

Relationships between Two Forms of Social Position and Peer Affiliations:
Patterns across the Transition from Elementary to Middle School

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ABSTRACT

KRISTIN KEAGY HODGSON: Relationships between Two Forms of Social Position and Peer Affiliations: Patterns across the Transition from Elementary to Middle School
(Under the direction of Barbara Wasik, Ph.D.)

Contradictions regarding social relations currently exist within the literature, specifically with respect to the nature, causes, and correlates of social position. These contradictions stem from conceptual and methodological inconsistencies as well as developmental differences in certain traits and constructs. Building from these diverse research frameworks, the current study is designed to clarify relationships among relevant constructs in order to facilitate future research and the development of practical interventions.

The current study addressed the contradictions in the literature by investigating the relationship between several aspects of social functioning including social position (social preference and social prominence) and peer affiliations across the transition from elementary to middle school. Peer interpersonal ratings in both fifth and sixth grades were available for 566 students; teacher ratings were also collected for those with consent for participation (399 students in fifth grade; 417 students in sixth grade). Results highlighted the complex nature of social relationships during early middle school when social networks are fluid. First, the social position constructs of social preference and social prominence were found to diverge for boys across the transition, but to stay constant for girls. Next, aggression was found to be negatively correlated with social preference and positively correlated with social prominence, with some decrease in the strength and significance of these correlations across the transition to middle school, especially for social prominence. Gender effects were apparent and

suggested that girls' use of aggression at the beginning of middle school is complex; these results are considered in the context of ethnographic research. Finally, the social position constructs were found to be minimally related to the characteristics of peer affiliates, with the most consistent relationships between individual social prominence and peer popularity.

This study supports the development and importance of social interventions at the beginning of middle school when social hierarchies are developing and social structures are fluid. Furthermore, it highlights the difficulties involved in conducting a static assessment of a dynamic social network.

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Introduction

Problem

Research on children and adolescents' peer relationships has generated results that seem to contradict conventionally accepted views of social relations (Cairns, 1983; Farmer, Estell, Bishop, O'Neal, & Cairns, 2003; Gifford-Smith & Brownell, 2003; Poulin, Dishion, & Haas, 1999). For example, research has traditionally identified a strong relationship between aggression and peer rejection (for a review, see Gifford-Smith & Brownell, 2003); however, other studies have indicated that aggression can also be associated with high popularity (Luthar & McMahon, 1996; Rodkin, Farmer, Pearl, & Van Acker, 2000). The existence of such apparently conflicting views is associated with several issues: differences in conceptual frameworks, differences in methodological approaches, and developmental differences in peer relational approaches (Cairns, 1983). Building from the literature on these issues over the past few decades, the goal of the current research is to further clarify contemporary views of children's peer relationships through the investigation of the relationship between two forms of social position and peer-group membership of children across the transition from elementary to middle school.

Rationale

Conceptual differences

Sociometric research, the investigation of social relationships, can be traced back to Moreno (1934), who developed the "sociometric test...[to be] an instrument which examines social structures through the measurement of the attractions and repulsions which take place

between the individuals within a group” (Moreno, 1953, p. 93). The sociometric test was viewed by Moreno (1953) as an investigation into the structure of the social network as a unit, with the recognition that sociometric classification is an attempt to “define an individual in relation to others” (p. 234) rather than to classify an individual in isolation.

Bronfenbrenner (1944b) expanded on Moreno’s emphasis on the individual in context. A variation on Northway’s (1940) target technique for depicting social networks, Bronfenbrenner’s graphical representation of children’s social networks allowed for a consistent illustration of the centrality of children within a group structure. Thus, early work with respect to sociometric classification emphasized the individual in context.

In his book, “Sociometry in the Classroom,” (Gronlund, 1959) moved beyond the view of the sociometric test as a tool for mapping the social structure of a group to a consideration of the sociometric test as an individual diagnostic measure. In a review, McConnell and Odom (1986) referred to this as “applied sociometry,” in contrast to “pure” or “classical sociometry.” These terms, coined by Bjerstedt (1956), highlight the dichotomy between the goal of understanding the relationships within a system (“classical sociometry”) and the goal of identifying individuals’ levels of social functioning (“applied sociometry”).

Applied sociometry took hold within the research community and focused research attention upon the individual as the unit of analysis. A sociometric classification system developed by Coie, Dodge, and Coppotelli (1982) promoted the notion that an individual’s social functioning could be identified through the sociometric nominations of peers. Thus, the behavioral correlates of social status were investigated in depth. Prosocial behaviors were found to be associated with sociometric popularity while aggressive and antisocial behaviors

were found to be associated with sociometric rejection (Newcomb, Bukowski, & Pattee, 1993).

Cairns cautioned against the trend to use sociometric techniques to measure individual social functioning, warning that “sociometric procedures have regressed to psychometric ones” (1983, p.432). He emphasized the importance of considering individuals within the context of a social network in order to fully understand the functions of social behavior. Toward this end, social cognitive mapping was proposed by Cairns, Perrin, and Cairns (1985) as a means of placing individuals within their specific peer groups. The identification of peer-group composition (Farmer, Estell, Leung et al., 2003) and the centrality of individuals (Farmer & Rodkin, 1996) has allowed for the consideration of the individual in context. The conceptual shift between consideration of the individual in isolation and the individual in context led to apparent inconsistencies within the literature.

Methodological differences

Beyond conceptual differences, variations in methodologies have complicated the field of sociometry and led to incongruous results. The ways in which questions are asked and results are analyzed affect what is actually under consideration (Cairns, 1983). For example, to assess sociometric popularity, early research asked children to identify those classmates whom they like most. From these data, children were identified as rejected or popular. However, as Coie and his colleagues (Coie et al., 1982) pointed out, this obscures the distinction between children who are truly disliked and those who are simply ignored (rejected versus neglected) and between those children who are well liked and those who are both liked and disliked (popular versus controversial). In order to identify these groups, it is necessary to ask children to name those peers whom they like least (liked least nominations).

Thus, depending upon how sociometric popularity is operationalized, results are likely to differ.

Furthermore, reliance upon sociometric status and the use of the term “popular” to describe children who were well liked led researchers to view social preference (being well liked) as synonymous with popularity. More recently, however, researchers began to distinguish between these two forms of social position, sociometric popularity (social preference) and perceived popularity, which has been linked to social dominance. They have found only moderate correlations between sociometric and perceived popularity (Parkhurst & Hopmeyer, 1998). While sociometric popularity has been associated with prosocial characteristics, perceived popularity has been associated with both prosocial and antisocial characteristics (Parkhurst & Hopmeyer, 1998). Thus, results vary depending upon how popularity is operationalized.

In addition, the focus on individual characteristics with respect to social relationships has been due in part to methodological limitations. Studying the peer social network as a whole requires the capacity to identify and classify the composition of peer groups. Socialcognitive mapping (Cairns et al., 1985) and peer-group typing (Farmer, Estell, Leung et al., 2003) have allowed for the consideration of the network and the individuals in context, expanding the scope of the research.

Developmental differences in peer relational approaches

Incongruous findings within the literature are a result not only of the conceptual orientations of and methods used by researchers, but also of the inherent developmental shifts associated with peer relationships. According to Youniss (1980), peer relationships allow children to learn about the nature of social relationships. With age, children’s representations

of themselves and others develop and allow them to understand more fully their peer relationships. Further, priorities shift over time. Depending upon the age at which children's peer relationships are studied, their judgments of others and the ways in which these judgments affect their relationships may differ.

For example, Gifford-Smith and Brownell (2003) reviewed research that has shown that the association between aggression and peer rejection shifts across age groups, such that aggression is less frequent, less overt, and viewed less negatively in older grades. In fact, rejected children show more improvement in status over time when also aggressive in younger grades (Sandstrom & Coie, 1999), suggesting that aggression may serve a protective function across development.

In addition, research suggests that "children's social goals gravitate toward being dominant rather than being well liked as they move into adolescence" (Lafontana & Cillessen, 2002, p.645). At older ages, children may not strive to be well liked, but rather to be perceived as popular and dominant within their social network. It is unclear whether this shift is a function of age or the transition between elementary and middle school, which involves significant shifts in environmental demands. However, it is clear that changes occur with respect to children's ideas of social success that affect their judgments of others and their social relationships.

Research Questions

In order to elucidate some of the contradictory results stemming from conceptual, methodological, and developmental issues, and to facilitate the development of effective interventions for at-risk youth, the current study examined the relationships among and between two major conceptual foci of social relationships: social position of individuals and

the structure of the social network. Social position is defined as social preference and social prominence. The study used comprehensive methods and considered developmental shifts associated with the transition from elementary to middle school.

More specifically, the relationships between two forms of social position and peer-group membership were investigated. Building off the current focus in the literature upon the difference between two forms of social position (social preference and social prominence), the first research question is posed: Is there a change in the relationship between social preference and social prominence across the transition from elementary to middle school?

Aggression has been associated with levels of social position. Thus, the second and third research questions consider these links: Does the relationship between social preference and aggression and/or between social prominence and aggression change across the transition from elementary to middle school?

Social preference and social prominence, the two forms of social position, are each aspects of children's perceptions of each other. They affect how children are viewed and, consequently, their interactions with peers. Existing research has thus identified a relationship between social position (preference and prominence) and peer-group composition in fifth grade (Farmer et al., 2006). The present study seeks to extend this research, posing the fourth question: Are the two social position constructs and peer-group membership differentially related in sixth grade?

If the social position constructs are related to peer perceptions, developmental shifts in the priorities of peers and the surrounding environment would likely impact the relationship between the social position constructs and peer-group membership. Thus, the fifth research question is: Do the relationships between the two social position constructs and peer

affiliations shift across the transition from elementary to middle school and, if so, how do the patterns differ?

Literature Review

Relevance to School Psychology

Peer social relations are currently a concern within the field of school psychology. As the National Association of School Psychologists (2003) states, the goal of school psychologists is to maximize the potential of children and adolescents to “succeed academically, socially, and emotionally” (Paragraph 1); thus, attention to social interactions and relationships is necessarily of great consequence. School psychologists recognize that in addition to their concurrent effects on children’s functioning, social relationships serve to prepare children for the adult world as they learn ways of interacting with others (Corsaro & Eder, 1990). Understanding how children’s behavior helps to define and is defined by peer relationships is a necessary step towards designing effective interventions to improve children’s social development.

Peer Rejection

Conventionally, researchers have classified children individually according to their social status: how well accepted or well liked each child is within the social network. Those children identified as “rejected” according to peers’ opinions have been found to be at risk for negative outcomes. For example, children that are not well accepted in the peer group tend to have lower quality relationships (Parker & Asher, 1993), spend more time in solitary play or engaging in negative interactions (Ladd, 1983) and have less success in academic tasks (Franzoi, Davis, & Vasquez-Suson, 1994). Also, rejected children, particularly those who show submissive behavior (Parkhurst & Asher, 1992), have indicated a higher degree of

loneliness than non-rejected children (Crick & Ladd, 1993). Beyond such concurrent correlates, “rejected isolation” (p.801) has been associated with future externalizing behaviors (Hoza, Molina, Bukowski, & Sippola, 1995). Rejection and aggression in boys predict delinquent and externalizing (Miller-Johnson, Coie, Maumary-Gremaud, Lochman, & Terry, 1999) as well as internalizing behaviors (Coie, Terry, Lenox, Lochman, & Hyman, 1995).

Correlates and Developmental Theories. The negative outcomes associated with peer rejection in conjunction with its relatively stable nature (Bukowski & Newcomb, 1984) led to its identification as a disruptive force that deserves research and clinical attention. Therefore, behavioral correlates of social status in childhood have been investigated, with the goal of identifying behavioral patterns that could be addressed through interventions to interrupt peer rejection. Overwhelmingly, results have linked peer rejection to aggression and antisocial behaviors (Brendgen, Vitaro, Bukowski, Doyle, & Markiewicz, 2001; Coie, Dodge, & Kupersmidt, 1990; Rubin, Bukowski, & Parker, 1998).

The development of peer rejection has been traditionally hypothesized to stem from children’s social skills deficits. There are several theories regarding pathways towards peer rejection. The Social Information-Processing Model (Crick & Dodge, 1994) postulates that, when interacting with peers, children take in information from the social situation, interpret this information, develop objectives and possible behaviors to attain these objectives, select a behavior, and implement it. Peers respond to this behavior and the cycle begins again. Disruptions in this cycle, such as inaccurate interpretations of others’ behaviors, may lead to inappropriate responses, and eventually result in “social maladjustment” (Crick & Dodge, 1994, p. 82), including peer rejection. Patterson’s Coercion Model (Dishion, Patterson, &

Griesler, 1994; Patterson, 1982) suggests that it is in fact negative and coercive parent-child interactions at an early age that lead the child to interact negatively with peers; thus, poor social skills, as learned at home, lead to peer rejection. This peer rejection may then limit the child's opportunities to interact with and learn from peers that have appropriate social skills (Bagwell, Coie, Terry, & Lochman, 2000). The rejected child continues to interact with others that share his or her negative behavior patterns, thus reinforcing his or her inappropriate behaviors.

Social Skills Training Interventions. Stemming from this identification of aggression and social skills deficits as individual characteristics associated with peer rejection, social skills training has been a primary focus in the literature over the past few decades. These interventions have been focused upon improving the social skills of rejected children, under the assumption that improved social skills will facilitate appropriate interactions and thus improve status within the social network. These interventions have emphasized training children to use non-aggressive means to achieve social goals. In one intervention for socially isolated children (Oden & Asher, 1977), children who were coached in and practiced appropriate social interactions became more desirable playmates, an effect that was maintained at a year post-intervention.

Despite the prevalence and popularity of such interventions and the success of certain interventions, strict evaluations suggest that any efficacy is typically minimal and temporary. Looking at evaluations of several social skills training programs, DuPaul and Eckert (1994) found that effects were not consistently generalized within the child's overall functioning. A meta-analysis by Quinn and colleagues (Quinn, Kavale, Mathur, Rutherford, & Forness, 1999) of 35 studies indicated that the average improvement for children with emotional or

behavioral disorders after a social skills training intervention was merely eight percentile points.

Attention to Social Context

Despite rejected children's poor social skills, training in these skills has been relatively ineffective. In order to reconcile these competing forces, it is necessary to consider the true nature of social status and the social context in which it exists. Social status is a product of peer perception. Therefore, beyond individual behaviors and characteristics, aspects of the social network, including social norms, peer expectations, and environmental demands, influence the behavior and social status of an individual. Farmer (2000) presented three ways in which peers can actually promote antisocial behavior. First, while pursuing ambitions of social dominance, children may become engaged in conflict with peers. Second, relationships with peers whose behaviors are similarly antisocial may promote the maintenance of such behaviors. Finally, antisocial behavior may be seen as a means for reaching social dominance within a community of youths. Thus, behavior does not determine an individual's social status alone, but acts in tandem with social network forces.

Social skills training interventions aimed simply at changing individual behavior patterns of rejected children fail to account for the social context, and thus may be ineffectual in changing children's behavior and social status. According to Farmer (2000), "Attention must be paid to how the ongoing social dynamics inhibit the effectiveness of individualized interventions and to how the social structure can be modified so that social dynamics enhance the positive effects of intervention practices" (p. 309-310). Furthermore, DuPaul and Eckert (1994) argued that "it is unclear whether the primary focus of social skills interventions should be reprogramming the environment as opposed to specific skills training" (p. 130).

Rodkin and Hodges (2003) further emphasized the importance of attending to the social context when intervening with bullies and with those who are targeted by bullies, stating that “Intervention strategies that incorporate how particular bullies and victims are networked among their peers would be a significant advance over approaches that assume a common profile to bullies and victims, or uniformity in how other children view them” (p. 384).

DeRosier and her colleagues provided empirical support for these arguments with a study showing that the characteristics of the social context do have an impact on how the group responds to intra-group aggression (DeRosier, Cillessen, Coie, & Dodge, 1994). These authors suggested that interventions with individual children to reduce aggression may result in post-intervention behavioral improvements that are not sustained within a group that promotes aggression. Thus, the case is made for attention to the social context within the development of interventions.

Current Focus within the Field

The negative outcomes associated with poor social relations include academic problems, dropout, school absences, and poor psychological adjustment (for a review, see Rubin et al., 1998). Thus, with respect to educational relevance, the issues of bullying, social aggression, social status, and peer affiliations are becoming paramount in the school psychology literature (e.g., Rodkin & Hodges, 2003). In order to develop effective interventions to address peer rejection, bullying, and victimization, it is necessary to understand more fully how these issues fit into the social structure. This goal can be accomplished with a better conception of the relationship between social status and peer-group membership, an issue that has been relatively ignored in the research literature.

