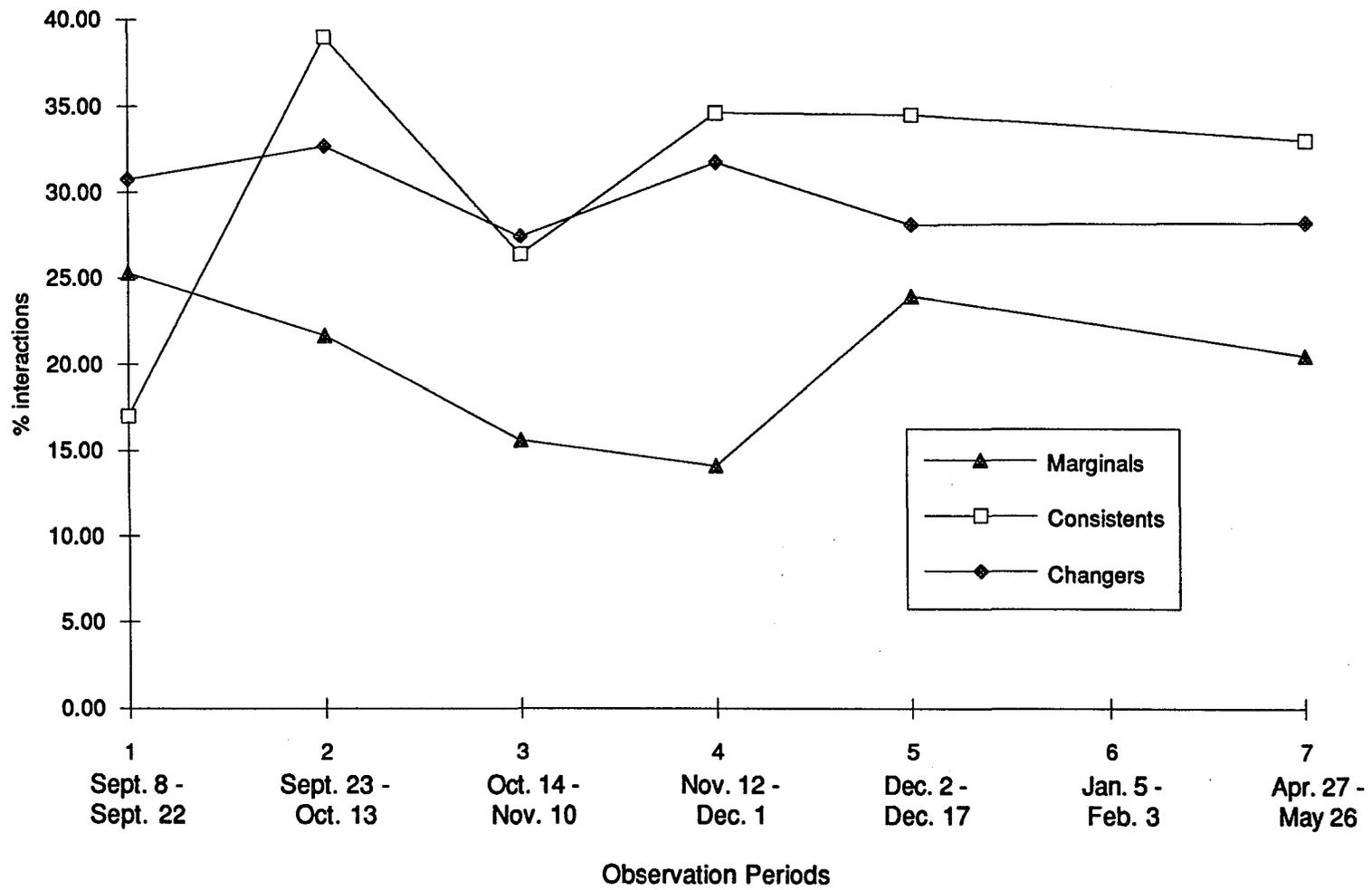
Figure 3. Joint and positive interactions (condition of teacher absence and high structure)
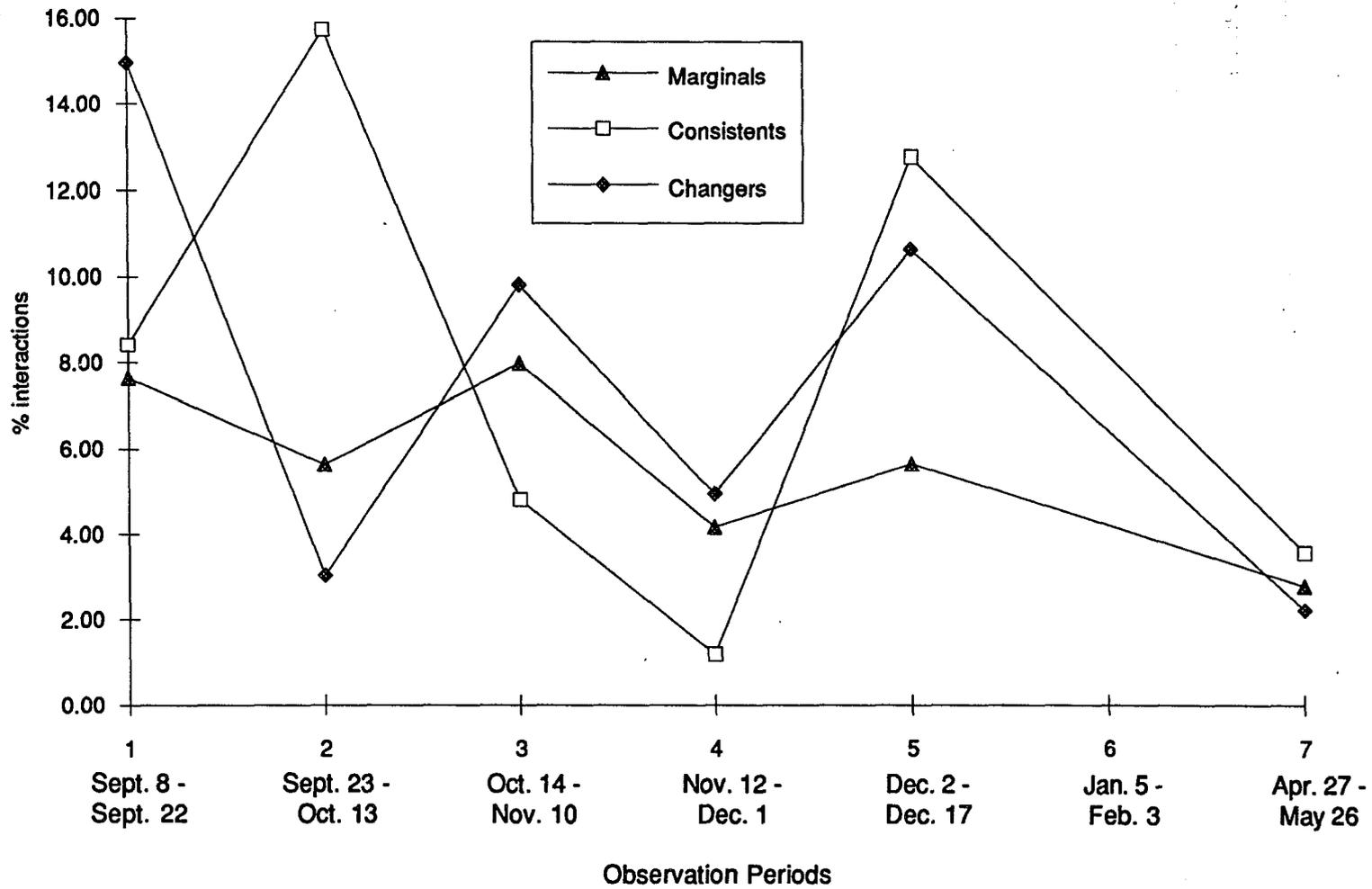
Figure 4. Joint and positive interactions (condition of teacher presence and high structure)

