

# Part V

## *The Peer Group*

Studies over the past several decades have emphasized the importance of competent peer group functioning and healthy interpersonal relationships for current and later life success. Alternatively, childhood difficulties with peers have been concurrently and longitudinally related to a host of psychosocial challenges (e.g., Chapter 20; and Rubin, Bukowski, & Parker, 1998).

Peer acceptance and rejection is an integral aspect of group functioning in childhood. Research in this area has a rich tradition of empirical inquiry that has illuminated many interpersonal processes that lend themselves to adaptive or maladaptive peer group functioning. Shelley Hymel, Tracy Vaillancourt, Patricia McDougall, and Peter Renshaw conduct a comprehensive historical and methodological overview of sociometry, and consider a number of sociometric approaches as well as their psychometric adequacy. They go further by synthesizing recent research in ways that provide a clear picture of social cognitive, behavioral, and academic strengths and deficits that often accompany acceptance or rejection by peers. This information is invaluable to students, researchers, clinicians, and practitioners who are concerned with understanding how children adjust to peer group dynamics.

Although competent peer group functioning is important for successful life adjustment, close interpersonal relationships with family members, friends, and even enemies can help children develop self-awareness in ways that can round out social development for good or for ill. In this context, Willard Hartup and Maurissa Abaecassis overview research that helps us understand how and why, for example, friends come together on the basis of attraction and enemies maintain their relations on the basis of mutual antipathy. They point out how friendship expectations change across early and middle childhood development, why enmities between individuals form, and what mechanisms draw children together and pull them apart. Other intriguing questions are addressed. Is there any evidence that opposites attract? How do children sort themselves out into friendship dyads? What patterns of interaction are characteristic of friends and enemies? How are boys and girls friendships and antipathies similar or different? What are the developmental implications

of having friends and enemies? Hartup and Abaecassis treat readers to an enlightening discussion of these and other issues.

Susan Denham, Maria von Salisch, Tjeert Olthof, Anita Kochanoff, and Sarah Caverly focus on emotional processes that underlie peer group behavior. They provide a comprehensive overview of the research that explicates interdependencies between emotional and social competence. Broadly speaking, more positive and less negative affect is associated with more friendly interactions with and acceptance by peers. Denham and colleagues go beyond this general conclusion and explicate the processes that feed into emotional expression in terms of how children understand, experience, and regulate emotion in ways that change across the early and middle childhood years. For example, as children mature, many learn to adopt an “emotional front” to save face and survive potential peer hostilities. Of additional interest are insights that Denham and colleagues provide for how parents can socialize emotional competence through emotion talk, empathy, and nonpunitive regulation strategies. They conclude with suggestions for future research that include a greater emphasis on cross-cultural comparisons and measurement enhancements.

What about children who withdraw from peer group interaction? Ken Rubin, Kim Burgess, and Robert Coplan overview a systematic line of theory and research that helps us not only better define social withdrawal, but also understand how various forms of solitude carry with them different psychological meanings. Withdrawal is conceptualized and empirically validated as an umbrella construct for reticence, solitary-passive, and solitary-active forms of solitude, each of which plays out differently in peer group interactions across early and middle childhood. Biological factors and socialization influences that may play a role in children isolating themselves from peers are considered in depth. For example, children who are prone to solitude may be so, due to physiological mechanisms that are reflected in EEG asymmetries, vagal tone, and cortisol readings (see also Fox, Henderson, Rubin, Calkins, & Schmidt, 2001). Insecure attachment relationships, intrusive and over-protective parenting may serve to maintain and further exacerbate these predispositions in ways that lead to maladaptive withdrawal from peers. How all this plays out in peer relations, friendships, and psychological adjustment in the short and long terms is carefully considered. The emerging picture for how withdrawn children fare is not good, and underscores the need for a greater emphasis on helping children who suffer from this difficulty. Rubin and colleagues conclude by outlining some promising approaches for intervention and future directions for research in this area.