Contradictions

The current status of social relations literature is complicated by contradictory findings (Farmer, Estell, Bishop et al., 2003), especially with respect to traditionally accepted views. The conflicting results draw into question assumptions upon which theories and interventions have been based. A consideration of these contradictions and their source is a necessary step in clarifying the relationship between social status and peer-group membership. It is important to note that, while these two contradictory lines of research emerged relatively sequentially, such that more recent research has contradicted earlier findings, overlap does exist in the timing of the two lines of research.

Group Membership of Rejected Children

As a product of the definition and operationalization of rejection, rejected children have been seen as individuals who are universally disliked by their peers. Research has shown that, along with poor social skills, they display aggressive and disruptive behavior that interferes with normal social interactions (for a review, see Gifford-Smith & Brownell, 2003). Thus, researchers have assumed that rejected children are excluded from social relationships and isolated outside the social network.

However, another line of research findings has contradicted this widely accepted conception of rejected children as isolated individuals. Rejected children, though on the periphery, have best friends (Parker & Asher, 1993) and are participants in peer cliques (Bagwell et al., 2000). Thus, while their social experiences may differ from those of children who are accepted by peers and show more normative behaviors, rejected children are not necessarily isolates within the social system. These two lines of research are contradictory.

Aggression and Rejection

Another well accepted assumption within the literature has been that of the strong association between aggression and rejection. Rejected children have been consistently found to display aggressive behavior (Cillessen, van IJzendoorn, Van Lieshout, & Hartup, 1992; Coie et al., 1990; Newcomb et al., 1993). Beyond correlational data linking the two characteristics, certain studies have indicated a causal association (Bukowski & Newcomb, 1984). In a study by Dodge (1983), children played with previously unknown peers and observational data was recorded. Results indicated that aggressive children became rejected by peers. Thus, the research suggests that aggression as a behavioral pattern leads other children to dislike the aggressor and results in peer rejection.

Another, more recent, line of research findings, however, has contradicted the clarity of this conclusion (Farmer, Estell, Bishop et al., 2003; Gifford-Smith & Brownell, 2003; Poulin et al., 1999). Some aggressive children have actually been found to have prominent social status in the social network. Research has indicated that aggressive children are not isolated (Pepler, Craig, & Roberts, 1998), and that their peer-group centrality is similar to that of non-aggressive peers (Bagwell et al., 2000; Cairns, Cairns, Neckerman, Gest, & Garipey, 1988). Bullies are, in fact, often group leaders (Estell, Farmer, & Cairns, in press).

Furthermore, two types of aggressive children have been identified: those who are highly prominent in the social network and those who are unpopular among their peers (Estell, Cairns, Farmer, & Cairns, 2002). This recognition of diversity among aggressive children was supported by Farmer and his colleagues, who suggested that aggressors can function in the social network as “Rejected Bullies or Popular Leaders,” (Farmer, Estell, Bishop et al., 2003, p. 992). The authors pointed out that “Although some aggressive youths may be

socially marginalized, others appear to have strong social skills and are among the leaders of popular or prominent peer groups” (p. 1000). “Tough” boys and “Popular” girls, while aggressive, are also popular and socially skilled, whereas “Troubled” boys and girls are unpopular and have minimal social skills. These results showed that some aggressive children are highly prominent in the social system. This phenomenon is especially evident for boys (Farmer & Rodkin, 1996; Xie, Cairns, & Cairns, 1999); however, this apparent gender difference may relate to the tendency for girls to use more indirect, social aggression as opposed to overt, physical aggression, as similar results for girls and boys have been found when social aggression was included in the analysis (Farmer, Estell, Bishop et al., 2003). Therefore, while aggression has traditionally been viewed as a primary pathway towards rejection, research now suggests that aggression is associated with rejection in some cases and with social prominence in others.

Peer Preference of Popular Children

According to the traditional concept of popularity, popular children are those who are well liked within the peer social context. Researchers considering social relationships in children studied the correlates of peer preference and equated these correlates with those of popularity. Another line of research findings, however, contradicts this view of popularity (Farmer, Estell, Bishop et al., 2003; Gifford-Smith & Brownell, 2003), reaching the “surprising finding that popular girls are not always well liked” (Eder, 1985, p. 155). This statement is an apparent definitional paradox. A consideration of the theory and studies behind these conflicting views is required to reach a resolution.

Issues behind Contradictions

The contradictions outlined above stem from inconsistencies within conceptual frameworks and methodological approaches, as well as developmental shifts in peer relations. With respect to these inconsistencies, several areas deserve consideration: social preference, social prominence, aggression, and peer-group composition. Addressing conceptual and methodological sources of error within these three aspects of research, as well as developmental shifts within peer social relationships, will facilitate an improved understanding of the association between social status and peer-group membership.

Social Preference

Conceptual Shifts

The origin of sociometric research lies in the work of Jacob Moreno (1934). Moreno proposed sociometry as the study of social groups, including the composition of groups and status of members. In his sociometric test, participants were asked to identify individuals with whom they interact or would like to interact in certain scenarios or situations (Moreno, 1934), thus revealing the structure and dynamics of the social network. The exact questions asked of participants varied, but focused on highly salient activities for the individuals. While this sociometric test and Moreno's interest was not unique to children, the fact that his work was done during a time period when children's social relationships were a high priority within the research literature (Rubin et al., 1998) emphasized its applicability to children's peer relationships. The sociometric test was used to classify each individual with respect to his or her status in the social group. Moreno (1953) emphasized the fact that, unlike typical classification methods, sociometric classification considers the individual in the context of his or her peer group and the peer groups in the context of the social network. Moreno's

development of methods for assessing social relationships greatly impacted the research field of children's social development. His work allowed researchers to move beyond the study of the individual and provided them with the means for understanding and representing the social network as a system in itself.

Moreno's (1934) visual representation of sociometric data was known as the "sociogram" (p. 26). The sociogram showed sociometric choices with the use of shapes and arrows. While sociograms provided a clearer picture than tabular data, the confusion of the arrows and placement of the individuals' shapes made the representation less than ideal. Researchers continued to study children's peer networks, developing new methods for assessing and representing their structure and dynamics.

Northway (1940) built upon Moreno's work, assigning points based on individuals' sociometric choices and deriving "acceptability scores" from the ratings of an individual's peers. The tabular representation of these data allowed for the determination of the source of the acceptability score (from one or more peers) and the mutuality of choices (i.e., whether two individuals choose each other as associates). Northway proposed several graphical representations of acceptability scores and sociometric choices. In the "Target" technique, four concentric circles corresponded to the four quartiles of acceptability scores, with those with the highest acceptability scores in the center of the circle. Arrows then portrayed the individual most often chosen by a certain peer. The improved clarity of this visual representation, over that of Moreno's design, facilitated researchers' abilities to illustrate the social network.

Bronfenbrenner (1944b) adapted Northway's (1940) "target technique" to improve its statistical validity. Individuals receiving more sociometric choices were still placed in the

center of the circle and the concentric circles leading outwards corresponded to the receipt of fewer and fewer choices. However, the levels themselves represented “differential levels of chance expectancy” (Bronfenbrenner, 1944b, p. 288), such that those individuals receiving many more nominations than expected by chance would be in the inner circle and those receiving many fewer nominations than expected by chance would be in the outer rim. While the graphical representation appeared similar, its statistical nature and the theory behind it were improved.

In addition to Bronfenbrenner’s contribution to sociometric research through a revision of the visual representation of social networks, he continued in Moreno’s path, emphasizing sociometry as the study of the individual in context, stating that “in sociometry it is impossible to resort to the practice common in psychological measurement of evaluating individual status, *as such* without particular concern for a specific psychological setting” (Bronfenbrenner, 1943, p. 368). Furthermore,

the proper evaluation of social status and structure requires the envisagement both of the individual and the group as developing organic units. Piecemeal analysis, fixed in time and space, of isolated aspects and attributes is insufficient and even misleading, for the elements of social status and structure are interdependent, organized into complex patterns, and subject both to random and lawful variation. (Bronfenbrenner, 1944a, p. 75).

Thus, early sociometric research was aimed at developing methodologies and emphasized the individual in context.

With the shift in the national climate associated with the United States’s entry into World War II, attention shifted away from children’s social development as researchers pursued projects associated with the War (Rubin et al., 1998). The subsequent Cold War continued to draw research attention away from children’s social development as the awareness of the nation was focused upon promoting children’s academic success to compete with the USSR

(Rubin et al., 1998). This politically motivated hiatus from social development research led to the relative stagnation of sociometric techniques and theories. However, certain projects were pursued during this time, and research attention eventually returned to children's social development.

Renewed interest in sociometric theory was accompanied by a shift in the conceptual framework associated with the field that aligned it more closely with the concurrent national focus upon individual success. In his work entitled "Sociometry in the Classroom," Gronlund (1959) focused on the utility of sociometric methods for the identification and assessment of the functioning of individual students within a classroom setting. He suggested that those students classified as isolated or rejected through sociometric methods need intervention. Furthermore, he maintained that by analyzing an individual's choices of peers, that individual's interest in social interactions and level of social development could be assessed. Thus, he suggested that sociometric techniques were appropriate not only for identifying those at risk, but also those who may be leaders in a group, in order to facilitate development of this leadership. These applications of the sociometric technique were in contrast to earlier work by Moreno and Bronfenbrenner, who stressed the fact that sociometric tests should not be considered tests of individuals in isolation, but rather representations of the social network.

Concurrent with these shifts in the conceptual understanding of sociometric techniques, the field began to increase ambiguity within the field. Bjerstedt (1956) highlighted the inconsistencies in the definition of sociometry itself, conducting a survey of professionals to determine their assessments of 13 common definitions of sociometry. Preferred responses were spread across all definitions, emphasizing the lack of consensus within the field as to

the exact nature of sociometry. Bjerstedt (1956) reviewed the surveys and developed the following definition: “The term ‘preferential sociometry’ is used when we want to refer specifically to the measurement of interhuman...relations with primary focus at present on research into human preferential situations by means of more or less specific subject report methods” (p. 28). Despite his efforts to develop a consistent definition of sociometry, Bjerstedt (1956) went on to propose distinctions within the field: “Pure v. Applied Sociometry,” “Descriptive v. Dynamic Sociometry,” and “Group-Directed v. Individual-Directed Sociometry” (p.30-31). These distinctions served to further highlight the division within sociometry relatively early in its development.

The distinction between pure (or classical) and applied sociometry as defined by Bjerstedt became more marked over time, as researchers with different conceptual orientations adopted one framework or the other. Pure, classical sociometry espouses a more theoretical stance, as researchers following this track tend to investigate groups primarily to understand their structure and relationships. Applied sociometry, on the other hand, focuses primarily on classifying types of individuals within a social network and investigating the correlates of and interventions associated with specific types of individuals (McConnell & Odom, 1986).

As applied sociometry gained more momentum, additional methods of classifying individuals beyond the traditional popular (positive social preference) versus rejected (negative social preference) dichotomy were developed. Peery (1979) classified children based on social preference (positive minus negative nominations) and social impact (positive plus negative nomination) into popular, rejected, isolated, and amiable categories. Coie and his colleagues (1982) used the same two dimensions to classify children as popular, rejected,

neglected, controversial, and average and to investigate behavioral patterns associated with these categories.

Cairns (1983) argued that the field was shifting from true sociometry to psychometry as a result of its primary focus upon the social standing of individual children. He highlighted the fact that, in order to truly learn about the structure of the social network, research must target this area of inquiry using appropriate methods. Thus, as we saw the field shift towards applied sociometry, a backlash against this shift emerged as well. As this occurred, certain researchers began to formulate research questions focused on social structure as a distinct concept from sociometric status (Cairns et al., 1985).

Data from studies over the past several decades on sociometric status and related issues have been inconsistent. Apparent contradictions reflect, among other issues, conceptual shifts in the framework upon which the studies' designs have been based. Resolution of the contradictions requires the recognition and reconciliation of these conceptual shifts within present-day research.

Methodological Differences

Beyond conceptual differences within the extant literature, methodological differences, including the ways research questions are asked, constructs are operationalized, and data are analyzed, deserve consideration with respect to contradictory findings in existing studies.

Traditionally, what has been under consideration in studies of children's peer relationships has been sociometric status. The operational definition of this construct, though, has varied among researchers. Some researchers have focused upon how well liked a child is among his or her peers. According to the corresponding methods, sociometric status can be identified based on how many peers nominate an individual as a favored associate. In this technique,

children were not asked to make nominations of those about whom they had negative feelings, as researchers feared that such probes would be destructive to peer interactions (Gronlund, 1959). However, children identified as low in sociometric status on the basis of a lack of positive nominations comprise a diverse group (Northway, 1944), as that method fails to discriminate between those children who are ignored and those who are disliked (Coie et al., 1982). The realization that positive and negative nominations exist as distinct constructs contributing unique information led to the more routine integration of negative nominations into sociometric methods (Coie et al., 1982).

With the integration of both positive and negative nominations into sociometric methods, popular children were identified as those who had many positive and few negative nominations and rejected children as those with few positive and many negative nominations (Dunnington, 1957). Many variations in the use of this information have been developed to categorize children according to sociometric status. Peery (1979) proposed the calculation of two specific variables for determining sociometric status: social preference and social impact. Social preference was defined as the difference between the number of positive and negative nominations, and social impact as the sum of the two nominations. Children were classified into the following categories: popular (positive social preference; high social impact), amiable (positive social preference; low social impact), rejected (negative social preference; high social impact), and isolated (negative social preference; low social impact). This classification technique allowed for greater discrimination between and within positive and negative sociometric status. Coie and his colleagues (1982) suggested the use of “liked most” and “liked least” as separate dimensions to identify children within the following categories: popular, rejected, neglected, controversial, and average. The controversial category was

relatively new and consisted of children who received many nominations in both the liked most and liked least categories. Despite the popularity of such classification methods, Newcomb and Bukowski (1983) identified statistical problems associated with them, arguing for a probability-based method built upon Bronfenbrenner's work (1943; Bronfenbrenner, 1944a). Thus, despite the relatively common use in current research of positive and negative nominations to assess sociometric status, the lack of agreement regarding classification methods remains and complicates the comparison of research findings.

In addition to disagreement regarding classification methods, specific aspects of the methodology employed to elicit peer nominations may affect data and conclusions drawn. First of all, the specific probe used varies among studies. Some studies ask children to simply list those children whom they "like most" and "like least." Other studies provide more specific probes, asking about most and least favored associates for a certain activity (e.g., Franzoi et al., 1994), as argued for by Moreno (1934) in his introduction of sociometric methods. The specific question asked may impact participants' conception of the task and their resulting responses. In addition, the number of nominations requested varies among studies, with some researchers asking for no more than three nominations, others asking for as many as ten (Franzoi et al., 1994), and still others giving no limit to the number of nominations accepted. While this choice may seem somewhat arbitrary, it has a significant effect upon the results obtained. Furthermore, the provision of a roster of classmates to a participant may affect his or her responses, as he or she may nominate students not readily recalled without prompting. Such variations upon the sociometric method may seem relatively minor. However, they complicate the comparison of distinct studies.

Beyond the relatively mainstream use of “liked most” and “liked least” peer nominations to assess sociometric status, several other methods have been developed to address slightly different goals. Peer ratings comprise one major category of such methods. In this sociometric technique, as discussed by Gifford-Smith and Brownell (2003), participants are asked to rate each peer on a given scale from high to low based on how much they like that peer. Ratings may be standardized into z-scores to classify individuals as characterized by high, average, or low acceptance (Parker & Asher, 1993). Researchers have justified this technique for its utility among small groups of children with frequent interactions (Gifford-Smith & Brownell, 2003). Another procedure is known as the Revised Class Play (Masten, Morison, & Pellegrini, 1985), which is an instrument in which children are asked to indicate which of their classmates would be most appropriate to play each of several given roles in a hypothetical class play, thus revealing peers’ opinions about individuals. While this procedure is still utilized (e.g., Luthar & McMahon, 1996), it is relatively less common than peer nomination and rating procedures.

There is not universal agreement regarding use of study methodology, classification methods, and data analysis. A consensus has yet to be reached on the definition and operationalization of sociometric status. Therefore, it must be acknowledged that apparent contradictions in the literature with respect to social preference may relate to discrepancies among methodologies employed.