CHAPTER V

DISCUSSION

Agreements Between Assessments

The lack of agreement between assessment measures of playmate status by coding periods was a surprising finding of this study. Several other studies have shown higher levels of agreement, especially between observational assessments and nominations by teachers and children (Hartup, et al., 1988; Howes, 1988; Marshall & McCandless, 1957). Several explanations can be considered. First was the fact that a number of children were coded as having no observed playmates during one or more coding periods. This meant that for that child and in that period there would be an automatic miss between both nominations and observed playmate. Nominations were, in a sense, forced choices. Even if a child or teacher did not have a strong conception of some one or two persons being consistent playmates during the coding period, they were bound by the experimenter's question to offer some answer.

The brevity of spot observations, although it insured many looks at children in a wide variety of situations and over a long period of time, may have contributed to the lower concordance between nominations and observations. Other studies measuring agreements have used longer observational periods, in groups with smaller numbers of possible interactants (Hartup, et al., 1988; Howes, 1988; Marshall & McCandless, 1957).

Another technical-experimental design reason for the lack of agreement had to do with the fact that very little coding took place after lunch time (12:00-2:00) or early in the morning (7:45-9:00) in either classroom. This was due to limitations on the schedules of coders. Teachers reported that the afternoon time was generally more structured than the morning, and that free interaction was less likely to take place; still it was a time of day that yielded information to teachers and children but not to researchers. The early morning time may have been an especially salient

time to observe with regard to friend-making interactions. Often when children arrive at school they seek out their current best buddy and take part in conversation and activity together. Again the inclusion of this time in teachers' and children's own store of knowledge along with its exclusion from researchers', could help explain the comparative lack of agreement between observational measures and nominations.

It may well be that due to the fact that the present study concerned kindergarten children as opposed to preschoolers, concordance of agreement was less than expected (Hartup, 1988). In other words, the tasks associated with children's increasing social-developmental independence at five and six years, and the plunging of the child into a new social environment both contribute to an initially unclear picture of social interaction. Children's activities with regard to friends and friend-making, and their understanding of the concept of friendship both become more complex as they go through their first year of formal schooling. Just because, as Rizzo (1989) has stated, friendship and children's understanding of it undergo a remarkable transition during the kindergarten year, children's activities with potential friends, and their understanding of the relation between those activities and whether or not someone else represents a friend or even a playmate, may be at times confusing and chaotic.

Sullivan's (1953) theory of interpersonal development also supports the notion of increasing complexity in children's relations with compeers during their initial school experience. As children acquire interpersonal competencies through social activity at this time they are "pressed," as Buhrmester and Furman (1986) say, to expand their level of social competence. The acquisition of new social competencies in the midst of learning the rules of the environment and meeting new friends sets a daunting and confusing task before kindergarten children.

Further reason for the lack of concordance between observations of children's activity and their own statements about playmates may arise from the highly constrained nature of the classroom setting (LeCompte, 1980; Pellegrini, 1983). For the first time kindergarten children must adjust their behavior toward friends within the context of these constraints, and their

observed interactions with playmates may be as much an artifact of such constraint as a meaningful bid toward a potential friend. Combine children's adjustment to the demands of the behavioral constraints of schooling with the fact that the school day is chopped into discrete time blocks which often do not coincide with the free time needs of friend-making, and it may be more understandable why, at this age, observations of companionship and joint activity do not correspond with the forced choice measures of playmate nominations. Indeed, it seems that within the school setting it may be impossible to observe friend-making as a process or friendship as a phenomenon.

This adjustment to the constraints of classroom setting and its effect on social relationships may subside through the school year. However, the data did not make this clear, and indeed many children made this adjustment slowly. The percentage agreements between observed and nominated playmates were considerably higher at the end of the year than at the beginning (31.5% higher for teachers and 26.2% higher for children), but there was no even progression across the year (see Table 6). This suggests that changes in classroom routine, holidays, sick periods, separations of friends by teachers or by moving, and the like could all have a confusing effect on the meaning of simple spot observations of children's interactions during the first year in school.