## References

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## *Peer Acceptance and Rejection in Childhood*

**Shelley Hymel, Tracy Vaillancourt, Patricia McDougall, and Peter D. Renshaw**

Human beings are social animals. We live in a complex social world in which we juggle a variety of social roles and operate in a number of different groups simultaneously. We have evolved a multifaceted system of social, political, and economic interdependence that demands both competitive and cooperative skills and respect for group differences. How do we develop the competencies necessary for success within social groups? What are the consequences if we fail to function effectively within the group? This chapter considers one aspect of group functioning in childhood: peer acceptance and rejection.

Social and developmental psychologists have increasingly acknowledged the critical role of peer relations for life success (e.g., Baumeister & Leary, 1995; Goleman, 1995; Harris, 1998; McDougall, Hymel, Vaillancourt, & Mercer, 2001), echoing arguments put forward years ago by Viennese psychiatrist, Jacob L. Moreno, in his classic 1934 work, *Who Shall Survive?*. Moreno argued that human behavior must be understood in terms of the social contexts and groups in which individuals function. His emphasis on group functioning was a departure from the zeitgeist of the 1930s (Bukowski & Cillessen, 1998), when human behavior was primarily understood in terms of internal mechanisms (e.g., psychoanalysis), and the “social environment” was defined in terms of external rewards and punishments (e.g., behaviorism). However, Renshaw (1981) points out that Moreno’s work was part of a larger effort to understand children’s social development, including studies of children’s play (e.g., Parten, 1934) and friendships (e.g., Koch, 1933).

Moreno’s work has contributed in critical ways to our understanding of childhood interpersonal development, and especially to *how* we study group functioning (see Bukowski & Cillessen, 1998; Cillessen & Bukowski, 2000a, Renshaw, 1981), with the establishment of a broad measurement approach called *sociometry*. Sociometric measures offer a unique window into how individuals are received within their social world, and the degree to which they are effectively integrated within a group. The history of sociometry and its

methodological issues are the focus of the first part of this chapter. We consider a range of sociometric approaches, focusing on issues of administration, measurement, and psychometric adequacy. Next, we move from measurement to meaning, as we examine the correlates of peer acceptance and rejection. Finally, we move from meaning to mechanisms, considering the processes through which peer rejection is causally implicated in long-term adjustment outcomes. Throughout the chapter, we identify future research directions.

## Sociometric Measures

Sociometry involves the measurement of interpersonal attraction among members of a specified group, providing a means of quantifying information about individuals within groups. Although peers can (and have) been used as sources of information on behavior and personality (Landau & Milich, 1990; Terry, 2000), sociometric indices of attraction are distinct from peer assessments of behavior (Asher & Hymel, 1981; Gronlund, 1959). This chapter focuses on indices of attraction rather than behavior.

The use of *peers as informants* in sociometric assessments is advantageous for several reasons (Asher & Hymel, 1981; Hymel & Rubin, 1985). First, peers provide an “insider” perspective, based on the perceptions of those who ultimately determine one’s status. As such, peer evaluations have clear face validity, relative to more “outside” and potentially limited adult perspectives about what constitutes appropriate peer relations. For instance, with regard to the predictive utility of peer evaluations, Cowan, Pederson, Babigian, Izzo, and Trost (1973) found that peer sociometric evaluations predicted later mental health status better than did adult evaluations. A second advantage is that peer evaluations are based on varied experiences with a child, and can reflect low frequency but potentially significant events that contribute to social status and influence within the group. Moreover, peer evaluations are derived from multiple observers, who have different experiences and information about an individual child.

Moreno (1934) hypothesized three basic dimensions of interpersonal experience – attraction, repulsion, and indifference (see Cillessen & Bukowski, 2000b). These three responses could be used to reflect two different perspectives – how others view individuals in the group and how individuals view others in the group. Despite the complexity of Moreno’s model, subsequent research has focused almost exclusively on how *individuals are perceived by group members*. Two different outcomes have been emphasized, one assessing the status of individuals within the group, and the other mapping group social structures (e.g., network analysis). The former, emphasizing the *individual* as the unit of analysis, has been far more prominent than the latter, emphasizing the *group* as the unit of analysis (see Bukowski & Cillessen, 1998), and constitutes the focus of this chapter.