Correlates of Sociometric Status

The conceptual shifts outlined above led to a focus on the individual in the past few decades. The different methodologies employed, while diverse, have relatively consistently emphasized the classification of individuals to the exclusion of the analysis of social

networks as a whole. The combination of these two trends has led to the proliferation of research identifying the individual characteristics associated with levels of social status as defined by sociometric status or social preference.

The sociometric classification of individuals (Coie et al., 1982; Peery, 1979) according to peer nominations has led researchers to speculate as to what leads to sociometric status. Reviews have aggregated these data and suggested that popularity is linked to prosocial characteristics while rejection is linked to antisocial characteristics (Newcomb et al., 1993). As indicated previously, this has led to the development of social skills training interventions designed to address the antisocial behaviors of rejected children.

Social Prominence

Social prominence, a composite of several different constructs, initially developed out of the paradigm of sociometric status. An awareness of the conceptual and methodological shifts associated with the emergence of this concept elucidates some contradictions that have arisen within the peer relations research literature.

Conceptual Differences

Perceived Popularity. Sociometric status has been the traditional measure of a child's position in the social network, and has been based upon how well liked a child is by his or her peers. Children who received many positive and few negative nominations from peers were categorized as popular in early research, and popularity became synonymous with likeability within the literature. Studies of behavioral correlates of sociometric popularity found that prosocial characteristics were associated with popularity (Newcomb et al., 1993). Thus, in early research, popular children were considered kind, cooperative, well-behaved children who were in turn well liked by their peers.

As sociological studies focused on the more subjective nature of children's peer relationships, however, a different pattern began to emerge. Investigating the social hierarchy of adolescent girls, Eder (1985) found that those girls perceived as popular, while prominent in the social system, were often not well liked. She outlined a cycle by which initial popularity leads to high social demand, which in turn requires the girl to reject some peers and eventually causes her to be viewed as arrogant. Thus, while she may be considered popular by her peers, she is not well liked. Eder thus identified a difference between popularity and likeability within the peer social network.

This emerging distinction between popularity and likeability through ethnographic investigations led to more objective studies of the two constructs. Researchers specifically considered the relationship between sociometric popularity (defined as peer social preference) and perceived popularity (defined as a reputation of popularity), finding only a moderate association between the two constructs (Lafontana & Cillessen, 1999; Lease, Kennedy, & Axelrod, 2002; Parkhurst & Hopmeyer, 1998) which decreased over time (Cillessen & Mayeux, 2004). In fact, some children high on perceived popularity were actually found to be sociometrically rejected (Parkhurst & Hopmeyer, 1998).

Following the trend towards applied sociometry within the field, researchers considered the individual behavioral correlates of perceived popularity. It was determined that, while social preference is associated with prosocial characteristics, perceived popularity is associated with both prosocial and antisocial characteristics (Lafontana & Cillessen, 2002; Luthar & McMahon, 1996), including aggression (Cillessen & Mayeux, 2004; Prinstein & Cillessen, 2003). Children view popular peers in both positive and negative ways (Lafontana & Cillessen, 1998). Prinstein and Cillessen (2003) asserted that "aggressive adolescents are

generally high status, highly visible members of the social milieu who are not necessarily well liked” (p. 334).

A distinction among different types of children perceived as popular has been made by several researchers. In a study by Parkhurst and Hopmeyer (1998), among those perceived as popular, individuals also high on sociometric popularity were seen as prosocial, while those low on sociometric popularity were considered antisocial. Rodkin and colleagues (2000) further highlighted this dichotomy between “popular-prosocial (model) and popular-antisocial (tough) configurations” (p. 14), indicating that there are different pathways by which children can achieve popularity. These results also confirmed the conclusion that sociometric and perceived popularity require consideration as distinct constructs related to different behavioral patterns and social roles. This distinction resolves certain contradictions within the literature attributable to the traditional consideration of social preference as popularity.

Social Dominance. Despite the recognition of the dichotomy, perceived popularity, like sociometric popularity, was still typically treated as a trait of an individual. Researchers studied its relationship to certain behavioral patterns. Another line of research findings, however, has focused more closely on the dynamics of the social network rather than the characteristics of the individuals (Farmer, 2000). Thus, the construct of social dominance, linked to perceived popularity (Parkhurst & Hopmeyer, 1998), has received increasing attention. Certain individuals, often those who are considered popular within the social network, are able to exert influence over their peers. This practice within the social network is known as social dominance. Children behave in antisocial ways that function to maintain power over others rather than to engender positive regard (Adler & Adler, 1995). Within

cliques, units of social hierarchy, the following processes occur as individuals attempt to assert their dominance:

Cliques are circles of power wherein leaders attain and wield influence over their followers by cyclically building them up and cutting them down, first drawing them into the elite inner circle and allowing them to bask in the glow of popularity and acceptance, and then reducing them to positions of dependence and subjugation by turning the group against them (Adler & Adler, 1995, p. 145)

During school transitions, aggression in boys increases as they attempt to assert their dominance in the social network (Pellegrini & Bartini, 2001). Social dominance takes on a more context-dependent role than perceived popularity, making it a related yet distinct component of social prominence.

Social Centrality. In addition to social dominance, social centrality exists as a context-dependent component of social prominence. The social centrality of individuals indicates how fundamental they are to a certain social group (Cairns et al., 1988). Centrality has been linked to perceived popularity, as both prosocial and antisocial types of popular children have been found to have high centrality (Rodkin et al., 2000). Centrality is also related to social dominance, as certain behaviors may be used to assert dominance and attain centrality within the social network. In certain instances, aggression has been linked to high centrality (Farmer & Rodkin, 1996; Xie, Swift, Cairns, & Cairns, 2002).

Social Prominence. Social prominence exists as a separate construct from social preference, yet not a unitary one. Social prominence may be operationalized as any combination of perceived popularity, social dominance, and social centrality. Recognition of the diverse nature of this construct and its distinction from social preference provides some explanation for conflicting data. The results of peer relations research may differ depending

upon the conceptual framework upon which a study is based: sociometric popularity (social preference), perceived popularity, social dominance, or social centrality.

Methodological Differences

The methods employed to assess children's social status have shifted in tandem with changes in the conceptual framework of children's social status. The early focus upon sociometric status limited researchers to sociometric methods: asking children to nominate most and least preferred peers, with some variability in the exact phrasing of the probe. Moreno (1934) emphasized focusing the probe on preferred associates for a specific activity while subsequent researchers often employed more generic phrasing, asking children to name peers whom they "like most/least." The methodological issues related to the assessment of children's sociometric status, or social preference, have been addressed in detail in a previous section.

With the conceptual recognition that sociometric methods do not effectively assess popularity, but rather social preference, a new methodology joined subjective sociological studies in the measurement of perceived popularity. Researchers asked participants to "name three same-sex classmates who they believed were popular and three who they believed were not very popular." (Lafontana & Cillessen, 1999, p. 227). This methodology allowed children to express their conception of the term popularity and allowed researchers to investigate how this phenomenon differs from social preference.

Despite this important shift, the methodological focus remained upon peer evaluations of the status of the individual. This focus was a result of both conceptual representations and methodological limitations. Out of a growing recognition of the importance of considering the social network as a whole emerged more contextually-based concepts and methods. The

assessment of a child's social dominance, while still an individual trait, emphasized the child's relationship with and influence over peers. This was typically assessed with evaluations of children's behavior (Parkhurst & Hopmeyer, 1998); it revealed interactional patterns and exposed issues related to the social network.

Social centrality is another measure of an individual's placement within the social network. Based upon the number of peers who indicate that an individual is a member of a certain group (Cairns et al., 1988), social centrality allows researchers to examine the structure of the social system as opposed to characteristics of individual members. Perceived popularity, social dominance, and social centrality are all components of social prominence, or an individual's distinction in the social network.

More recently, specific consideration of social prominence as an independent construct has fueled research into how to identify or define this aspect of social position. In this vein, Farmer and his colleagues (2006) conducted a factor analysis of peer assessments and isolated a social prominence factor. This factor was comprised of the following four items from the Peer Interpersonal Assessment: "leader" ("This person gets chosen by the others as the leader. Other people like to have this person in charge."); "athletic" ("This person is very good at many outdoor games and sports."); "cool" ("This person is really cool. Just about everybody in school knows this person."); "popular" ("Some kids are very popular with their peers. That is, many classmates like to play with them or do things with them.").

Shifts in conceptual frameworks, along with improvements in methodologies, have allowed researchers to gain a deeper understanding of social status and social networks. However, apparent contradictions within the literature may result from an incomplete understanding by readers of a researcher's conceptual framework and methodologies

employed. Attention to the construct being assessed and the procedures used to tap that construct is vital.

Role of Aggression

Rodkin and his colleagues (2000) asserted that “popular boys area heterogeneous group ” (p. 21). Unlike social preference, which is determined primarily by the presence of prosocial behavior and the absence of antisocial behavior, social prominence is attained and maintained through more diverse behavioral patterns. The previously mentioned distinction between prosocial and antisocial types of popular children (Rodkin et al., 2000) highlights the apparent utility of aggression and antisocial behavior in the achievement of social prominence by some children. A more in-depth consideration of the role of aggression in the attainment and maintenance of social prominence is warranted.

Aggression, whether physical or social/relational, may serve the purpose of helping the individual to establish and maintain dominance over others in the social hierarchyBullies and aggressive children have been found to be central or secondary members of their groups (Cadwallader et al., 2002; Estell et al., in press); this is especially true for boys (Farmer & Rodkin, 1996). Children with mild disabilities who use aggression to gain popularity are perceived as “cooler” than their counterparts (Farmer, Rodkin, Pearl, & Van Acker, 1999). Furthermore, they are conscious of their aggressive behavior and popularity, suggesting that they see aggression as an effective means of achieving social prominence (Farmer et al., 1999). It is important to note that some research which finds a negative relationship between bullying and popularity may be using sociometric measures to assess popularity; thus, they are actually finding a negative association between bullying and social preference (e.g., Pellegrini, Bartini, & Brooks, 1999). This is consistent with the idea that aggression is linked

to high perceived popularity and low social preference (Prinstein & Cillessen, 2003) and that apparent contradictions may be explained by conceptual and methodological inconsistencies.

Farmer (2000) outlined the ways in which children often try to increase their prominence in the social hierarchy through aggressive means. Their behavior may take the form of more overt physical aggression. They may also use less obvious social or relational aggression, including gossiping, spreading rumors, deserting friends, or making friends with others who will be allies with them in confronting more prominent peers. Farmer (2000) suggested that, while boys tend to use physical aggression to assert dominance, girls use social or relational aggression for that purpose. Regardless of the specific form the aggressive behaviors take, they are generally aimed at achieving dominance in the social hierarchy through “techniques of inclusion and exclusion” (Adler & Adler, 1995, p. 157). The fluid nature of social hierarchy and cliques makes these behaviors important to the maintenance of achieved prominence.

The assertion of dominance through aggression may be more common when children are introduced into a new peer group. Pellegrini and Long (2002) found that “bullying mediated dominance as youngsters made the transition to middle school. Results suggest that dominance operated through bullying strategies as youngsters entered a new social group” (p. 274). Following the initial achievement of social prominence, the use of aggression decreases and the “affiliate dimensions (e.g., having allies and a network of peers)” (Pellegrini & Bartini, 2001, p. 143) become more prominent.

Despite the identification of antisocial behavior as a correlate of popularity, it is important to note that this relationship is variable. Different behavioral constellations of popular children exist: prosocial and antisocial (Rodkin et al., 2000). Thus, aggression is not the sole

pathway towards popularity. Furthermore, some aggressive children are actually unpopular (Estell et al., 2002), suggesting that aggression is not universally effective in achieving popularity. One possible explanation for this lack of consistency lies in the differences in environments and social contexts. Luther and McMahon (1996) suggested that the “apparently positive value placed on aggressiveness among inner-city youngsters may partly reflect mores and norms in their sociocultural surround.” (p. 597). Thus, attention to the characteristics of the sample studied is crucial when evaluating social relationship issues. Another possibility, however, is that there are, in fact, multiple pathways towards similar levels of social status.

Aggression was previously viewed as an antisocial behavior necessarily linked to peer rejection. More recent results have indicated that some aggressive children are actually popular. The explanation for such a contradiction lies in the development of conceptual understanding and methodological approaches, leading to the recognition that aggression is a behavior that can serve an instrumental purpose within the social network.

Peer Groups

The dynamics of peer groups have been afforded relatively little research attention over the years (Rubin et al., 1998); the focus traditionally has remained upon individual behavior and discrete relationships. Cairns and colleagues (Cairns, Xie, & Leung, 1998) suggested that conceptual and methodological issues have contributed to this lack of attention. Understanding the development of conceptual frameworks and methodological tools which facilitated attention to peer groups is critical when evaluating inconsistencies in research findings over the years.

Conceptual Differences in the Study of Peer Groups

The study of social relationships has been influenced by the divergent theoretical and conceptual orientations of researchers. Specifically, some researchers emphasized a focus on the individual while others highlighted the social group (Cairns et al., 1998). The study of peer groups emerged out of the growing recognition of the social network as a critical force in children's social development. Conceptual shifts within the study of peer groups have led to the development of theories explaining peer group dynamics.

Importance of Peer Relationships. An understanding of the social development of children has shifted over the years towards acknowledgment of the importance of the peer social network. Early child development researchers were behaviorist in orientation, believing that children's social development emerges through direct learning from adults, such that "Children are relegated to a passive role, and socialization is seen as a unilateral process with children shaped and molded by adults" (Corsaro & Eder, 1990, p. 198). According to this viewpoint, children copy adult behavior and are reinforced for appropriate social interactions, developing social skills; little value is given to peer interactions. This perspective reigned until the 1960s, when people began to recognize that children act as dynamic participants in their own social development rather than simply passive recipients of information (Corsaro & Eder, 1990).

The constructivist theory of the actively developing child was presented by Piaget with respect to cognitive development (Corsaro & Eder, 1990; Piaget & Inhelder, 2000) and was then applied to social development by scholars such as Youniss (1980). Researchers have promoted the applicability of this perspective to peer interactions (Corsaro & Eder, 1990), arguing that children interact with peers differently than with adults. When relating to adults,

children are expected to learn the social skills being imparted to them, and thus the process remains relatively unidirectional (Youniss, 1980). However, in interactions with peers, children begin to realize that “Unlike the system which children believe adults already know, the one created by collaborating peers has no definite endpoint. It is open to redefinition through a democratic process founded in methods of reciprocity” (Youniss, 1980, p. 19). Thus, children take a more active role in experimenting with certain behaviors and in developing social relationships on their terms.

The inception of this set of constructivist theories directed attention to children’s peer relationships. However, Corsaro and Eder (1990) pointed out that these perspectives retained focus upon the individual and specific social interactions, failing to take into account the social system as a whole. Consistent with other conceptual shifts in social development research, scholars then began to recognize the importance of the social context in which interactions and development occur. Thus, researchers built upon Vygotsky’s work on cultural processes, developing interpretive theories which suggest that children create their own social systems through interactions with others (Corsaro & Eder, 1990). Researchers subscribing to interpretive theories attempt to understand how children work from their knowledge of adult social networks to construct peer social networks.

Development and Influence of Peer Groups. The conceptual shift from the focus upon adult-child transmission of social information to recognition of the import of peer relationships and children’s peer social networks was a critical factor in the research attention to peer groups. This research focus has led to investigations into the development of peer groups and their influence upon behavior and social development.

Just as the whole can be viewed as more than the sum of the parts, the peer group is recognized as “more than mere aggregates of relationships; through emergent properties such as norms or shared cultural conventions, groups help define the type and range of relationships and interactions that are likely or permissible.” (Rubin et al., 1998, p. 623). Therefore, the study of peer groups requires a discrete conceptual framework from the study of peer relationships. The competing and complementary theories that have developed within this conceptual framework to explain peer group formation and influence deserve consideration.

Members of a given peer group tend to have similar characteristics and behaviors (Cadwallader et al., 2002; Cohen, 1977; Xie et al., 1999); for example, aggressive children tend to associate with other aggressive children (Cairns et al., 1988). The explanation for this so-called homophily, however, is not readily identifiable. Bandura’s social learning theory (Bandura & Walters, 1963) states that children learn social behaviors from others. Applying this theory to the study of peer groups would suggest that the behavioral consistency within peer groups emerges as children learn behaviors from those with whom they interact most. Snyder and colleagues found that children who interacted more with aggressive peers had an increased level of aggression over time (Snyder, Horsch, & Childs, 1997). Thus, according to the social learning theory, group membership precedes behavioral similarity.