This discussion about the chaotic representation of classroom social life as given by observations, and the lack of high percentage agreements of period-aggregated data with child and teacher nominations must be admitted as fruitless from the point of view of scientifically representing a clear group-wide picture of friendship formation across a school year. Even though the constraints on children in both classrooms were socioculturally determined and somewhat consistent, the "indeterminacy of individual action" and hence individual variability within these constraints was "rampant" (Valsiner, 1987). Observational data gathered intensively over a long period do reveal information that nomination data cannot, and that is the patterns and forms that such rampant variability takes. These data certainly can reveal how particular children

interact in different social and physical activity settings over the year. But again, they may not be adequate to representing the complex and personal phenomenon of friendship.

Differences between child and teacher nominations' agreements with observations. The first study hypothesis expected agreements to be higher between child-nominated and observed playmates, than between teachers' and observational assessments. This assertion was based on the research (Hartup, 1988; Howes, 1988; Marshall & McCandless, 1957), and on the common-sense notion that children themselves, at this age, have a better understanding of their own relationships than that of one teacher managing a class of 28 children. Actually, there was no substantial difference in the overall levels of child-observation and teacher-observation agreement across the year.

Given the Vygotskian notion of activity leading development these findings make good sense (Rizzo & Corsaro, 1989). If the child's understanding of friendship develops subsequent to his activities with friends, and if teachers are experienced enough and perceptive enough about friendship to see its behavioral precursors, then it is understandable that teachers might even be more likely than children themselves to achieve concordance with observational assessments. Children themselves undeniably have more complete knowledge of the details of their relationships than their teachers. This combination of factors helps to explain the lack of overall difference in teacher-observational and child-observational concordances.

High levels of agreement between teachers' and children's nominations. As was stated here earlier, teachers and children were certainly subject to more information about school activity than observers. Even though the study was extensive in the scope and frequency of observations during the year, there was one long gap in the observation schedule (February 4 - April 26). Information derived from full-time attendance at school, and from other sources, such as parent - teacher conferences, and permanent school folders, may explain the eventual high level of hits between teacher and child playmate nominations. These findings suggest that if one

simply wants to know who children play with most at school, one may easily ask teachers this question and dispense with expensive and time-consuming observational methods.

The low level of agreement between child and teacher nominations of best friends provides an interesting contrast to the high level of agreements on playmates during the sixth and seventh assessment periods. Children named home-neighborhood friends and sometimes siblings in a relatively high percentage of cases (41%). Of course, in most cases, teachers were not aware of these friends and could not name them.

The phenomenon of children naming best friends from outside the school setting speaks to two points. First, theoretically it may well be as Hinde (1979; 1987) and Hinde and colleagues (1985) have posited--that there are separate peer and home/family-based systems of relationships. Kindergarten children seem to be moving out of the home system and into the peer system with regard to who they consider to be friends. Eight (10%) of the friend selections by children were of siblings or cousins. This demonstrates that home-based relationships are still of primary importance for a number of the children. Second, this discrepancy, between playmates at school and friends at home, may signify that the children understood that friends are more than playmates--that friends require time and intimacy of communication to develop. Such time and opportunity for intimacy was simply not available in the classrooms examined here.

Conflict and understanding friends. A number of researchers, working with a wide age range of children, have asserted the importance of conflict for children's understanding of friendship (Gottman, 1983; Hartup, et al., 1988; Rizzo, 1992; Vespo & Caplan, 1993). In the present study data on conflictual interactions were virtually non-existent. That is, conflicts, whether aggressive or not, which had sufficient intensity to be clearly differentiable from momentary conversational disagreement, were seldom seen. This is not to say that children from these classrooms did not engage in conflicts, only that very few of the 11,000 plus observations of interactions that we took contained conflict. The lack of conflict may result in a less well-

developed understanding of social-relationships generally, and thus to a lessened likelihood of friend-making activity.

This lack of conflict seemed directly related to the control needs of the teachers (Asp & Garbarino, 1988; Jackson, 1968; LeCompte, 1980). With regard to misbehavior, including argument and scuffles, the guiding philosophy was clamp down early in the year and teach the children about self control and appropriate school behavior. Once control was established, then teachers could lighten up and children would feel liberated to be in a less tense atmosphere. This philosophy is effective, and for some children necessary, for suppressing aggressive conflict. However, for many it may also suppress the more legitimate and productive forms of conflict and argument (Rizzo, 1992; Vespo & Caplan, 1993).

Several times in her interview about friendship in the classroom, one of the teachers referred to the fact that "this year we had to watch them closely . . . this year we could not allow as much freedom [for interaction]." Clearly she felt that the control needs of her class were heightened, that she knew that the necessary adjustments she made in seating and her liberal use of time out and isolation for some individuals did affect the friend-making activities of the students. What may be less clear to adults however, is the subtle relationship between conflict and children's developing self-understanding about social matters. If children are guided to expect that no conflict will occur, then they will not understand it when it does inevitably occur. They will not profit from the positive effects of conflict, which include learning how to actively adjust behavior with peers to affect compromise and resolve the conflict.

Friends' Interactions under Differing Proximal Setting Conditions

The constraint of structured/organized activity. The second study hypothesis, that individuals who evidenced attaining the status of friends would demonstrate a higher percentage of interactions in unstructured activity than non-friends, was supported by evidence from both classrooms. This supports the notion that children who are actively engaged in becoming friends will seek out opportunities to interact in a relatively unconstrained setting. When the daily routine

of the class presents such a setting, children who are becoming friends seize on the time and make it their own. They will begin to plan their outside or other free time with friends (Rizzo, 1989). Even if the initial contact they had with that friend came from classroom placement by the teacher, this does not change the fact of their eager use of unconstrained free activity with playmates, potential friends, and friends.

Other studies of classrooms (LeCompte, 1980; Rizzo, 1989) and evidence from this study suggest that such time is relatively rare. This time becomes precious, especially for playmates or friends who are separated during classroom periods, and children spend as much of it as possible with playmates whose company they enjoy, playmates, it is probable, who eventually become their friends.