The theory of homophilic selection, on the other hand, suggests that behavioral similarity precedes group membership; individuals who have similar behavioral patterns tend to form groups together (Farmer & Farmer, 1996). Cohen (1977) studied peer groups within a sample of children and assessed the forces contributing to consistency among peer group members. He found that the exit of dissimilar members from peer groups did not appreciably contribute

to peer group consistency and that group influence was only somewhat effectual in changing behavior to increase consistency. Compared to these less considerable influences, Cohen (1977) found that group membership was determined significantly by “homophilic selection processes” (p. 237), such that behavioral similarity of individuals led to the initial creation of a group. According to Kandel (1978), homophilic selection is evident in friendship development and works in tandem with group influences to result in behavioral consistency among associates.

The deviant peer group hypothesis (Bagwell et al., 2000) incorporates both concepts, that group formation is affected by characteristics of group members and that the group influences the individuals’ behavior, specifically in reference to antisocial youth. Aggressive children associate with each other (Cairns et al., 1988). The deviant peer group hypothesis posits that these associations result from aggressive and antisocial children’s early inability to interact appropriately with others. As antisocial children lack the social skills to have positive interactions with peers, they are unable to join their average and prosocial peers in peer groups. Thus, they join groups with other antisocial and aggressive children (Farmer, Estell, Leung et al., 2003; McEvoy & Welker, 2000), forming deviant peer groups (Bagwell et al., 2000). Peers in these groups then help support and consolidate the members’ antisocial behaviors (Snyder et al., 1997).

Similarly, the confluence model (Dishion et al., 1994) suggests that children form associations with those peers with whom they experience positive results. These authors claimed that children displaying antisocial behaviors will find social success in interacting with those who behave similarly to them. Therefore, they will continue to interact and eventually form relationships with these individuals. The children will “continue and repeat

behavior that promotes the relationship” (p. 83) and their antisocial behavior will thus be consolidated within a relationship with their friends.

Cairns, Neckerman, and Cairns (1989) challenged the tenet of the deviant peer group hypothesis that aggression functions simply as antisocial behavior which alienates the individual from appropriate interactions and leads to the formation of deviant peer groups. Rather, they suggested that aggression may be “viewed...in terms of adaptive social processes.” (Cairns, Neckerman et al., 1989, p. 282). In other words, aggression may serve a function within social relationships. The authors proposed that the traditional conception of the aggressive individual as antisocial fails to account for the demands and the functioning of the social network. They indicated that “Regardless of the behaviors to be explained...the social cluster appears as a ubiquitous determinant of individual values and actions.” (Cairns, Neckerman et al., 1989, p. 299).

Farmer and his colleagues (2002) have studied the peer group structure of elementary school students and, in so doing, have proposed modification of the deviant peer group hypothesis, consistent with the arguments of Cairns and colleagues (Cairns, Neckerman et al., 1989). While the deviant peer group hypothesis stresses behavioral similarities among group members, such that aggressive children form groups with other aggressive children as a result of their inability to form relationships with average peers, Farmer and his colleagues (2002) found a more complex pattern. Aggressive boys did not necessarily interact with other aggressive peers, but rather with those peers who complemented their behavioral patterns and supported their positions in the social network. Other researchers have found similar results (Cadwallader et al., 2002). Furthermore, Farmer and his colleagues (2002) found that popular and unpopular aggressive boys had relatively different group membership patterns; the two

types of aggressive children tended not to interact with each other, but rather with peers who complemented their behavioral patterns. Thus, it seems that it is not behavioral similarity among group members, but behavioral support among group members that dictates group composition.

Recognizing that aggressive children are not solely relegated to antisocial, outcast peer groups leads to the necessary examination of the peer group processes that support and affect behavioral patterns of group members. The concepts of reciprocity and complementarity of the behavior of members of peer groups, as emphasized by Farmer and his colleagues (2002), are central to the theory of synchrony, which is defined as “a property of interactions which obtains when one person’s acts are coordinated with and supportive of the ongoing activity of another individual” (Cairns, 1979, p. 298). Reciprocity and complementarity function to increase synchrony, though the exact nature of each of these processes differs markedly. Reciprocity, appearing “when the acts of two or more persons support each other in a relationship and their actions become similar to each other” (Cairns, 1979, p. 298), is unique in the emphasis upon the similarity of the behaviors of the two individuals; behavioral similarity thus functions to consolidate the behavioral patterns of the two parties. In contrast, complementarity is achieved when the behaviors of two individuals are decidedly different, yet serve to support each other and maintain the behavior of the other (Cairns, 1979). While the author emphasizes the fact that not all behavior sets show synchrony, whether through reciprocity or complementarity, these processes do serve important roles in the development of social relationships.

Aggressive behaviors by an individual may be supported by reciprocal and/or complementary actions by group members. Some aggressive individuals have high social

prominence, while others are less popular. The synchronous behaviors that support aggression manifest themselves in different ways which may be associated with the social position of the aggressive individual (Estell et al., 2002).

According to the theory of social synchrony, reciprocity and complementarity work in tandem to affect the composition of peer groups and the behavior of members. However, beyond these influences, another process playing a role in determining behavioral patterns is the social prominence gained by certain behaviors. Cliques, exclusive peer groups (Adler & Adler, 1995), have highly structured yet fluid hierarchies; the behavior of individuals can earn them entry into a peer group, or can lead to a rise or decline in status. In certain contexts, “social dynamics may support problem behavior...through the prominence and social influence that such behavior affords students” (Farmer, 2000, p. 305). The degree to which antisocial behavior affects peer assessments may depend upon the norms of the peer group (Stormshak et al., 1999). Thus, beyond behavioral responses to individuals’ actions, group norms, censures, and rewards for certain behaviors clearly affect the interaction of peer groups.

Considering each of these theories regarding peer group composition and development reveals that peer groups are more than simply a collection of individuals or even a set of friendships. Rather, they function to influence and be influenced by the dynamics of the social network. Thus, investigations into peer social structure should take into account not only the composition of the peer groups, but also the social dynamics of the peer groups. In light of the multitude of conceptual frameworks through which peer groups may be viewed, research investigating peer groups may yield different conclusions depending upon the

framework espoused by the researcher. Recognition of these inconsistencies may allow for better understanding of conflicting results within the literature.

Methodological Differences in the Study of Peer Groups

Peer Group Identification. A prerequisite to the study of peer group formation and development is the identification of peer groups within a social network. This task of identification has further complicated the study of and conclusions regarding peer social networks. This issue, while distinct from that of conceptual differences, is related, as “Differences in methods have become interwoven with differences in theoretical orientation” (Cairns, Leung, Buchanan, & Cairns, 1995, p. 1331). As the conceptual basis of research has shifted, so have the methods used to assess peer social networks.

Early researchers used the primary tool at their disposal, sociometric nominations, to determine peer affiliations. They created diagrams of the social network based upon ratings of favored peers. These diagrams used arrows to depict uni- and bidirectional friendships. The illustrations, however, were typically visually confusing. In addition, they rarely provided concrete, usable information regarding the structure of peer groups, but rather the integration of individual relationships. Therefore, their use to assess peer groups was limited.

As research interest in social networks rose in the early 1980s, debates emerged over the most appropriate methods for determining peer affiliations. While sociometric nominations were used by some researchers, others promoted the use of procedures in which every child rated each of their peers on a liking scale, especially for young children (Hymel, 1983). Such so-called forced-choice rating measures had psychometric advantages. However, they were criticized for the fact that they “may paradoxically obscure the social structure of the systems that they purport to investigate.” (Cairns, 1983, p. 430). One critic, Cairns (1983), recognized

that the limited nature of the methodologies available for assessing peer social networks were somewhat responsible for the drift from sociometric to psychometric focus within the field, stating that “the analytic procedures have not kept pace with the theoretical insights” (p. 432). The methods being employed were essentially assessing individual traits and extrapolating from these to the structure of the social network. Recognition of the problems inherent in such a practice led to the development of procedures to more directly tap peer social structure.

Some researchers used observational methods (Ladd, 1983), and occasionally reported results in a qualitative manner (Evans & Eder, 1993), to identify peer affiliations. These methods, while more directly accessing the relevant trait, had the disadvantage of subjectivity, making it difficult to reach conclusions regarding issues related to peer-group composition. To fill this need, Cairns and his colleagues (1985) developed a procedure for assessing peer-group membership, known as the social cognitive map (SCM) procedure. In an interview, participants were asked to name those individuals who “hang around together” (p. 343) and those who do not associate with any given group. Matrices were created with the information from each class. Using three indices to compare ratings, the authors found a high level of agreement among participants for group membership and determined that the social groups tended to be consistent over time. Furthermore, individuals had more positive interactions with and were more likely to rate as best friends those in their identified social group. These results validated the use of this technique for identifying the social structure of a classroom.

The authors asserted its utility:

Although this method of obtaining information about social structures yields outcomes which overlap with those obtained from peer ratings and pair comparisons (e.g., Hymel,

1983), the operations and the assumptions underlying them differ radically from peer ratings. In the present procedure, every subject is asked to provide a description of the entire social system, as he/she views it. The method permits the investigator to preserve the details of social clusters within each system, including the identity of the individuals in the clusters, the number and relative prominence of the clusters themselves, the patterns of relationships within the clusters, and the persons who are ostracized from them. In alternative sociometric methods, much information about the concrete properties of social structures has been lost in efforts to enhance the measurement of individual differences in social status (Cairns, 1983). (Cairns et al., 1985, p. 352-353).

Furthermore, with methods such as SCM, as opposed to sociometric nominations, “public consensus about peer group memberships is expected” (Kindermann, 1996, p. 160).

Subsequent studies further validated the technique. Friendships were found to exist within the social groups (Cairns, Leung, Buchanan et al., 1995) and, using observational procedures, Gest, Farmer, Cairns, and Xie (2003) found that individuals associated more with peers in their social groups as identified by the SCM procedure. Thus, the development of this new SCM procedure revolutionized the study of peer social networks.

Bagwell and her colleagues (2000) adapted this procedure, asking each individual to identify his or her own peer group, rather than listing all peer groups in the social network. This procedure has advantages and disadvantages. However, the bulk of the research continues to employ the SCM procedure as developed by Cairns and his colleagues (1985).

Identification of Peer-Group Composition. Following the development of effective procedures for identifying groups within a social network, researchers began to consider the characteristics of the identified peer groups. In this regard, Farmer and colleagues (2002) developed a method for the identification of peer-group composition. Each member of a group was designated as aggressive or nonaggressive based on teacher ratings. The proportion of aggressive to nonaggressive members determined the aggression type of the group (zero-aggression, nonaggressive, aggressive, mixed). Subsequent research extended

this method to determining peer-group composition on other characteristics such as popularity (Farmer, Estell, Leung et al., 2003). The development of this method allowed for more in-depth consideration of the structure of the social network.

Developmental Shifts

Inconsistencies within the literature on issues related to children's peer relationships may relate not only to theoretical and methodological differences, but also to true variability attributable to developmental differences in behavioral patterns and peer judgments of these behaviors. Thus, researchers considering similar issues at different developmental stages may reach divergent conclusions which, while seemingly inconsistent, may actually be complementary. In addition, static and cross-sectional views of children at a given stage of development may mask the true function of behaviors for certain relationships.

Role of Aggression

One notable area in which developmental differences have been apparent is in the role of aggression within the peer social network. Cairns, Cairns, Neckerman, Ferguson, and Gariepy (1989) followed fourth grade children for six years, assessing constructs relevant to aggressive behavior, emphasizing that:

A major hazard in this enterprise has been the propensity to reify the construct of aggression and to expect a single trajectory of growth, development, and decay...Aggressive behaviors cannot be divorced from the dynamic developmental contexts in which they occur. The properties of the construct of 'aggression' change over development (Cairns, Cairns et al., 1989, p. 329).

The data obtained by these authors indicated that the developmental trajectory of aggressive behavior is influenced by gender effects and, moreover, by the type of aggression being considered. More specifically, according to self-reports, physical aggression was more common by boys than by girls. In addition, from fourth to seventh grade, boys inflicted more

physical aggression towards other boys and less towards girls, while girls' acts of physical aggression decreased across fourth to seventh grades. Considering social aggression, however, yields a different pattern. While boys' acts of social aggression remained infrequent across fourth to seventh grades, girls' use of social aggression increased dramatically over this time period. Factor analysis confirms that, for adolescent females,

the new alignment of measures into aggressive factors of 'direct confrontation' and 'social aggression' reflects the adolescent emergence of new conflict strategies. For boys, adolescent development is associated with the consolidation of external evaluations and self-attributions into a single aggressive factor of 'direct confrontation' (Cairns, Cairns et al., 1989, p. 326).

Research by Galen and Underwood (1997) supported the contention that social aggression increases over time for girls and decreases over time for boys. Thus, the trajectory of aggressive behavior is not unidimensional, but rather depends upon factors such as the type of aggression and the gender of the individual.

Such developmental shifts in behavioral patterns of aggression do not occur independently of context. Further outlining the developmental nature of aggressive and antisocial behavior, Moffitt (1993) argued that two types of antisocial youth exist. One type, the "life-course-persistent" (p. 676) type, tends to consistently behave antisocially across the life span. The other, more common type, "adolescence-limited" (p. 676), displays antisocial behavior almost exclusively during adolescence. Moffitt (1993) emphasized the fact that cross-sectional research during adolescence would obscure the distinction between these two categories. Moffitt (1993) further advanced an explanation for the behavior of adolescence-limited antisocial youth. According to his maturity gap hypothesis, youth in the current society are reaching biological maturity (puberty) at a younger age and social maturity (including social responsibilities and independence from family) at an older age than in years

past. This has resulted in a maturity gap, by which adolescents are craving independence to which they are not yet socially entitled. Moffitt (1993) contended that this imbalance leads previously prosocial adolescents to view life-course persistent antisocial youth as achieving the independence that they crave. Thus, they seek to emulate these youths and behave similarly antisocially. Previously rejected antisocial children become popular, admired adolescents.

Subsequent research has supported the developmental nature of the popularity of antisocial and aggressive behavior; aggression becomes associated with popularity to a greater degree as children enter adolescence. Sandstrom and Coie (1999) have found that aggression among rejected boys in fourth grade is predictive of increased social preference. In one proffered hypothesis for this phenomenon, the authors proposed that “certain types of aggressive behavior become redefined as status-enhancing among older age cohorts in general, at least in some middle school contexts” (p. 963) . Cillessen and Mayeux (2004) found that from ages 10 to 14, physical aggression becomes less associated with low social preference and with social prominence whereas social aggression becomes more associated with high social prominence and low social preference. Furthermore, Bukowski and colleagues found that, as children move to middle school and beyond, their attraction to aggressive peers increases while their attraction to more traditionally well-behaved peers decreases (Bukowski, Sippola, & Newcomb, 2000). Such a conclusion is consistent with the growing appeal of antisocial youth as peers enter the maturity gap. This research supports the developmental nature of peers’ views of aggressive and antisocial behavior, that as children move towards adolescence, they begin to view aggressive and antisocial behavior in a positive light, striving for popularity through the use of such means.

Transition to Middle School

The transition to middle school provides, beyond the age difference of its attendees, a significant shift with respect to environmental demands. The changing environment affects the social behavior and relationships of youth. For example, Pellegrini and his colleagues have researched children's social behavior across the transition from elementary school to middle school and have found that children display a higher level of aggression as they enter middle school and attempt to assert dominance over peers. Aggression then gives way to affiliative means of maintaining dominance following the establishment of a social hierarchy (Pellegrini & Bartini, 2001; Pellegrini & Long, 2002).

Such behavior shifts occur in the wake of a changing environment. First of all, the transition to middle school often means that children are entering a different, larger peer group than that to which they are accustomed; they must develop new relationships within this new community (Pellegrini & Bartini, 2001; Pellegrini & Long, 2002). Beyond the increased size of the community as a whole, students typically switch classes in middle school, unlike elementary school, and thus interact with not only more peers, but also more teachers. This means that children lose the sense of security that comes with having a consistent adult figure to whom they report. The children, rather than the teachers, are monitoring and reacting to peers' behaviors. Furthermore, during the transitions between classes, children have more unsupervised time to interact with peers. Thus, middle school brings less supervision, more independence, and a need to re-establish a peer network within such an environment. Therefore, when considering research findings, one must attend to the issues, not only of developmental age, but also of social context.

A Developmental Consideration of Changing Relationships

The conclusion that, over time, aggression is increasingly associated with popularity presents a relatively cross-sectional view of the relationship between dynamic forces. Eder (1985), on the other hand, suggested that, as status becomes more salient in middle school, socially prominent girls are more desirable and must reject the interests of and exclude certain individuals seeking their attention. This is accomplished through social aggression and leads to greater dislike by those scorned by the socially prominent. Thus, popular girls become aggressive and disliked. Such a process explains the increasing relationship between aggression and popularity in a more dynamic sense.

Synthesis and Research Questions

Synthesis

Research has produced unclear and, at times, contradictory results (Cairns, 1983; Farmer, Estell, Bishop et al., 2003; Gifford-Smith & Brownell, 2003; Poulin et al., 1999) due to differences in conceptual representations, methodological approaches, and developmental trends. Awareness and management of these inconsistencies is critical to the production of accurate and useful research in the future. Greater clarity within the literature can be achieved through the identification of one's conceptual framework, utilization of sound methodological approaches, and awareness of the limitations of generalizing from the results of a study to other age and developmental groups. In addition, the investigation into the relationship between several aspects of peer relations may allow for the resolution of certain contradictions.

The current study considered the relationship between individuals' social positions, aggression, and the structure of the social network. These issues have each been the focus of

significant research attention in isolation. However, a consideration of them in tandem will expand the current knowledge base.

Considering social position, recent research has highlighted the differences between the two forms of this construct (social preference and social prominence). Each type of social position has been associated with a set of individual characteristics. More specifically, social preference has been consistently associated with prosocial characteristics (Lafontana & Cillessen, 2002; Luthar & McMahon, 1996). Preferred youths tend to be cooperative, kind, and nonaggressive. Social prominence, as defined by perceived popularity, on the other hand, has been linked to both prosocial and antisocial characteristics (Lafontana & Cillessen, 2002; Luthar & McMahon, 1996). Those children who are prominent within the social network may display positive social traits, but may also use antisocial means, such as social or physical aggression, to attain social prominence. A volume of research has focused on the dichotomy between these two constructs and the relationship with aggression.

However, social position is not a trait of an individual in isolation. It is, rather, a product of the perceptions of an individual's peers (Rubin, Bukowski, & Parker, 1998). Thus, social position is a function of the interaction between the individual and the social network, not solely of individual behavior patterns. This conclusion necessitates a study of the relationship between social position and the social structure.

The social structure and the peer groups that compose it have commanded significant research attention over the past few years. Using methodological advances, investigators have characterized groups according to the behavioral patterns of their members. According to the social-interactional perspective, peer groups help to adjust and/or maintain individuals' behavior patterns through reciprocal and complementary processes. Therefore, interventions

aimed at improving peer relationships need to take into account the pressures of the peer groups in maintaining individual behavior patterns. Interventions designed simply to change individual behavior patterns are less likely to be successful than those that account for the demands of the peer groups. The identification and categorization of peer groups are the first steps towards such intervention facilitation.

Clearly, social position and peer-group structure have been researched in depth. However, despite numerous separate studies of each, few studies have considered the relationship between the two constructs. Because children tend to associate with similar peers, a phenomenon known as homophily (Cadwallader et al., 2002; Cairns et al., 1988; Cohen, 1977; Xie et al., 1999), and peer groups are typically arranged within a classroom or grade in a hierarchical manner (Adler, 1996), it follows that social position (social preference and social prominence) may relate to peer-group membership (Farmer et al., 2006). In other words, a child's status within the peer group may relate to the type of group to which he or she belongs.

Farmer and his colleagues (2006) have considered this question in the fifth grade (i.e., elementary school) population. They found that high social preference and high social prominence each related to membership in groups with a high percentage of popular group members. Furthermore, they found that high social prominence for girls only and high social preference for both genders was related to membership in groups with many highly academic group members. Finally, they found that high social prominence was related to membership in groups with many aggressive group members, while social preference was not related.

This study provides information on the nature of the relationship between social position and group membership in elementary school. However, because of the changes in

environmental demands and social expectations in middle school, a consideration of this relationship in sixth grade, after the transition to middle school, is warranted. Comparing the types of relationships across elementary to middle school will provide clarity regarding the dynamic social structure.

Information on the relationship between individual social position and group membership is important as it reflects the nature of peer affiliations and social networks. This will facilitate the development of interventions for children with low social status, taking into account the context of the social structure. Furthermore, it will allow understanding of the role of bullies in the social network, improving the ability to combat this disruptive force.

Research Questions

The current study considered the relationship between social position and peer-group membership across the transition from elementary to middle school. As social preference and social prominence are each forms of social position, the study first investigated the relationship between these two forms across the transition to determine whether changes in social preference are related to changes in social prominence as children move into middle school. Thus, the first research question is: Is there a change in the relationship between social preference and social prominence across the transition from elementary to middle school?

As aggression has been identified as a critical factor in both social preference and social prominence, the current study also considered the relationship between each form of social position and aggression over time. Thus, the second and third research questions are posed: Does the relationship between social preference and aggression (and/or between social prominence and aggression) change across the transition to middle school?

Considering that social preference and social prominence are aspects of children's perceptions of each other and building from existing research indicating links between social position and peer-group composition in fifth grade (Farmer et al., 2006), the present study also presents the following fourth research question: Are the two social position constructs and peer-group membership differentially related in sixth grade?

Furthermore, as the social position constructs are a function of the perception of members of the social network, they are likely to be affected by developmental shifts in priorities and changes in environmental demands associated with the transition from elementary to middle school. Thus, the following question is proposed: Do the relationships between the two social position constructs and peer affiliations shift across the transition from elementary to middle school and, if so, how do the patterns differ?

The preceding review of past research leads to the following hypotheses:

1. The relationship between social preference and social prominence will decrease over the transition from elementary school to middle school.
2. An increase in aggression from fifth to sixth grade will be associated with an increase in social prominence.
 - a. This trend will be stronger for boys than for girls.
3. An increase in aggression from fifth to sixth grade will be associated with a decrease in social preference.
 - a. This trend will be stronger for girls than for boys.
4. Both forms of social position (social preference and social prominence) will be related to peer-group membership in sixth grade.

- a. Social prominence will be more related to membership in aggressive and popular groups in sixth grade, especially for boys.
 - b. Social preference will be more related to membership in academic groups in sixth grade, especially for girls.
5. The relationships between both forms of social position and peer-group affiliations will be similar in direction in elementary and middle school but will be stronger in middle school than in elementary school.

Method

Participants

The participants for the current study were from two North Carolina counties. Fifteen elementary schools in the area were contacted to invite all of their fifth-grade classrooms to participate in the study; the middle schools into which these elementary schools feed were also contacted to request participation of their sixth-grade students. Consent forms provided a brief description of the purpose of the study and the measures used. Active consent was obtained; parents were asked to indicate whether they gave permission for their child's participation and then have their child return the form to their teacher. When the survey was conducted, children with parental permission were given the option of not participating, being assured that their participation was voluntary.

While Monte Carlo style analyses have shown that 25% participation rate produces the same social map as 100% participation (Pearl et al., 1998), a 50% classroom participation rate is the standard for use of SCM analyses to ensure reliability and validity of social group identification (Pearl et al., 1998). Thus, data from 11 fifth-grade classrooms were excluded due to a failure to reach the required 50% participation rate; data from the remaining 45 classrooms were included.

Data about students for whom peer nominations are available for both Waves 1 and 2 of the study were used in the current analyses. This included a total of 566 students (279 girls, 287 boys). ICS-T data was available for students with consent for participation, 399 students (220 girls, 179 boys) in fifth grade and 417 students (226 girls, 191 boys) in sixth grade.

These participants also completed Peer Interpersonal Assessments, nominating their class or grademates in certain categories. Thus, peer nomination data was available for some students who did not participate in the study. Race/ethnicity data was available for 87% of the participant sample. Of this group, 52% were white, 42% were African-American, 2% were Hispanic, and the rest were of other ethnicities.

Measures

Social Cognitive Maps (SCM)

The SCM measure consisted of the following questions: “Are there some kids in your [classroom/grade] who hang around together a lot? Who are they?” Participants were asked to provide the names of children in as many groups as they could recall.

The procedures for the SCM methods were developed by Cairns and colleagues (e.g., Cairns et al., 1985); they have been utilized extensively, including use in a longitudinal study (Cairns & Cairns, 1994) as well as numerous other studies (e.g., Farmer & Hollowell, 1994; Farmer et al., 2002; Leung, 1996; Rodkin et al., 2000; Xie et al., 1999).

Short-term stability of children’s peer groups has been noted with high three-week test-retest reliability coefficients; a majority of group members were retained in 90% of groups across a three-week period (Cairns, Leung, Buchanan et al., 1995). The validity of the SCM procedures as a means of identifying peer groups has been established through several different approaches, including surveys and observation. Participants agree upon peer-group composition (Cairns et al., 1985; Kindermann, 1993), and children’s friends are more likely to be in their peer groups (Cairns, Leung, Buchanan et al., 1995). Members of peer groups tend to have comparable demographic and behavioral characteristics (Cairns et al., 1988; Farmer & Farmer, 1996; Leung, 1996). Observational data have indicated that students have

more frequent interactions with individuals within their peer groups (Gest et al., 2003), particularly positive interactions (Cairns et al., 1985).

Interpersonal Competence Scale – Teacher

The ICS-T is a questionnaire comprised of 18 items, each of which is based on a seven-point Likert Scale. Teachers completed the questionnaire for every participant in their class. Six composite scores are gleaned from the ICS-T, three of which will be used in analyses for the current study. These include aggressive (“always argues,” “gets in trouble,” and “always fights”), popular (“popular with boys,” “popular with girls,” and “lots of friends”), and academic (“good at math” and “good at spelling”).

The psychometric properties of the entire ICS-T were investigated by Cairns, Leung, Gest, and Cairns (1995). Three-week test-retest reliability coefficients for the overall summed interpersonal competence score are high (i.e., .89-.92), with factor score median test-retest correlations of 0.81 for girls and 0.87 for boys. Long-term stability is moderately high, with summed interpersonal competence score coefficients from 0.46 to 0.54 and factor score coefficients from 0.18 to 0.51 (lower coefficients on the affiliative dimension). Teacher ratings on the ICS-T are consistent with peer- and self-nomination measures (Cairns & Cairns, 1994; Rodkin et al., 2000) and indicate similar behavioral patterns within peer groups (Leung, 1996). Long-term predictive validity for future antisocial behavior was noted (Cairns & Cairns, 1994; Mahoney, 2000).

Peer Interpersonal Assessment

The peer interpersonal assessment is a 17-item questionnaire tapping peers’ opinions of their classmates’ social and behavioral traits. This questionnaire or a variation thereof has been used extensively (e.g., Farmer, Estell, Bishop et al., 2003; Farmer et al., 2002). Three-

week test-retest reliability is moderately high (i.e., 0.72-0.93) (Farmer et al., 2002).

Participants were asked to indicate which three of their peers “best fit the description” of each item. Brief descriptions are given for each of the items: cooperative, disruptive, acts shy, starts fights, seeks help, leader, athletic, gets in trouble, good student, cool, sad, starts rumors, popular, picked on, friendly, bully, and gets their way. Self-nominations are allowed, and classmates can be nominated more than once.

Social Preference

In order to determine the social preference of individual students, participants were asked to “name the three classmates you like most” and to “name the three classmates you like least.” This procedure follows that outlined by Coie, Dodge, and Coppotelli (1982). Twelve-week test-retest reliability coefficients for “like most” and “like least” scores are 0.65 (Coie et al., 1982). This measure was selected as it is frequently used in the research literature to assess social preference; this allows for consistency with previous research. It also allows for the calculation of a continuous variable.

Procedures

Data for all measures were collected in the spring of fifth grade and again in the fall of sixth grade. Participants filled out questionnaires in a group administration setting. Participants’ seats were spaced out to maintain privacy. Before beginning the survey, participants were told that their answers would remain confidential and would not be shared with anyone at their school, including students, parents, teachers, and administrators. No talking was allowed during the administration of the survey and participants were encouraged to refrain from discussing their answers with each other. Participants were told that they could stop participating at any time. One researcher read the instructions and questions out

loud and allowed time for the participants to respond. Other researchers circulated the room and provided assistance where necessary. In the fifth grade administration, the children were asked to limit their nominations for all measures to those peers within their classrooms, whereas in the sixth grade, they were permitted to nominate peers within the entire grade. This shift in methodology was imposed to deal with the differences in structure between elementary and middle school. In elementary school, children spent most of their time with their class, whereas in middle school, students changed classes throughout the day, and therefore interacted with more students within their grade.

Teacher questionnaires were delivered to the school for the teachers to complete at their convenience. In fifth grade (elementary school), teachers were given one questionnaire to fill out for each participant in his or her class. In sixth grade (middle school), teachers were given one questionnaire to fill out for each participant in his or her homeroom.

Data Reduction Techniques

Social Cognitive Map Analyses

Data from the SCM measure were analyzed using the SCM 4.0 computer program (Leung, 1998) according to procedures delineated by Cairns, Gariepy, and Kindermann (1996). The output from this program yields three matrices. The first matrix, a recall matrix, outlines each group listed by each participant. Students in the class/grade are listed in columns across the top. Participants are listed in rows along the side, with each row representing a group listed by a given participant. On each row, numbers are placed in columns underneath the name of each student listed in that group. The first student listed in the group is assigned a one, the second student is assigned a two, and so forth. This matrix allows for the consideration of the relationship between the nominator and the group nominated.

A co-occurrence matrix is also generated. This matrix provides a count of the number of times each pair of students was listed in the same group. Each column and row in this symmetrical matrix represents a student. The diagonal provides a count of the number of times each student was listed in any group. The matrix allows for the consideration of which students were named together in the same group. Analysis of this matrix permits identification of groups based on professional judgment. Students who are in the same group would have high co-occurrence with each other and with other members of the group. Students who did not fit appropriately into a group were considered isolates (Farmer & Farmer, 1996).

Finally, a correlational matrix is produced based on the co-occurrence matrix. This matrix provides values of correlations between pairs of students. The correlational matrix was consulted for ambiguous decisions regarding group membership. Typically, a member of a group should be correlated significantly with at least half of the members of that group. See Farmer, Stuart, Lorch, and Fields (1993) for a more in-depth description of these methods.

Based on this technique, students were classified into fifth grade groups (within their classroom) and sixth grade groups (within their grade).

Peer-Group Composition

As in previous studies, peer-group composition was identified on the basis of ICS-T ratings of group members on aggression, popularity, and academic achievement. The ICS-T ratings were first standardized both within gender and within gender and rater. This method of standardization is employed in order to account for the biases of each rater while still maintaining attention to true differences in classrooms/raters. Participants were classified as

aggressive, popular, and/or high on academic achievement if they had a gender Z-score greater than or equal to +0.50 and a gender/rater Z-score greater than or equal to 0.0.

SCM-identified peer groups were classified based on their members' ratings on the three characteristics. For each characteristic, peer groups were independently categorized into four possible types. For the aggression characteristic, groups with no aggressive members were categorized as zero-aggressive. Groups with one or two aggressive members, but with a majority of non-aggressive members, were categorized as non-aggressive. Groups with zero to two non-aggressive members, with a majority of aggressive members, were categorized as aggressive. Groups with two aggressive and two non-aggressive members or three or more of each type were categorized as mixed-aggressive groups. These criteria were then applied to the characteristics of popularity and academic achievement.

As in previous research using this procedure (Farmer et al., 2006), these four groups for each characteristic were combined, along with isolates, into two groups: *few* (having few associates high on the relevant characteristic) or *many* (having many associates high on the relevant characteristic). For example, with respect to the aggressive characteristic, those students who were isolated or in a zero- or non-aggressive group were classified as having *few* aggressive associates. Those students in a mixed-aggressive or aggressive group were classified as having *many* aggressive associates. This procedure allows for the investigation of the relationship between relative numbers of associates high on a given characteristic and the social position of the individual (Farmer et al., 2006). The same procedures were used to classify members based on popularity and academic group membership.

Social Preference

Each student's nominations for liked most and for liked least were divided by the number of students in the class (for fifth grade) or number of students in the grade (for sixth grade), in order to standardize these values. The social preference of each individual student was calculated by subtracting the number of standardized nominations for being least liked from the standardized number of nominations for being most liked. This produces a continuous variable measure of individual social preference.