In this study, children who were more socially tentative, or who needed a longer time to establish their relationships, may have relied more on the teacher to structure time when they could be jointly active with potential friends (Asher, et al., 1984). These children seemed more at a loss during unstructured times, and hence would be coded more often as solitary or in simple propinquity as opposed to joint activity during these times. In the present study the evidence from Classroom 1 clearly suggests this to be so, as non-friend individuals in that class interacted with others in unstructured situations less than the individuals identified as friends. Also the non-friend individuals interacted less in situations when the teacher was absent. Considering the stability-change groupings of children, it was only in situations of high structure and teacher presence when marginal children were not consistently engaged in less joint and positive reciprocal activity than the other stability change types.

The constraint of teacher presence. Teacher presence may exert a powerful effect on the social interactions of young children (Innocenti, et al., 1986; Pellegrini, 1983). It was hypothesized that it would demonstrate its constraining influence by being less prevalent in the interactions of children who became friends than for those who were not so identified. All things being equal, it was demonstrated here that children identified as friends, as they became

consistent in their interactions, tended to seek activity space away from the teacher. As stated earlier, the nature of the behavioral management tasks of teachers, not their purposeful discouragement of friendship, argues for this hypothesis. In a real sense, teachers, just as much as children, are constrained in their social interactions by the culturally determined business of schooling in the United States (LeCompte, 1980). Their tasks in this regard are necessary ones given the technical-educational demands of the sociocultural setting (Valsiner, 1989; Vygotsky, 1978).

The results of the analyses testing this hypothesis were not wholly consistent. In Classroom One friends were more likely to interact outside of teachers presence, but in Classroom Two this was not the case. The classrooms were shown to be different from each other in the percentage of unstructured interactions of all individuals, and in the percentage of all interactions that were engaged in outside of teachers' presence. In both cases the percentage ranks of the children in Classroom One were higher than those from the second classroom.

Several reasons might explain these differences, first, the actions and opinions of Teacher Two toward managing friends' interactions clearly demonstrated her care about not letting friend pairs or groups lose control, neither in a collective nor in an interpersonal manner.

> I would separate friends who would not work well together, you know, being off task. [Next, referring to the music teacher's actions regarding friends] . . . If she realizes it's a problem, if they're going to create discipline havoc she will separate them. [Next, referring again to her own actions] If they can work cooperatively that's fine, but if one gets to where he's going to be the boss, I will separate them. [Finally, this strong expression of opinion] I think it's part of a teacher's job to encourage children to get along with all the children in a classroom, not just always with the same person.

Given these statements one might expect that friends would be more likely to be kept in the teacher's sights in this classroom. Individuals might well be separated from friends so that they may be less capable of interacting with chosen mates, and therefore less likely to be coded in interaction at all.

The fact that friends interacted slightly more in teacher presence than non-friends in Class Two may well have arisen from physical-ecological factors (Barker, 1968) more than from differences in the character of the friends in this class. In Classroom One, the bulk of the children's indoor free interaction opportunities took place as they finished their morning work and were allowed to choose a center around the periphery of the room. Teachers in this classroom usually remained working with children who had not completed tasks, and therefore were only present if their helping work with others and children's free choice center happened to be physically close.

Class Two was a mobile classroom divided into two wings and separated by a cubby/coat rack and bathroom area. During the morning, one wing was set aside for academically oriented work, the other for more playful activity. Children's movement into these two curriculum areas was balanced by the teacher, so that no particular group of children was more often in one side or the other. The teacher did not keep the same groups together in these areas throughout the year, she changed the groupings every nine weeks. Therefore, different combinations of children were together across the year.

Given this physical set-up and organization, children were often coded in unstructured interaction in the free play side of the classroom, and also the children in this activity area would congregate in small play or activity groups of two to three. However, an assistant teacher was always present in this room, and she offered various activities for the children to choose from. Since the space was relatively small, she was often coded in the presence of the children. Her role was one of making suggestions rather than directly guiding their activity. These circumstances could well have contributed to the fact that non-friends and friends in class two interacted relatively equally in the presence of the teachers.

A salient issue for the present study is how that structural difference in the classrooms provided children in Class Two with more focused free play time in smaller groups, while at the same time encouraging higher levels of teacher presence for friends. The fact that this space was

regularly used by about half the children might partially account for classroom differences in the percentages of free and teacher-less interactions. Thus a direct linkage can be made between physical-structural or ecological differences in a classroom and the character of the children's interactions in the room (Barker, 1968; Winterhoff, in press).

Gender Differences in Tendencies to Become Friends in Kindergarten

The numbers of identified friends by gender in each of these classrooms was almost an identical reflection of the numbers of boys and girls in the classrooms. The sample of friend pairs included only same-gender matches. This reflects an overwhelming tendency among young children that cuts across cultures (Lewis & Feiring, 1988; Whiting and Edwards, 1988). In North America gender segregation in playgroups and preschools may begin as early as two years of age for girls (Legault & Strayer, 1990).

There were a number of temporary playmates (that is for one observation period) observed who were cross-gender, but these alliances were fleeting, and did not hold up under the social momentum for interacting primarily in same gender groups. Teachers and students themselves also nominated occasional cross-gender playmates. This happened with greater frequency in Class One, and at the beginning of the year. Interestingly, observations of children interacting across genders were most frequent near the end of the year. These were recorded primarily on the playground as part of ongoing chasing games. At their peak during the last two coding periods the proportion of cross-gender observed playmates in Class One reached .11 (19/169). That is, 11 percent of the identified observed playmates (based on study criteria) were cross-gender pairs.

The chasing games were common, according to the teachers. As one teacher said in referring to them, "I don't know what it is about six- and seven-year-olds, the boys start wanting to kiss the girls. [It's] just like flowers poppin' up."

Certainly, the establishment of consistent playmates of the same gender follows from Sullivan's (1953) and Piaget's (1926/1959) ideas about the development of peer relationships.

Within Sullivan's framework one would expect that young children entering school would seek out compeers similar to themselves. Piaget emphasized the importance of symmetry in peer relations, and peer group similarity in establishing solidarity and cooperativeness.

This study has little to say about other individual influences in friend-making, and this may be a particular shortcoming. There is little doubt that the individual characteristics of children, either inherent or developed in their family and preschool years, have a great deal to do with how their social affiliations develop (Howes, 1990; Ladd, 1990). To understand fully how particular children make friends one would need to delve more deeply into understanding the complete history of each child, that is to take a case study approach. This effort, in combination with observations of activity, would reveal interactions between personal developmental and contemporaneous social factors. Another acknowledged weakness of this presentation is the non-treatment of dyadic data. This lack has mostly to do with the sheer volume of the data, and the decision to analyze questions initially at the individual level. The investigation of dyadic relations across the year (of identified friends and types) awaits future analysis.

Stability-Change Type Differences Under Varying Ecological Conditions

The graphical data presented in Figures 1 - 4 illustrate the influence on children's interpersonal activity of two important socio-ecological conditions as they interact. These graphs also reveal a picture of increasing joint and positive activity among children under most setting conditions as they progressed through their initial year in school. Even for children who were classified as marginal because they did not establish any observed long lasting relationships, the picture of gradually increasing social affiliation was encouraging.

Variability across the year. Two interesting developments arising from this data may require further investigation. The first of these was the variability across coding periods of the joint-positive interactions of the eight children initially coded marginals who were recoded as changers. These children clearly seemed to be either very high or low in terms of the percentages of this interaction style as they moved through the year. There was some intimation

from one of the teachers early in the study that she recognized this kind of friend. On her nomination sheet for one of the children, rather than a name she put, "likes everyone." On several others she wrote, "anyone." As the data on the observed playmates have been tabulated it turns out that for some individuals, she was right.

These children seemed generally more self-possessed and conscious of their social choices in ways that some other children were not. Rather than seeing the times when they were less active as times of rejection or loneliness, as a teacher said, they appeared to be "independent thinkers, they think, 'Oh, I can play with her or him' . . . maybe they even have a higher self-esteem . . .they're not driven to be part of a group . . . they know how to cooperate."

Data on joint and positive reciprocal interactions across the year generally confirm that the eight true marginal children were relatively less likely to engage in these types of interactions especially when the teacher was absent (Figures 2 and 3). These children were classified based not on joint-positive interaction frequency, but on not having maintained an observed playmate relationship for more than one coding period at a time. They were differentiated from the eight recoded changers based on having lower numbers observed playmates overall, and having at least one first semester coding period with no observed playmate. However this would not necessarily preclude their having as high a percentage of joint or positive interactions as the two other groups. Clearly they were children who took more time to warm up to the social atmosphere of the kindergarten classroom.

A second finding of striking variability in the interaction data was the abrupt upswing in the marginal children's joint-positive interactions after the winter holiday (Mean % joint positive interactions first semester = 27.5, Mean % second semester = 51.75). This seemed to illustrate that their early lower level of interaction may have been a fleeting phenomenon. The graphic evidence paints a picture of children glad to be back with their peers, and busily active (Figure 2). It also may be said to demonstrate the "lightening up" of teacher's control mentioned earlier. This group of children included two boys who were in time-out repeatedly early in the year. They

certainly had greater opportunities for free interaction after the holiday because they were less often in trouble. The group also included two girls who seemed socially very tentative early in the year. They well could have been students indirectly affected by the teacher's control methods--mildly intimidated, and wanting to be good. Although they did not establish playmates continuing through both of the last coding periods, they did seem to establish group affiliations that were positive for them.

The school experience and the reducing variability of children's interaction activities. A notable aspect of the graphs on children's joint-positive activity under the minimum and maximum amounts of constraint across the school year (Figures 2 and 4) was that the three types' differences in percentages of this style of activity became less varied as the year progressed. This reducuing variability seems to make perfect sense based on the importance of the hidden curriculum that pervades the concern of teachers, especially during the early elementary school years (LeCompte, 1980).

When these curves are surveyed, clear differences are seen between Figure 2 (of children interacting in relatively unconstrained settings) and Figure 4 (the representation of interactions under the highest constraint conditions). In Figure 2 it appears that under these conditions the children were varying according to the tendencies of type during the beginning of the year. As the year progressed to the second semester, increasing joint activity by the marginals brought them to the same level of this activity as the changers and consistents. This convergence may well have resulted from the combination of growing social comfort on the individual level, as well as the internalizing of the rules of the hidden curriculum. This picture of convergence combined with the gradual convergence and lessening of all types' joint-positve activity under higher levels of constraint (Figure 4), show that children have figured out where and how to (as well as where and how NOT to) engage in joint and positive interactions. It seems that if the sociocultural enterprise of kindergarten is expected to be a behavior leveler, it has been somewhat successful.

Conclusion

This dissertation began with a quotation from Adler, his deceptively simple message has very broad implications for the study of development. Since the individual truly is both "picture and artist" where do we begin our study of development? This study clearly has been most concerned with exploring the picture, that is the bulk of the data presented here refer to how the social and physical ecologies of two classrooms shape the pictures that the artists, individual children, will continue actively to paint as they construct their understanding of friend-making. This focus on the picture was purposeful and grounded in the belief that the more both researchers and practitioners know about the interaction between children's activity and the structure and organization of classrooms the more able they will be to make positive and effective changes in the sociocultural enterprise of early schooling.