Social Prominence

The social prominence of each individual student was calculated based on peer interpersonal assessment nominations. Previous research based on the data from this fifth grade sample has validated the presence of a social prominence factor that consists of four items: "leader", "athletic", "cool", and "popular" (Farmer et al., 2006). To confirm the applicability of this factor to the sixth grade data, a factor analysis of the items from the peer interpersonal assessment was conducted. Based on the results of this analysis, all four items in the social prominence composite were found to load into this composite, with rotated factor loadings ranging from 0.367 to 0.925. These items have the following descriptors: Leader "This person gets chosen by others as the leader. Other people like to have this person in charge," Athletic "This person is very good at many outdoor games and sports," Cool "This person is really cool. Just about everybody in school knows this person," and Popular "Some kids are very popular with their peers. That is, many classmates like to play with them or do things with them."

For the current analyses, the means of the four items were calculated for each individual and divided by the number of students in each class (for fifth grade) or the number of students in the grade (for sixth grade); this is the social prominence composite.

To evaluate the relationship between individual changes in aggression and social prominence, a median split within grade and gender was used to separate individuals high and low on social prominence in fifth grade and again in sixth grade. It was then possible to classify students in one of four categories of social prominence change across the transition: from high social prominence to high social prominence, from high social prominence to low social prominence, from low social prominence to high social prominence, and from low social prominence to low social prominence.

Aggression, Popularity, Academic Characteristics

Three ICS-T composite scores were used in analyses for the current study. These include aggressive (“always argues,” “gets in trouble,” and “always fights”), popular (“popular with boys,” “popular with girls,” and “lots of friends”), and academic (“good at math” and “good at spelling”).

To calculate the difference in relative individual aggression across the transition, aggression scores were standardized into z-scores within class (for fifth grade) or within grade (for sixth grade) to allow for the relative comparison of aggression in fifth grade to that in sixth grade. A difference score was calculated by subtracting the fifth grade standardized aggression scores from the sixth grade standardized aggression scores.

Affiliates’ Characteristics

In order to evaluate change across the transition from elementary to middle school, the mean levels of aggression, popularity, and academic characteristics were calculated for each

individual's affiliates in fifth grade and again in sixth grade. This was done by adding the ICS-T ratings for each member of an individual's group and dividing by the total number of affiliates (total group membership minus 1).

Social Aggression

Values for social aggression were calculated for each student by standardizing the peer nomination item of Starts Rumors ("This person gossips and says things about others. This person is good at causing people to get mad at each other") and the ICS-T item of Manipulates Friendships within class (for fifth grade) and within grade (for sixth grade). The z-scores for these standardized items were averaged to calculate a social aggression score for each individual in fifth grade and sixth grade. Individual social aggression difference scores were calculated by subtracting the fifth grade social aggression score from the sixth grade social aggression score.

Results

The results presented address the research questions under consideration in the current study. The first research question considers the link between social preference and social prominence across the transition from elementary to middle school. The second and third research questions are related to the change in the relationship between aggression and social position constructs across the transition. The fourth research question considers the relationship between social position constructs and peer-group membership in sixth grade. Finally, the fifth research question addresses the link between social position constructs and peer affiliations across the transition from elementary to middle school.

Relationship between Social Position Constructs across Transition

To determine the relationship between the social position constructs in fifth and sixth grades, Pearson product-moment correlations were calculated between social preference and social prominence for boys and girls separately in fifth grade and again in sixth grade. Results are presented in Table 1. All correlations were significant ($p < .05$).

Fisher's z' transformation was used to convert these correlation coefficients into z values before they were compared statistically. The difference between the z values for girls in fifth grade ($z_r = .37$) and sixth grade ($z_r = .41$) was not significant ($z_d = .41$, n.s.). This indicates that the relationship between social preference and social prominence for girls does not change significantly across the transition from elementary to middle school.

The difference between the z values for boy in fifth grade ($z_r = .31$) and sixth grade ($z_r = .15$) was significant ($z_d = -1.92$, $p < .05$). This indicates that the relationship between social

reference and social prominence for boys decreases significantly across the transition from elementary to middle school.

Relationship between Aggression and Social Prominence across Transition

Teacher-Rated Aggression

Correlation between teacher-rated aggression and social prominence. In order to evaluate the overall relationship between teacher-rated aggression and social prominence across the transition from elementary to middle school, correlations between these two variables were calculated for each gender separately in each grade. Results are presented in Table 2. Positive correlations were noted in fifth grade between aggression and social prominence for both girls ($r=.15$, $p<.05$) and boys ($r=.23$, $p<.01$). Correlations were not significant for sixth grade data for girls ($r=.01$, n.s.) nor boys ($r=.12$, n.s.). Fisher's z' transformation was used to convert the correlation coefficients into z values before statistical comparison. The difference between the z values for girls in fifth grade ($z_r=.16$) and sixth grade ($z_r=.01$) was marginally significant ($z_d=-1.52$, $p<.1$). While the difference for boys was not significant ($z_d=-1.12$, n.s.), the change in scores was in a similar direction. This suggests that the positive relationship between social prominence and aggression may decrease slightly across the transition from elementary to middle school.

Individual Change. One-way ANOVAs were then conducted for girls and boys separately to compare the aggression scores for individuals who increased in social prominence (low-high) with those who decreased in social prominence (high-low). Aggression levels were not compared for groups with stable social prominence (low-low; high-high), as no change in aggression scores was hypothesized. Results are presented in Table 3. For both genders, an

increase in social prominence was associated with an increase in aggression, although this effect was significant for neither girls ($F=1.05$, n.s.) nor boys ($F=.74$, n.s.).

Social Aggression

Evaluation of Social Aggression Construct. In order to evaluate the construct of social aggression prior to the use of this measure in further analyses, Pearson product-moment correlations were first calculated between teacher-rated aggression and social aggression. Results are presented in Table 4. Correlations were significant for both genders and grades ($p<.001$).

Fisher's z' transformation was used to convert the correlation coefficients into z values before statistical comparison. The difference between the z values for girls in fifth grade ($z_r=.82$) and sixth grade ($z_r=.67$) was marginally significant ($z_d=-1.33$, $p<.1$). The difference between the z values for boys in fifth grade ($z_r=.82$) and sixth grade ($z_r=.58$) was significant ($z_d=-1.96$, $p<.05$). This indicates that the relationship between teacher-rated aggression and social aggression, while consistently significant, decreases across the transition from elementary to middle school. It is important to recognize the different sources of information for these constructs. Teacher-rated aggression is rated solely by teachers, while the social aggression construct is a composite of teacher ratings and student nominations.

Correlation between Social Aggression and Social Prominence. The relationship between social aggression and social prominence was first evaluated through the calculation of Pearson product-moment correlations between the two constructs. Correlations were significant for both genders and grades ($p<.05$). Results are presented in Table 5. Fisher's z' transformation was used to convert the correlation coefficients into z values before statistical comparison. For girls, the correlations were relatively low in fifth grade ($z_r=.23$) and sixth

grade ($z_r = .18$). Correlations decreased from fifth ($z_r = .50$) to sixth grade ($z_r = .34$) for boys ($z_d = -1.35$, $p < .1$).

Individual Change. To evaluate the relationship between individual changes in social aggression and social prominence, one-way ANOVAs were conducted to compare mean social aggression scores for individuals who increased in social prominence (low-high) to those for individuals who decreased in social prominence (high-low) across the transition from elementary to middle school. Results are presented in Table 6. Statistical comparisons were not significant; however, for both genders, there was a trend for individuals who increased in social prominence to also increase in social aggression. This pattern is similar to that for teacher-rated aggression, as would be expected based on the positive correlations between physical and social aggression. It is also important to note that there was a trend for girls who were low in social prominence in fifth grade to increase in social aggression in sixth grade, irrespective of sixth grade social prominence.

Relationship between Aggression and Social Preference across Transition

Similar analyses were run to evaluate the relationship between aggression and social preference.

Teacher-Rated Aggression

Correlation between teacher-rated aggression and social preference. Pearson product-moment correlations were calculated between teacher-rated aggression and social preference for both genders and grades. All correlations were negative and significant ($p < .05$). Results are presented in Table 7. Fisher's z' transformation was used to convert the correlation coefficients into z values before statistical comparison. The strength of the negative

correlations decreased significantly ($z_d=2.63$, $p<.01$) for girls from fifth grade ($z_r=-.30$) to sixth grade ($z_r=-.13$), but not for boys ($z_d=1.02$, n.s.).

Individual Change. As with the social prominence analyses, one-way ANOVAs were conducted for girls and boys separately to compare the teacher-rated aggression scores for individuals who increased in social preference (low-high) with those who decreased in social preference (high-low). Teacher-rated aggression levels were not compared for groups with stable social preference (low-low; high-high), as no change in aggression scores was hypothesized. Results are presented in Table 8. Neither comparison was significant; however, the pattern was different between genders. Girls who increased in social preference also increased in teacher-rated aggression. Conversely, boys who decreased in social preference across the transition increased in aggression.

Social Aggression

Correlation between social aggression and social preference. Pearson product-moment correlations were calculated between social aggression and social preference for both genders and grades. Results are presented in Table 9. All correlations were negative and significant ($p<.01$). Fisher's z' transformation was used to convert the correlation coefficients into z values before statistical comparison. No changes across gender or grade were significant, indicating that the negative relationship between social aggression and social preference is relatively consistent between genders and across the transition from elementary to middle school.

Individual Change. One-way ANOVAs were calculated to compare social aggression scores for individuals who increased in social preference (low -high) to those who decreased in social preference (high-low). Results are presented in Table 10. Changes in social

aggression were not significantly related to changes in social preference. However, there was a trend for girls who decreased in social preference to increase in social aggression.

Social Position Constructs and Peer-Group Membership

The fourth research question addresses the relationship between individual social position constructs in sixth grade and peer-group types.

Group versus Isolate Status

One-way ANOVAs were run to compare the mean level of social preference and social prominence for isolates to those of individuals in groups in sixth grade. Results are presented in Table 11. For both girls and boys, higher social prominence was strongly related to membership in a group, compared to isolate status (girls: $F=11.19$, $p<.01$; boys: $F=24.85$, $p<.001$). For girls, social preference was also related to membership in a group ($F=5.09$, $p<.05$); this effect was not significant for boys ($F=2.51$, n.s.).

Peer-group composition

One-way ANOVAs were then run to compare individuals affiliating with few peers high on a given characteristic (aggression, popularity, academic) to individuals affiliating with many peers high on that characteristic. Results are presented in Table 12.

Social Preference. Results from the current analyses indicate that an individual's social preference is not significantly related to relative number of affiliates high on aggression (girls: $F=2.05$, n.s.; boys: $F=.41$, n.s.) or popularity (girls: $F=.48$, n.s.; boys: $F=1.67$, n.s.). However, affiliation with academic peers is related to social preference for boys ($F=6.73$, $p<.05$), such that association with many academic peers is associated with higher social preference in sixth grade.

Social Prominence. Results from the current analyses indicate that, for boys, high social prominence is related to affiliation with many aggressive peers ($F=11.02$, $p<.01$) and many popular peers ($F=13.29$, $p<.001$); social prominence is not related to affiliation with academic peers.

For girls, social prominence is not related to affiliation with aggressive peers. Social prominence is, however, related to affiliation with popular peers ($F=10.47$, $p<.01$) and marginally significantly related to affiliation with academic peers ($F=3.25$, $p<.1$).

Relationships between Social Position Constructs and Peer Affiliations Across Transition

The final research question addresses the relationship between social position constructs and peer affiliations across the transition from elementary to middle school. In order to effectively address this research question, correlations were calculated between the means of each individual's affiliates' scores on aggression, popularity, and academic achievement and that individual's social position preference and social prominence in fifth grade and again in sixth grade.

Fisher's z' transformation was used to calculate z values prior to statistical comparison of the correlation coefficients in fifth grade to those in sixth grade.

Girls

Social Preference. Results for girls are presented in Table 13. Social preference was not associated with affiliates' level of aggression for girls in fifth or sixth grade. Positive correlations were found in fifth grade between social preference and affiliates' popularity ($r=.11$, $p<.1$) and between social preference and affiliates' academic competence ($r=.12$, $p<.1$). Thus, in fifth grade, girls who affiliated with popular and academic students were well liked. The value of these associations decreased marginally significantly across the transition

from elementary to middle school (popularity: $z_d = -1.45$, $p < .1$; academic: $z_d = -1.39$, $p < .1$) to nonsignificant correlations. This indicates that the social preference of girls becomes less associated with their affiliates' characteristics of popularity and academic achievement over the transition from elementary to middle school.

Social Prominence. Social prominence was positively correlated with girls' affiliates' level of aggression ($r = .18$, $p < .05$) in fifth grade. This correlation was no longer significant in sixth grade ($r = .07$, n.s.); the decrease in correlation coefficients approached marginal significance ($z = -1.28$, $p = .1$). Social prominence was positively correlated with affiliates' level of popularity in both fifth grade ($r = .24$, $p < .001$) and sixth grade ($r = .17$, $p < .01$); the decrease in correlation coefficients was not significant ($z_d = -.88$). The increase in the correlation between social prominence and academic achievement across the transition was marginally significant ($z_d = 1.41$, $p < .1$), with a change from a slightly negative ($r = .03$, n.s.) to a slightly positive correlation ($r = .10$, n.s.). This information suggests that, in middle school, social prominence becomes positively associated with affiliates' academic achievement.

Boys

Social Preference. Results for boys are presented in Table 14. A positive correlation was noted between social preference and affiliates' academic competence in fifth grade ($r = .14$, $p < .05$), but not in sixth grade ($r = .09$, n.s.); however, the change in correlation coefficients was not significant ($z_d = -.50$, n.s.). The change from a positive ($r = .09$, n.s.) to a negative ($r = -.11$, n.s.) correlation between social preference and affiliates' aggression levels was found across the transition ($z_d = -2.02$, $p < .05$). This result indicates that associating with aggressive peers relates to lower social preference in sixth than in fifth grade.

Social Prominence. Significant correlations were noted between social prominence and affiliates' levels of aggression and popularity in both fifth (aggression: $r=.12$, $p<.1$; popularity: $r=.15$, $p<.05$) and sixth grade (aggression: $r=.15$, $p<.05$; popularity: $r=.17$, $p<.05$). No significant changes from elementary to middle school were found. Social prominence did not relate significantly to affiliates' levels of academic competence for fifth ($r=.004$, n.s.) or sixth grade ($r=-.09$, n.s.).

Discussion

Previous research on children's social networks has complicated the field with apparently clear yet contradictory conclusions (Cairns, 1983; Farmer, Estell, Bishop et al., 2003; Gifford-Smith & Brownell, 2003; Poulin et al., 1999); upon closer inspection, these contradictions are recognized to have been partially a function of conceptual and methodological limitations along with a failure to attend to developmental trends (Cairns, 1983). The current study was designed to address such contradictions and inconsistencies within the social network literature by clearly conceptualizing constructs, using comprehensive methodological approaches, and considering relationships among and between constructs over time. As such, this study considered two forms of social position, social preference and social prominence, and their relationship to peer affiliations across the transition from elementary to middle school.

The first research question addressed the relationship between social preference and social prominence, with the hypothesis that the correlation would decrease across the transition from elementary to middle school. This hypothesis was supported for boys, but not for girls. The second and third research questions considered the relationship between aggression and social position across the transition from elementary to middle school. The hypotheses were that an increase in aggression would be associated with an increase in social prominence, especially for boys, and a decrease in social preference, especially for girls. Results of the analyses of the relationship between individual change in aggression and social position across the transition to middle school were not significant. However, certain trends were

noted that provided some support for aspects of the hypotheses proposed. Specifically, there was a trend for an increase in aggression to be associated with an increase in social prominence for both genders. Trends were also noted for an increase in teacher-rated aggression to be associated with a decrease in boys' social preference and an increase in girls' social preference and for an increase in social aggression to be associated with a decrease in girls' social preference. While not significant, these results do suggest that shifts in these constructs are related. Correlational data also indicated that aggression was positively correlated with social prominence and negatively correlated with social preference. The strength and significance of some of these correlations decreased somewhat across the transition from elementary to middle school.

The fourth and fifth research questions addressed the relationships between individual social position and the characteristics of peer affiliates across the transition from elementary to middle school. Social prominence was hypothesized to be more related to membership in aggressive and popular groups, especially for boys, and social preference was hypothesized to be more related to membership in academic groups, especially for girls. These relationships were expected to increase across the school transition. Results supported some portions of these hypotheses. Specifically, social prominence was higher for individuals associating with many popular peers and, for boys, it was higher for those associating with many aggressive peers. These results were consistent across the transition to middle school. Peer affiliates' academic characteristics were associated with boys' social preference and girls' social prominence in fifth grade. Social preference was not related to characteristics of girls' peer affiliates.