The simplest statistical measures can reveal the most telling information in a study. In this year-long work of collecting observations in classrooms, what may be called the raw material data, simple frequencies, provide an interesting picture of how, and under what conditions, children interact in two kindergarten classrooms. For example, across an entire year only 18 percent of the observations of children found them in joint cooperative activity with another child. Recall that this is not necessarily playful or child initiated, but simply activity focused on the same task together, or involving two children conversing with each other. This low percentage reflects the structural and organizational priorities of the classrooms observed[2]. Other data which stimulate interest and further questions include, the low percentage of codes of children playing freely outside (7.5%), and the high percentage of interaction codes which were "solitary" (12.6%). The outside free code was not low because of researchers' absence. They were present during most scheduled outside play. There was simply very limited time set aside for outside play. In truth it seemed that

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[2] I hasten to add this particular school has an excellent reputation and as an experienced teacher I saw it as a warm and welcoming place for children. In fact that only increases my incredulity at the low level of joint interaction.

any time the schedules were altered to accomodate special events or unplanned delays, the children's scheduled outside time was shortened or eliminated.

The solitary codes (12.6% of all interaction codes) were dependent not only on the distance between the coded child and other children, but also on the child's lack of focus or interest in joint interaction. This solitude in the midst of a large group of children seemed unusual.

The test of hypothesis two revealed that friends and non-friends in one classroom could be considered different populations. Friends were coded more in the low structured (free activity) and teacher absent conditions. This finding suggests a strong relation between the social and physical ecology of the classroom and the positive interactions of children. It adds one small piece of evidence to a growing body that claims that contextual factors, as well as individual, exert influence on children's interactions (Bronfenbrenner, 1988). Given time and space, children do engage in the style of activity that many investigations of early friendship have identified with sucessful friend-making (Hartup, et al., 1988; Hinde, Titmus, et al., 1985; Howes, 1988; Rizzo, 1989).

A general linkage of theoretical viewpoints has been made here. Using Vygotsky's ideas on the importance of the sociocultural setting as a background, and proceeding on a primary theoretical assumption of Adler, Sullivan, Piaget, and Vygotsky--that children develop through activity in a social world, it has been asserted that social interaction is of critical importance for a child's developing sense of self and intellectual and moral understanding (Piaget, 1959/1926).

Consistent with Sullivan (1953), Piaget, and Hinde and colleagues (1985), the importance of similarity seeking as friendships begin to develop has been observed. The peer system of relationships, as distinct from the home system was clearly being established in these classrooms, as children made new friends by novel means, for example by giving presents or by simply "looking cool." Cross-gender interactions were existent, but not common. Boys played with boys and girls with girls. Similarly, cross-racial play interactions were seen daily, but only three individuals were identified as cross-race friends. Piagetian and Vygotskian notions of

developmental change through activity with peers have been demonstrated. Especially in changers, it was shown that children actively construct and reconstruct friendship as their perspectives and those of their compatriots are shared (Rizzo, 1989).

More than any other idea, this investigation supports the notion that teachers and schools influence the course of children's social interactions, and hence their friend-making potential, especially in the ways in which they structure and organize spaces and time. For children in kindergarten this structure becomes one of the most important contemporaneous influences on social development. This study gave some indication of the influence of structure through presenting developmental trajectories of differing stability-change types. These graphs provide evidence of the fact that schooling "promotes the standardization and homogenization of children's socialization process" (Valsiner, 1989). The curves each represent a specific mode of interaction as it varies by a specific set of classroom control conditions. The lessening of variability as evidenced by two of them (Figures 2 and 4) seems a clear indication that the school is carrying out its socialization function with success.

This study made the attempt to meld three different assessment techniques as a methodological device for positively identifying the formation of friendships in kindergarten classrooms. As the data were analyzed it became clear that teachers' and children's nomination data concerning playmates were relatively well-linked, but that the observational data represented children's relationships in a somewhat different way. This difference rings true given Rizzo and Corsaro's (1989) distinction between children's actions in friend-making and their reflective understanding of same. However, the observations revealed more than just this difference. They revealed the picture of a discontinuous social life in kindergarten. A life in which maintaining consistent relations with one or two friends is quite the exception. The organization of children's activity in relatively short time blocks, and in different physical spaces, and in oft-changing social groups may well limit the friend-making capabilities of children.

That children make friends at all in the shifting sands of many classroom environments may be remarkable in itself. In this study, even in the classroom of a teacher who spoke with depth and feeling about friendships among children, the facts were that her scheduling of the children's days left very little time for social exploration or for maintaining continuity in relationships. I hasten to add, this is not necessarily the fault of teachers, for there are many individuals and groups responsible for the structural organization of schools. The lack of time for children to freely interact in school is simply the unfortunate result of the formation of a sociocultural setting in which the establishment of social control takes precedence over children's establishment of human social relationships.

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APPENDIX A

Codes and Definitions for Classroom Interactions
Friendship-Interaction Study
Paul Winterhoff, Sept. 1992 - June 1993

PHYSICAL SETTING

0= outside-free recess, or other outdoor time allowing for relative free choice of movement.

1= inside-free "center time" or other inside time when children are allowed to choose where they interact in the room.

2= inside-structured inside time when children are instructed by their teacher or by the scheduled routine to be in a particular place in the room.

3= outside structured outside time when children are constrained by teacher instruction to be in a particular defined area, or in a particular spatial order (e.g. playing a game in PE or walking in a teacher ordered line to and from outside of class activities.

TEACHER PRESENCE There are 2 relevant components to consider in determining this code: distance and awareness of presence. (See pp. 2-3 for def. of "Interactive space", and group size and distance limitations on these codes). It is possible that a child can be within the distance limitations of this code but with her back to the teacher's back, giving no cause for the teacher to attend to her and showing no awareness of the teacher's presence. In that case code "0".

0= teacher not present in the interactive space of the child.
1= teacher present " "   "   "   "   "   "   .

SOCIAL SETTING (see pp. 2-3 for limitations of "solitary" code)

0= solitary   child is not engaged with any other child and is not within the interactive space of any other child. A child should be coded as solitary if interacting only with a teacher. If the distance between the target child and partner(s) is <, but close to, the 2m. limit, and the focus of the target child is away from potential partner(s) code "0" unless there is some outward evidence of potential awareness of the partners by the target. For example, the partner(s) is/are noisy or very active, and it is obvious that the target is aware of his/her/their presence. If children are very close to each other (<1m.) but not focused toward each other do not code "0".

1= small group the target child and 1 or 2 other children are within the same interactive space.

2= large group the target child and 3 or more children are within the interactive space.

INTERACTIONS (between **children**, context framed spot observations. See pp. 3-4 for limtations of "propinquity" code)

0= no interaction, no partner code "0" for interaction codes when no other child is present with target, or in the space provided for a second partner when the child has only one partner. Code "." (missing) only when the target child is not present to be coded (e.g. in the bathroom, absent, or on a special errand out of the room). See also **Social Setting** above, if Soc. Set. is "0" then Interaction code will be "0".

1= negative reciprocal interaction marked by hitting, pushing, argument, verbal attacks, or other strong expressions of displeasure/disagreement by both children in an "interactive episode" (see def.).

2= negative behavior by Partner (P), directed to, but unreciprocated by Target (T) P. behaviors characterized in #1, ignored or not directly responded to by T.

3= negative beh. by T, unreciprocated by P exactly as #2 only vice versa.

4= propinquity T in the interactive space of other(s) but not interacting at the moment of observation. Could be engaged in parallel activity (e.g. coloring identical picture at the same table) but with no sign of interaction.

5= positive beh. by P, unreciprocated by T P behs. characterized in #s 7 & 8 (below) which are rejected, ignored, or not directly responded to by T.

6= positive beh. by T, unreciprocated by P flip side of #5.

7= joint activity interaction marked by mutual involvement and interest in terms of physical or verbal activity. Playing a game together, working at the same table and comparing work, conversation, constructing something together, "goofing-off" together. Could include "misbehavior" toward another child or material. Key term is "mutual".

8= positive reciprocal interaction characterized by behaviors describd in #7 plus signs of positive affect in both partners (smiling, laughing, hugging, holding hands . . .).

DEFINITIONS:

Interactive episode. "Interactive episodes are those sequences of behavior which begin with the acknowledged presence of two or more interactants in an ecological area and the overt attempt(s) to arrive at a shared meaning of ongoing or emerging activity. Episodes end with physical movement of the individuals from the area [interactive space] which results in the termination of the originally initiated activity" (Corsaro, 1985, quoted in Rizzo, 1989).

Interactive space. The physical space defining the contexts of interaction between children. Examples are: a table where all are working or playing a game, or a carpeted area used for block play. Outside, a set of "monkey bars" or the playing field for kickball or soccer.

Physical limits on coding solitary and propinquity. Inside social setting codes for "solitary", and interaction codes for "propinquity", will be appropriately recorded if children not engaged in common activity in an interactive space are beyond (soc set = solitary) or within (interaction code = propinquity) 2 meters distance from one another. Outside "solitary" and "propinquity" codes will be appropriately recorded if children not engaged in common activity in an interactive space are respectively beyond or within 5 meters distance from one another.

Teacher presence. Outside, only if large interactive spaces are not clearly defined (as they would be on a playing field, or within a circle on the pavement), and the teacher is not giving direct instruction, the limits of interactive space (for the purposes of coding "Teacher present") will be 5 meters radius around the target child. The two meter limit rule will apply for the same conditions inside.

Teacher presence codes relative to group size If the teacher is giving instruction to a small group of children (<15 = 1/2 the class size), and the children are contained in a well-defined space (inside or outside) then the teacher is coded as present for all children. If the group of children is large (≥15), contained in the defined space but involved in some activity (ex. a group sing, playing an active game, or lining up to go somewhere) the relevant distance rules apply with regard to teacher presence i.e. the teacher is not coded as present for all, but only for those nearby.

Definitions Summary. For the various codes mentioned in the definitions above, the inside "coding distance" is 2 meters radius around the Target child, outside it is 5 meters radius around the target child. Children will be coded as "solitary" if they are at least these distances removed from others and not engaged in any ongoing interaction with them. Children will be coded as in "propinquity" with others if they are within the limits set by these distances but not directly engaged in a mutually focused activity with them. Teachers will be coded as "present" or "not present" dependent on the limits set by these distances and whether or not they are involved in the activity defining the space. For example, a teacher closely supervising <15 children in a kickball game would be coded as present with the children in the game. However, a teacher simply watching a child outside, further than 5 meters away from the child, or a teacher leading a line of ≥15 children to lunch would be coded as "not present" for all but the children within the respective coding distances.

CLASSROOM INTERACTION OBSERVATIONS

Time	Child ID	Phys. Set.	T.P.	Soc. Set.	Partn. IDs	Interact. Code	Comments
							*
							*
							*
							*
							*
							*
							*
							*
							*
							*
							*
							*
							*
							*

CODES: Phys. Set.-> 0=out, 1=in-free, 2-in-structured,
                3=out-structured
      T.P.-> 0=teacher present, 1=teacher not present
      Soc. Set-> 0=solitary, 1=sm. grp (< 3),
                  2=lg. grp (> 4)

Interaction (Target POV)
0=no P, 1=neg rcp, 2=neg P unrcp by T
3=neg T unrcp by P, 4=propinq
5=pos P unrcp by T, 6=pos T unrcp by P
7=joint activity, 8=pos reciprocal

APPENDIX B

<u>Questions for Teachers</u>

(Open ended-- please write a sentence or two about each question)

1. Of the organized time periods that make up your class day, during which are children most likely to freely interact with friends?

2. During the typical morning, for what percentage of children's time is it possible for them to freely interact with their friends?

3. Do you consider children's friendships when you assign children to tables for center-time work? If so do you tend to put friends together or keep them apart?

4. Are there outside of class, but still supervised, times during the school day that you believe gives friends from your class time to freely interact (e.g. bus ride; breakfast)?

5. Are you aware of particular friend pairs who take advantage of this time? If so could you list the children's names and the times when you know they are together?

Children's names   **Times together**

_____   _____

_____   _____

_____   _____

Questions for Teachers

6. How many of the children in your class were in the pre-K program here at G.P.S. last year? Do you know if any of these children were in the same pre-k class? Please list them for me.