The current study aimed to integrate apparently inconsistent results within the literature into a clearer pattern of social relationships in an effort to understand how individual social status is related to the social structure during a transitional period, the shift from elementary to middle school. The results of the current study have contributed significantly to the knowledge base in this field, however, not by revealing the presence of a simple pattern that has been merely masked by methodological and conceptual limitations, but rather by illuminating the true complexity of the interrelationships within the social structure among and between social position and peer affiliations. The revelation of the intricate and complex nature of this web of influences and effects makes it obvious that consideration of a presumed unitary construct at a fixed time period would mistakenly suggest that a specific pattern exists. The current discussion will thus highlight the importance of attention to context in the understanding of the current results, review the results in relation to specific research questions, address the ability of this study to resolve presented contradictions within the literature, and apply the importance of the current results to the field of school psychology.

Attention to Context

In the early days of sociometric research, Urie Bronfenbrenner (1943) emphasized the importance of attention to the context when considering the social status of each individual, stating that “a change in the structural pattern will alter the status of the individual” (p. 368). The impact of Bronfenbrenner’s emphasis on contextual representations of individual social position on the design and interpretation of research has waxed and waned over the years. The current study brings this issue into clear focus and stresses the importance of attending to context when investigating social position.

Evaluations of social functioning in the current study were conducted at the end of elementary school and the beginning of middle school. The comparison of results at these time periods would ostensibly provide some information regarding developmental trends, environmental effects, and/or the effective match between these forces on social networks across the transition from elementary to middle school. However, upon reflection, conclusions regarding these effects drawn from the direct comparison of these two time periods would essentially require the immediate and static solidification of individuals' social positions and formation of social groups upon entry into middle school. This is not the case. Rather, the shuffling of the social structure that occurs during the school transition produces a certain amount of expected fluidity that leads to a shifting pattern of social dynamics. As children enter this new social milieu, they attempt to assert their dominance. The ensuing struggle leads to shifting relationships and status of individuals.

Thus, the results of the current study may be most accurately and effectively framed within the context of ethnographic research documenting the fluidity of children's relationships. For example, Adler and Adler (2001), following children over the course of eight years, discussed how relationships and the social structure shift as children are drawn into and excluded from groups over time as they seek to attain, maintain, and regain power in the social system.

Eder (1985) has effectively described such a pattern with specific attention to middle school girls. She has proposed the concept of a "cycle of popularity," by which the social hierarchy of girls in middle school slowly evolves out of a desire for association with popular girls. According to Eder, girls who are initially identified as popular as middle school begins become well liked by other girls; other girls are attracted to them and want to be their friends,

so they are offered friendship by many. These girls must reject a number of these potential friends due to the sheer number of interested peers and the perceived need to maintain status by associating with other popular individuals. Their rejection of certain peers leads to the phenomenon that “shortly after these girls reach their peak of popularity, they become increasingly disliked.” (Eder, 1985, p. 163).

Thus, aggressive and antisocial tactics do not simultaneously result in high social prominence and low social preference, but rather, these constructs are interrelated over the course of middle school as the social structure develops. This is a gradual process by which a social hierarchy becomes clearer throughout the course of middle school.

Viewed in the context of the shifting nature of the middle school social structure over time, the current results reveal a complex pattern that may be partially attributed to an attempt to isolate a static pattern within a dynamic context. Recognition of this mismatch may facilitate a greater understanding of the role of the current results in answering research questions, addressing contradictions, and applying knowledge to work in the classroom.

Research Questions

Relationship between social position constructs across transition

It was initially hypothesized that the relationship between social preference and social prominence would decline across the transition from elementary to middle school, under the assumption that characteristics and behaviors associated with high social prominence in middle school would also be associated with low social preference. Such a decline has been noted, in previous research, to occur over the course of middle school (Cillessen & Mayeux, 2004). The current study supports this hypothesis for boys; the correlation between social preference and social prominence decreased across the transition from elementary to middle

school, suggesting a divergence of the constructs into more distinct and unrelated aspects of social position.

However, this was not the case for girls; rather the relationship between social preference and social prominence remained stable across the transition from elementary to middle school. In the context of Donna Eder's (1985) work, this may suggest that, at the time of the assessment, girls who were seen as popular were also still desirable affiliates sought after by peers and viewed as well liked. These girls may not yet have alienated their peers through rejection of those seeking their friendship. Follow-up evaluation later in the sixth grade year or farther along in middle school may reveal a gradual divergence of these constructs as girls who are maintaining social prominence begin to reject and estrange their admirers.

Relationship between Social Position and Aggression across Transition

Based on previous research suggesting that aggression is a means of asserting dominance in the new and unfamiliar middle school setting (Pellegrini & Bartini, 2001; Pellegrini & Long, 2002), it was hypothesized that an increase in aggression across the transition from elementary to middle school would be associated with an increase in social prominence. Research has also indicated that aggression is linked not only to high social prominence, but also to low social preference (Prinstein & Cillessen, 2003); thus, an increase in aggression was expected to be associated with a decrease in social preference. Given the differential use of physical aggression by boys and social aggression by girls (Farmer, 2000), both teacher-rated and social aggression were included in the current investigation.

Social Aggression Construct. Social aggression, based upon a composite of a teacher rating ("manipulates friendships") and a peer rating ("starts rumors"), was found to be significantly correlated with teacher-rated aggression in both fifth and sixth grades for boys

and girls, though the correlation decreased across the transition from elementary to middle school. These results validate the current social aggression measure as a component of aggression and suggest that a gender difference between these two constructs is not apparent.

The decline in the link between the two forms of aggression over the transition may suggest that social aggression is diverging from overall aggression and becoming a distinct construct in middle school. Previous research has shown a different developmental trajectory for boys and girls in patterns of expression of aggression for physical and social aggression (Cairns, Cairns et al., 1989); the developmental nature of the expression of aggression may indicate that these constructs diverge over time. Alternatively, this division could be a temporary result of contextual influences that affect either the measurement or use of aggression. It is possible that children have not yet begun to express their full aggressive behaviors at this early point in the school year and thus the measurement is not comprehensive. It is also possible that teachers may not recognize the true level of aggression used by children early in middle school, as, in middle school, children switch classes and their interactions are less supervised. Consideration of the relationship between these constructs later in the sixth grade year may resolve this issue, either by confirming divergence of these constructs or revealing the temporary nature of such a separation. In addition, a comprehensive planned assessment of social aggression may allow for a more accurate evaluation of the construct and its relationship to social aggression.

Aggression and Social Prominence. Teacher rated aggression was positively correlated with social prominence in fifth grade but not sixth grade for both boys and girls. Social aggression was more strongly positively correlated to social prominence in both fifth grade and sixth grade, with stronger correlations for boys than girls. A decline in this correlation

was noted for boys across the transition from elementary to middle school. These results suggest that aggression and social prominence are becoming less associated across the transition to middle school. However, individual changes in teacher-rated and social aggression and social prominence reveal a trend, though insignificant, for an increase in aggression to be associated with an increase in social prominence for both genders. Thus, while the overall correlation between aggressive behavior and social prominence seems to be decreasing, a positive relationship may be present for some individuals.

Explanation for this phenomenon is speculative. It is possible that, as previously noted, teachers in middle school had not yet noted the full degree of students' aggressive behavior. Aggression may be more subtle in middle school and the structure of the middle school setting may allow for aggressive behaviors to be overlooked by teachers; this limited measurement would likely reduce the correlation between this construct and related social prominence. The stronger correlation between social aggression and social prominence may suggest that the socially aggressive behaviors are more readily expressed and thus recognized.

In addition, due to the fluidity in the social structure and social position of individuals at this early point in the school year, the behavior of individual children may not have contributed to a solidification of individuals' levels of social prominence. Girls who are prominent and sought after by many peers may not yet have used overt aggressive behaviors to reject peers seeking their friendship; therefore the link between their prominence and aggressive behaviors may not yet be apparent. Evaluation of this relationship later in the school year may reveal a renewed strength to the correlation as individuals begin to establish a reputation within the social network and reveal aggressive tendencies.

Aggression and Social Preference. Teacher-rated aggression and social aggression were negatively correlated with social preference in fifth grade for both boys and girls. This negative correlation was relatively stable across the transition for social aggression. However, the negative correlation between teacher-rated aggression and social preference was found to decrease across the transition from elementary to middle school to marginal significance for girls only. Individual changes in aggression and social preference revealed an interesting pattern. Though the effects were not significant, the direction of the associations varied. While an increase in social aggression tended to be somewhat associated with a decrease in social preference for girls, an increase in teacher-rated aggression was somewhat associated with an increase in social preference for girls and a decrease in social preference for boys.

These results reflect gender differences. For boys, the negative correlation between aggression (both teacher-rated and social) and social preference is relatively stable across the transition from elementary to middle school, suggesting that aggressive behavior is negatively associated with how well liked that individual is by peers.

For girls, however, the pattern appears more complicated. The association between teacher-rated aggression and social preference becomes less negative across the transition to middle school and, in fact, there seems to be an insignificant trend for those girls who increase in teacher-rated aggression to become more well liked. According to Donna Eder (1985), the beginning of middle school is when girls are beginning to jockey for position within the social network. The girls who are seen as popular at the beginning of the school year are well liked and eventually must reject some peers. Therefore, it is possible that the current results are reflecting the point at which some well liked girls are beginning to use

aggression to reject some peers, but before this aggression has begun to affect their overall level of social preference. However, the stable negative correlation between social preference and social aggression may indicate that girls who use socially aggressive tactics (manipulating and starting rumors) are alienating peers through this more targeted and direct attack on peers' social status, a necessarily vital element of preadolescents' identities. It is also possible that these inconsistent results are a reflection of a mosaic of differing rates in the process by which "feelings toward popular girls moved from positive to negative, eventually making them some of the least liked individuals in the school" (Eder, 1985, p. 154).

Social Position and Group Membership

Given the importance of social status to a child's functioning within the social network, it was initially hypothesized that social position would contribute to peer-group membership in sixth grade. Specifically, social prominence was expected to be associated with membership in aggressive and popular groups, especially for boys, while social preference was expected to be associated with membership in academic groups, especially for girls.

Group Membership versus Isolate Status. The link between individual social position and social functioning was investigated by comparing social preference and social prominence of individuals who were members of groups to that of isolated individuals. Lower social prominence was associated with isolate status for both genders. Lower social preference was also associated with isolate status, though this effect was significant only for girls. This information suggests that being less liked is associated with having no peer affiliates for girls, but not boys, while being less prominent in the social structure is associated with having no peer affiliates for both genders. This gender difference may be a function of the

divergence of the two social position constructs for boys in middle school and the continued correlation between the constructs for girls.

Social Position and Peer-Group Composition. By comparing the average social preference and social prominence of individuals in groups with high and low concentrations of members with high ratings on teacher-rated characteristics of aggression, popularity, and academic competence, the relationship between individual social position and affiliation with peers in sixth grade was investigated. High social prominence was found, for boys, to be related to affiliation with many aggressive peers and many popular peers, while, for girls, it was found to be related to affiliation with many popular and academic peers. Social preference was found to be related, for boys, to affiliation with many academic peers; social preference was not related to girls' peer affiliations.

The fact that association with many popular peers is associated with higher individual social prominence for both boys and girls supports the link between individual and group characteristics for both genders. The prominence of individuals relates to their association with other popular peers. In addition, boys who associated with aggressive peers were found to have higher social prominence, indicating that aggressive behaviors may be a pathway towards prominence within the middle school social structure. Overall, this information suggests that social prominence plays a greater role than social preference in determining affiliation with peers high on certain salient characteristics, especially for girls.

It should be noted that the strength of the relationships between individual social position and peer-group membership was weaker in the current study than in recent research by Farmer and his colleagues (2006) which investigated these relationships with the fifth grade sample. There are several possible explanations for this difference. First of all, the current

study considered only participants who had available data in both fifth and sixth grades, while the study by Farmer and colleagues (2006) investigated the social relationships of all available fifth grade participants. The smaller sample size may have reduced the power of the current analyses. Beyond this methodological difference, it is possible that the fluidity of the early middle school setting has contributed to the reduced association; as students' social positions are likely not yet solidified and their peer affiliations are also in flux, the relationship between the two is likely limited. As each component becomes more stable, the association between individual and group characteristics may become stronger and more predictable.

Social Position and Peer-Group Composition across Transition

Given the increasing importance of social status to middle school students, it was initially hypothesized that individual social status would be more related to characteristics of peers in middle school than in elementary school. By comparing the mean levels of aggression, popularity, and academic competence for each individual's peers in elementary school to that in middle school, the current study found that, in fact, the link between these two constructs was weaker in middle school than in elementary school. One exception was that, for boys, social prominence remained consistently linked to peer affiliates' levels of popularity and aggression across the transition. These results support the idea that the social network in early middle school is fluid and that the link between individual social position and characteristics of peer affiliates has not yet become stable at this point in middle school.

Resolution to Contradictions

Revealing more fully the complexity and context-dependent nature of children's social networks, the current study begins to contribute towards the resolution of some

contradictions noted within the social relations literature over the past few decades. However, due to the recognized and expected fluidity in the middle school social network, any conclusions are tentative.

Group membership of rejected children

Rejected children were traditionally considered to be isolated within the social network as a function of the operationalization of peer rejection as being disliked by peers. It was believed that the antisocial behavior and poor social skills demonstrated by rejected children interfered with appropriate interactions with peers (for a review, see Gifford-Smith & Brownell, 2003) and led to seclusion within the social network. Another line of research findings has indicated that rejected children have friends and are in peer groups (Bagwell et al., 2000; Parker & Asher, 1993).

The current study indicates that, in sixth grade, girls in a group have higher social preference scores than isolated girls, suggesting that being well liked is associated with group membership and providing some support for the isolation of rejected children. However, the relationship between social prominence and group membership is much stronger than that between social preference and group membership for girls. In addition, the difference between social preference of isolated boys and that of boys in a group is not significant, indicating that rejection may not be associated with isolation for boys in middle school. This gender difference may be attributed to the continued link between social preference and prominence across the transition from elementary to middle school for girls as the constructs diverge for boys. Overall, this information suggests that social position is associated with group membership, as suggested in early research. However, it is not necessarily how well

liked a child is, but rather how prominent that individual is in the social network, that determines affiliation with peers versus isolation early in middle school.

Aggression and Rejection

Rejected children have traditionally been viewed as aggressive, antisocial individuals within the social network; research has even identified a causal link between aggression and rejection (Bukowski & Newcomb, 1984). Nevertheless, a volume of recent research has questioned the definitive nature of this link (i.e., Farmer, Estell, Bishop et al., 2003; Gifford-Smith & Brownell, 2003; Poulin et al., 1999) and has differentiated rejected aggressive children from aggressive children who show high levels of social prominence (Estell et al., 2002; Farmer, Estell, Bishop et al., 2003). Related research has shown that aggressive behavior becomes more valued in the social network as children move into adolescence (Sandstrom & Coie, 1999), and that the use and correlates of aggression are dependent upon the gender and age of the aggressor and the form and context of the aggression (Cairns, Cairns et al., 1989; Cillessen & Mayeux, 2004; Sandstrom & Coie, 1999).

The current study validates a contextual consideration of aggressive behavior and its link to the social position of individuals. Results supported the negative association between aggression and social preference and the positive association between aggression and social prominence. In addition, aspects of these links decreased in strength across the transition from elementary to middle school. This suggests that the context in which aggression is being used may contribute to its effect upon individual social position, and that the effects of aggression on social position may not be immediate upon introduction into a new social system.

Peer Preference of Popular Children

While popularity was historically associated, according to sociometric research, with being well liked by peers, the relatively recent recognition of the dichotomy between social preference and social prominence has revealed that popularity is in fact seen by peers as a form of power and prominence within the social system that is distinct from being well liked (Eder, 1985; Gifford-Smith & Brownell, 2003).

The current study considered the link between social preference and social prominence across the transition from elementary to middle school. Results indicate that the constructs are correlated in fifth grade and begin to diverge for boys but not girls at the beginning of sixth grade. These results support a contextual view of the link between forms of social position. At least for boys, the entry into middle school brings a distinction between two forms of social position; being well liked is no longer as associated with being popular. Consideration of this link later in sixth grade may further elucidate the pattern.