Children who were at GPS last year:

Of those listed above, these were in the same class:

7. How do you define kindergarten friendship?

8. Could you please jot down the time organization of your day as it stands at the end of the year?

THANKS SO MUCH FOR ALL YOUR HELP DURING THE SCHOOL YEAR!

Paul Winterhoff
Human Development and Family Studies
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APPENDIX B

Teacher's Knowledge of Classroom Activity Scale

<u>Text of Explanation of Task</u>:

I have been asking you over the course of this year to give me your nominations of the favored playmates of all the children participating in my classroom interaction study.

Considering my own life as a teacher it occurred to me that for various reasons teachers tend to be more aware of the activity of particular children in the class than of others. As the year progresses some children may demonstrate the need to be watched more closely than others because of out-of-bounds behavior, or perhaps for protective or remedial reasons as in the cases of children with physical or intellectual developmental delays. Of course, some children may, through their own motivation or need, want to stay in closer proximity to you than others. Some may need more attention because of an advanced intellectual ability, and so on.

It is possible that you make more accurate assessments of some children's playmates than others for the above or for other particular reasons <u>that cause you to be more aware of their activity while they are at school</u>. Because of this possibility I would like you to estimate your knowledge of the daily classroom activity of each child in the classroom. I will present you with a stack of cards, randomly ordered, with the name of each child in the study. Please place the cards within the grid provided. On the far left square of the grid marked "1-Very Low level of knowledge of School Activity" place the names of children who you are not very aware of on a daily basis. On the far right square marked "5-Very High Level of knowledge of School Activity", place the names of children who you are often aware of on a daily basis. Names should be placed in the other squares labelled: "2-Low level of knowledge of Classroom activity", "3-Average Level of Knowledge (relative to the rest of the current class)", and "4-High Level of Knowledge of classroom Activity".

Please be as realistic as possible in making your choices. This data is, of course, confidential, and will only be reported in a general way e.g. "Teachers made nominations consistent with classroom observations when they declared they knew children's daily activity well".

--TEACHER DOES CHOICES--

Follow-up Question: Please take one further minute to tell me some of the specific reasoning you used to make the choices of "1" and "5". Researcher take notes and does write up immediately following interview.

APPENDIX C

Parent Letter and Questionnaire

PLEASE RETURN THE SECOND PAGE OF THIS LETTER IN THE ENCLOSED STAMPED-ADDRESSED ENVELOPE

Dear Parents,

We have successfully completed most of our research in your child's classroom. First of all we would like to thank you for allowing the participation of your child. Secondly, we report that if you requested it, we will send you a report of the results of our research in the early Summer, when our work in the two classrooms has been completed. The school will receive a final research report of all the study findings. It truly has been a pleasure to work with all the children in Mrs. Maready's and Mrs. Jenkin's classrooms.

We are asking for your cooperation in one final phase of the research process. **Please fill out and return the attached Information sheet to me In the enclosed pre-adressed, stamped envelope.** Of course we would like your answers for all of the printed questions, but even if you choose to answer only some of the questions, please return the form. ALL RESPONSES WILL BE IDENTIFIED ONLY BY CODE NUMBERS AND WILL BE KEPT STRICTLY CONFIDENTIAL. Thank you in advance for your generous cooperation.

Sincerely,

Paul Winterhoff

PARENT QUESTIONAIRE - FRIENDSHIP AND COLLABORATION STUDY **CHILD ID____**

1. <u>SIBLING AND CHILD CARE HISTORY INFORMATION</u>.

a. Please list gender (boy or girl) and ages of your child's brothers and sisters:

Sibling 1: Gender _____ Age _____ yrs. _____ mos.
Sibling 2: Gender _____ Age _____ yrs. _____ mos.
Sibling 3: Gender _____ Age _____ yrs. _____ mos.
Others _____ No siblings at home _____.

b. Please write how much time in days per week and hours per week your child was taken care of by persons other than you (parents), and how many other children were in care with your child during each age period listed. Also, please check which "Type of care setting" for each age period.

Age	Time in Child Care		No. of	Type of Care Setting			
	Days/ week	Hours/ week	children	Your home or relative's home	Family daycare	Nursery/ Preschool	Day care center
Birth to 1yr							
1 to 2 yrs							
2 to 3 yrs							
3 to 4 yrs							
4 to 5 yrs							

Your child was not cared for by others before kindergarten _____.

c. In the past 5 years how many different places has your child been in regular care ? (Please be as accurate as possible.)

One _____ Two _____ Three _____ Four _____ Five _____ More (please add) _____.

d. In the past my child has attended the same childcare program (preschool, daycare, daycare home etc. . .) with the following current classmates:

Name(s) of other child(ren)   Number of mos. in the same program.
_____   _____
_____   _____

e. My child plays with the following child(ren) more than one hour per week outside of school time (either at home or elsewhere):

First Name(s) of other playmate(s)   no. hrs/wk.   no. mos. as   Playmate is in child's
                                      playing   playmates   class now? (X if yes)
_____   _____   _____   _____
_____   _____   _____   _____

2. FAMILY DEMOGRAPHIC DATA   (Please check the appropriate space).

a. Yearly gross family income   b. Education

			Mother	Father
Less than $10,000 _____.	Some high school completed		_____	_____.
$10-25,000 _____.	High school diploma		_____	_____.
$25-40,000 _____.	Some college completed		_____	_____.
$40-55,000 _____.	College degree		_____	_____.
$55-70,000 _____.	Some graduate study		_____	_____.
$70-85,000 _____.	M.A./M.S. or equivalent		_____	_____.
More than $85,000 _____.	M.D./PhD. or equivalent		_____	_____.

c. Ethnic/Racial origin

	Mother	Father
Native American	_____	_____.
White (non-Hispanic)	_____	_____.
White (Hispanic)	_____	_____.
African-American	_____	_____.
East Asian	_____	_____.
South Asian	_____	_____.
Other (please specify)	_____	_____.

THANK YOU AGAIN FOR YOUR COOPERATION !