Application to School Psychology

Social relations are an essential aspect of children's functioning and development both in and out of school. The negative outcomes associated with peer rejection have driven the development of social skills training interventions aimed at improving children's ability to relate to peers. The relative inefficacy of these interventions in driving significant change for participating students (DuPaul & Eckert, 1994; Quinn et al., 1999) has led researchers to begin to recognize and highlight the importance of the social context in determining individuals' behavior patterns and social status.

Social position is a function not only of individual behavior but also of environmental demands and peer expectations and responses. Peers can in fact promote antisocial behavior

used as a means of asserting dominance in the social system (Farmer, 2000). Therefore, interventions designed to address antisocial behavior must attend to the social context in which these behaviors are occurring (DeRosier et al., 1994; Farmer, 2000; Rodkin & Hodges, 2003). A thorough understanding of the social context in which social position is being developed would allow for the development of more appropriate interventions and a more effective response by professionals to children's behavior patterns.

The current study seeks to elucidate the relationship between individuals and their social context by investigating social networks in different contexts, elementary and middle school, in order to develop interventions appropriate for the social context. Results indicate changing relationships among and between behaviors, individual social position, and peer affiliations across this transition. Shifts across the transition are expected and may potentially be attributable to several influences. First, there is a possible developmental effect; children are older in middle school than in elementary school and social relationships change with age. Second, there are environmental changes that may affect the structure of children's social networks; the reorganization of the class structure shuffles the peer group and leads to a necessary restructuring of individual social position and peer affiliations. With the move from elementary to middle school, children go from relatively small, supervised, structured classes to a much larger peer group with less supervision as they switch classes, interacting with more peers and teachers. The new environmental demands may change the relationship between individual behavior, social position, and peer affiliations. Finally, it may not be either the age of the children or the new environment alone that is affecting social networks, but rather the fit between the children's developmental level and the demands of the middle school setting that determine characteristics of social relations in middle school.

Beyond these potential influences, the current results highlight gender effects in addition to general declines in the relationships among and between aggression, individual social position, and peer affiliations across the transition from elementary to middle school. The weakening associations among these constructs may be at least partially attributable to the fluidity of the social structure in the beginning of middle school. As children transition into middle school, the social structure is shuffled; this disruption may interfere with the relationships among aggression, social position, and peer affiliations.

Thus, rather than revealing a simple context in which to view and address antisocial behaviors, the current results inform school psychologists of the dynamic nature of social relationships that accompany the entry into middle school. Aggression is not necessarily a pathway to rejection; nor is it, however, a definite means of achieving social prominence. Rather, its instrumental use in proactive and reactive interactions with peers in the new and unfamiliar setting may serve many purposes and have many outcomes.

Identification of this early fluidity in the middle school social network promotes the recognition that entry into middle school is a time during which systemic social intervention could most readily effect change. Rather than making changes to an existing social network and affecting how behaviors are viewed in a relatively static context, interventions implemented at the beginning of middle school aimed at structuring the social network to facilitate the use and value of prosocial interactions are more likely to be successful in guiding the social structure in a positive direction. School psychologists can become instrumental in the development of such interventions with attention to the social context and timing of implementation.

Beyond developing interventions for early middle school students, school psychologists can become educators for teachers and students, promoting attention to social interactions early in middle school and encouraging prosocial exchanges. A climate of intolerance for aggression and bullying, not only from teachers, but within the student body, may contribute towards the creation of a community embracing these values and supporting positive interactions from within. Researchers have begun to recognize and promote the value of attending to the social context when designing and implementing interventions (DuPaul & Eckert, 1994; Farmer, 2000; Rodkin & Hodges, 2003). Continuing to direct focus on the need for attention to positive interactions will allow school psychologists to play an instrumental role during this impressionable time in the social networks of children.

Future Directions

The current study expanded upon previous research by considering several aspects of children's social networks across a critical transition, the move from elementary to middle school. However, future research should take several issues into account. First of all, the social aggression construct was related to teacher-rated aggression yet distinct in several ways. These effects must be qualified by the acknowledgment that the construct was created from the composite of a peer rating and teacher rating with face validity for measurement of the social aggression construct. Future research should increase the number of items assessing this construct and confirm reliability and validity of the measurement tool.

In addition, results were most likely impacted by the timing of the evaluation, at the beginning of the sixth grade, when fluidity is expected in social networks. This provides valuable information in the understanding of social relations; however, future research should

consider these relationships later in sixth grade and farther along in middle school, as the social hierarchy begins to stabilize.

Social relationships among children and adolescents are clearly a central influence on the development of individuals. Attention to these relationships and the internal and external forces affecting them is critical. The current results have identified significant fluidity within the social structure that accompanies entry into middle school and highlighted this time point as an ideal point for intervention. School psychologists should attend to these issues when consulting with teachers and interacting with students within the early middle school setting. Future research should consider these effects as children move through middle school in order to further elucidate the interrelationships among and between individual social position and peer affiliations.

Table 1

*Pearson Product-Moment Correlations Between SocialP reference and Social Prominence
as a Function of Grade and Gender*

Grade	Girls	Boys
5 th	.36****	.30****
6 th	.39****	.14**

*p<.1. **p<.05. ***p<.01. ****p<.001

Table 2

Pearson Product-Moment Correlations between Social Prominence and Teacher-Rated Aggression as a Function of Grade and Gender

Grade	Girls	Boys
5 th	.15**	.23****
6 th	.01	.12
*p<.1. **p<.05. ***p<.01. ****p<.001		

Table 3

Mean Relative Changes in Teacher-Rated Aggression as a Function of Changes in Social Prominence

Social Prominence Change	Girls	Boys
Low - High	.30	.25
High - Low	.03	.03

Table 4

Pearson Product-Moment Correlations between Teacher-Rated and Social Aggression as a Function of Grade and Gender

Grade	Girls	Boys
5 th	.67****	.67****
6 th	.56****	.53****

*p<.1. **p<.05. ***p<.01. ****p<.001

Table 5

*Pearson Product-Moment Correlations between Social Prominence and Social Aggression
as a Function of Grade and Gender*

Grade	Girls	Boys
5 th	.22***	.46****
6 th	.18**	.33****

*p<.1. **p<.05. ***p<.01. ****p<.001

Table 6

Mean Relative Changes in Social Aggression as a Function of Changes in Social Prominence

Social Prominence Change	Girls	Boys
Low - High	.23	.21
High - Low	-.02	.11

Table 7

Pearson Product-Moment Correlations between Social Preference and Teacher-Rated Aggression as a Function of Grade and Gender

Grade	Girls	Boys
5 th	-.29****	-.38****
6 th	-.13*	-.37****
*p<.1. **p<.05. ***p<.01. ****p<.001		

Table 8

Mean Relative Changes in Teacher-Rated Aggression as a Function of Changes in Social Preference

Social Preference Change	Girls	Boys
Low - High	.23	-.05
High - Low	-.01	.35

Table 9

Pearson Product-Moment Correlations between Social Preference and Social Aggression as a Function of Grade and Gender

Grade	Girls	Boys
5 th	-.27*****	-.25***
6 th	-.23***	-.35*****

*p<.1. **p<.05. ***p<.01. ****p<.001

Table 10

Mean Relative Changes in Social Aggression as a Function of Changes in Social Preference

Social Preference Change	Girls	Boys
Low - High	.04	-.05
High - Low	.26	.08

Table 11

Mean Social Prominence and Social Preference by Isolate versus Non-isolate Status in Sixth Grade

	Girls			Boys		
	Isolate	Non-isolate	F	Isolate	Non-isolate	F
Social Prominence	1.00	9.93	11.19***	2.07	10.21	24.85****
Social Preference	-.35	.34	5.09**	-.10	-.46	2.51

*p<.1. **p<.05. ***p<.01. ****p<.001

Table 12

Mean Social Prominence and Social Preference by Peer-Group Types in Sixth Grade

	Girls			Boys		
	Few	Many	F	Few	Many	F
Aggressive peer-group type						
Social Prominence	9.53	8.51	.27	6.49	13.07	11.02***
Social Preference	.38	.05	2.05	-.15	-.33	.41
Popular peer-group type						
Social Prominence	7.02	12.27	10.47***	6.08	13.01	13.29****
Social Preference	.26	.39	.48	-.27	.07	1.67
Academic peer-group type						
Social Prominence	8.24	11.39	3.25*	7.28	9.91	1.74
Social Preference	.28	.38	.22	-.38	.32	6.73**

Note: Social prominence means are the composite means of standardized values of items. Social preference means are the difference between standardized numbers of liked most nominations and standardized numbers of liked least nominations.

* $p < .1$. ** $p < .05$. *** $p < .01$. **** $p < .001$

Table 13

Pearson Product-Moment correlations between Social Position Constructs and Peer Affiliates' Mean Levels of Aggression, Popularity, Academic Characteristics for Girls

	Social Preference			Social Prominence		
	5 th grade	6 th grade	Difference z value	5 th grade	6 th grade	Difference z value
Affiliates' Aggression	-.01	.01	.24	.18**	.07	-1.28
Affiliates Popularity	.11*	-.02	-1.45*	.24****	.17**	-.88
Affiliates' Academic	.12*	-.01	-1.39*	-.031	.10	1.41*

Note: z values measure the difference between correlation coefficients in 5th and 6th grades transformed by Fishers' z' transformation

*p<.1. **p<.05. ***p<.01. ****p<.001

Table 14

Pearson Product-Moment Correlations between Social Position Constructs and Peer Affiliates' Mean Levels of Aggression, Popularity, Academic Characteristics for Boys

	Social Preference			Social Prominence		
	5 th grade	6 th grade	Difference z value	5 th grade	6 th grade	Difference z value
Affiliates' Aggression	.09	-.11	-2.02**	.12*	.15**	.26
Affiliates Popularity	.08	.11	.35	.15**	.17**	.23
Affiliates' Academic Achievement	.14**	.09	-.50	.00	-.09	-.94

Note: z values measure the difference between correlation coefficients in 5th and 6th grades transformed by Fishers' z' transformation

*p<.1. **p<.05. ***p<.01. ****p<.001

Appendix A:
Peer Interpersonal Assessment

Activity Booklet

Name: _____

Homeroom Teacher: _____

School: _____

Date: _____

Friends and Groups

Are there any kids in your class who hang around together a lot? **Yes / No**

Please write their names on the lines below. Include each person's last name. Name all the groups that you can think of.

Group 1:

Group 2:

Group 3:

Group 4:

Group 5:

Group 6:

If you need more space, turn the paper over. Remember, you don't have to fill in all the lines.

For the following, name the three kids in your class who best fit the description.

- 1) **Cooperative.** “Here is someone who is really good to have as part of your group, because this person is agreeable and cooperative – pitches in, shares, and gives everyone a turn.”

- 2) **Disruptive.** “This person has a way of upsetting everything when he or she gets into a group – doesn’t share and tries to get everyone to do things their way.”

- 3) **Acts Shy.** “This person acts very shy with other kids. It’s hard to get to know this person.”

- 4) **Starts Fights.** “This person starts fights. This person says mean things to other kids or pushes them, or hits them.”

- 5) **Seeks Help.** “This person is always looking for help, asks for help even before trying very hard.”

- 6) **Leader.** “This person gets chosen by others as the leader. Other people like to have this person in charge.”

- 7) **Athletic.** “This person is very good at many outdoor games and sports.”

- 8) **Gets in trouble.** “This person doesn’t follow the rules, doesn’t pay attention, and talks back to the teacher.”

- 9) **Good student.** “This person makes good grades, usually knows the right answer, and works hard in class.”

**Do not name more than three persons for each question.
Remember, you don’t have to fill in all the lines.**

10) **Cool.** “This person is really cool. Just about everybody in school knows this person.”

11) **Sad.** “This person often seems sad.”

12) **Starts rumors.** “This person gossips and says things about others. This person is good at causing people to get mad at each other.”

13) **Popular.** “Some kids are very popular with their peers. That is, many classmates like to play with them or do things with them.”

14) **Picked on.** “This person is picked on by others.”

15) **Friendly.** “This person is usually friendly to others.”

16) **Bully.** “This person bullies others. This person is always hurting or picking on others.”

17) **Gets their way.** “Other kids do what this person wants. This person always gets their way.”

18) **Name the three classmates you like the most.**

19) **Name the three classmates you like least.**

Appendix B:
Interpersonal Competence Scale – Teacher (ICS-T)

<h2>Interpersonal Inventory</h2>		
NEVER ARGUES	<input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> <div style="margin-top: -10px;">Sometimes</div>	ALWAYS ARGUES
ALWAYS GETS IN TROUBLE AT SCHOOL	<input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> <div style="margin-top: -10px;">Sometimes</div>	NEVER GETS IN TROUBLE AT SCHOOL
ALWAYS SMILES	<input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> <div style="margin-top: -10px;">Sometimes</div>	NEVER SMILES
NOT POPULAR WITH BOYS	<input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> <div style="margin-top: -10px;">So-So</div>	VERY POPULAR WITH BOYS
NEVER SAD	<input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> <div style="margin-top: -10px;">Sometimes</div>	ALWAYS SAD
VERY GOOD AT SPORTS	<input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> <div style="margin-top: -10px;">So-So</div>	NOT GOOD AT SPORTS
VERY GOOD LOOKING	<input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> <div style="margin-top: -10px;">So-So</div>	NOT GOOD LOOKING
VERY GOOD AT SPELLING	<input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> <div style="margin-top: -10px;">So-So</div>	NOT GOOD AT SPELLING
ALWAYS GETS IN A FIGHT	<input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> <div style="margin-top: -10px;">Sometimes</div>	NEVER GETS IN A FIGHT
NOT GOOD AT MATH	<input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> <div style="margin-top: -10px;">So-So</div>	VERY GOOD AT MATH
NEVER WORRIES	<input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> <div style="margin-top: -10px;">Sometimes</div>	ALWAYS WORRIES
VERY POPULAR WITH GIRLS	<input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> <div style="margin-top: -10px;">So-So</div>	NOT POPULAR WITH GIRLS
LOTS OF FRIENDS	<input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> <div style="margin-top: -10px;">Some Friends</div>	NO FRIENDS
NEVER GETS HIS/HER WAY	<input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> <div style="margin-top: -10px;">Sometimes</div>	ALWAYS GETS HIS/HER WAY
WINS A LOT	<input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> <div style="margin-top: -10px;">Sometimes</div>	NEVER WINS
NEVER FRIENDLY	<input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> <div style="margin-top: -10px;">Sometimes</div>	ALWAYS FRIENDLY
CRIES A LOT	<input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> <div style="margin-top: -10px;">Sometimes</div>	NEVER CRIES
NOT SHY	<input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> <div style="margin-top: -10px;">So-So</div>	VERY SHY
LIKED BY PEERS	<input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> <div style="margin-top: -10px;">Somewhat Liked</div>	NOT LIKED

Interpersonal Inventory

(continued)

LOTS OF PROBLEMS PAYING ATTENTION	<input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/>	NO PROBLEMS PAYING ATTENTION
	Some Problems	
FREQUENTLY A CLASS LEADER	<input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/>	NEVER A CLASS LEADER
	Sometimes	
FREQUENTLY BULLIED BY PEERS	<input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/>	NEVER BULLIED BY PEERS
	Sometimes	
NOT AT ALL HYPERACTIVE	<input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/>	VERY HYPERACTIVE
	Somewhat	
NEVER BULLIES PEERS	<input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/>	FREQUENTLY BULLIES PEERS
	Sometimes	
FREQUENTLY MALIPULATES FRIENDSHIPS	<input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/>	NEVER MANIPULATES FRIENDSHIPS
	Sometimes Manipulates	
PARTICIPATES IN A LOT OF EXTRACARRICULAR ACTIVITIES	<input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/>	DOES NOT PARTICIPATE IN EXTRACARRICULAR ACTIVITIES
	Participates in a Few Activities	

	Applies All the Time	Most of the Time	Some of the Time	Seldom Applies	Does Not Apply
1. This child uses (or threatens to use) physical force in order to dominate other children.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. This child threatens or bullies others in order to get his/her way.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. This child gets other children to gang up on a peer he/she does not like.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. When this child has been teased or threatened, he/she gets angry easily and strikes back.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. When a peer accidentally hurts this child (such as bumping into him/her) this child assumes that the peer meant to do it and then overreacts with anger and fighting.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. This child always claims that other children are to blame in a fight and feels they started the whole trouble.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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