Over the years, sociometric studies have emphasized only two of the dimensions proposed by Moreno (1934): attraction and repulsion. Positive peer evaluations assess *acceptance*, while negative peer evaluations assess *rejection* within the group. Four types of sociometric evaluations have been used. With *nomination* methods, participants select group members according to specified sociometric criteria (e.g., “Who do you like to play with?”). Alternatively, participants are asked to *rank order* or to *rate* others according to specified

criteria (e.g., “How much do you like to play with \_\_\_\_?”). Finally, *paired comparison* methods require that participants evaluate all possible pairs of peers (e.g., “Which person would you rather play with?”). Across methods, peer evaluations are combined in particular ways to yield summary indices of acceptance, rejection, and/or overall status. Ranking and paired comparison methods are seldom used, owing primarily to the excessive administration time required, despite the advantage of ensuring equal consideration of all group members and providing more reliable sociometric indices, based on a larger number of data points (see Cohen & Van Tassel, 1978; Vaughn & Waters, 1981). Instead, researchers have typically relied on nomination or rating scale procedures, with considerable debate regarding the relative advantages of each (e.g., Hymel, 1983; Hymel & Rubin, 1985; Landau & Milich, 1990; Rubin et al., 1998; Terry & Coie, 1991).

### *Nomination measures*

Historically and currently, peer acceptance and rejection have been measured most often using a nomination methodology. Classmates are asked to identify peers in terms of specified positive or negative criteria. The number or proportion of positive nominations received provides an index of attraction or acceptance, whereas the number or proportion of negative nominations received provides an index of repulsion or rejection within the group. Self-nominations are typically not permitted or not counted.

Although there are many ways to phrase nomination questions (see Terry, 2000), the most common forms include *direct preference* questions (e.g., “Name three classmates you like most/least”) and *task-specific* or *indirect preference* questions (e.g., “Name three classmates you like/don’t like to play with/sit next to”). Moreno (1934) strongly advocated for the use of concrete, task-specific sociometric criteria rather than abstract and multidimensional criteria such as “friendship” or “liking” that reflect different things for different people, thus resulting in summary measures that are not truly meaningful.

Nomination measures also differ in how responses are indicated by participants. Asking children to spontaneously name classmates has long been considered problematic in terms of its demands on children’s memory. Thus, children are usually given a list of all group members and asked to circle or check off each nominee. With younger, preliterate children, researchers have used picture nomination procedures developed by McCandless and Marshall (1957), using photographs instead of names.

Efforts to refine nomination measures have dominated this literature, with debates regarding just what is being assessed and how to categorize individuals in terms of status. One long-standing debate concerns the use of *limited versus unlimited nominations*. Should the number of nominations be restricted or can children nominate as many people as they wish? Studies in the 1950s and 60s demonstrated little difference between limited versus unlimited nomination scores (see Terry, 2000), and argued for limited nominations (usually three to five), based on observations that children typically nominate only a few individuals, and because data collection and analysis is easier. However, Terry demonstrated that unlimited nomination data yields sociometric scores with superior distributional properties (e.g., less skewed, wider range of scores). Thus, limited nominations take less time, but unlimited nominations are more psychometrically sound.

A second debate concerns the use of *weighted versus unweighted scoring* procedures. With weighted scoring, more weight is given to first nominations than subsequent nominations (e.g., Dunnington, 1957; Hartup, Glazer, & Charlesworth, 1967; Vaughn & Waters, 1981), based on the assumption that first nominations indicate a better friend or a more extreme enemy. Such an assumption may be unwarranted, since differential weighting is not indicated in instructions and is undermined by the practice of providing lists of group members. Given high correlations between weighted and unweighted scores, most subsequent studies have relied on less time-consuming, unweighted scores (e.g., Coie, Dodge & Coppotelli, 1982; Terry & Coie, 1991).

Another debate involves the use of *absolute versus probabilistic criteria* for determining status classifications. Moreno (1934) distinguished “isolates” from “stars” on the basis of whether or not the individual received positive nominations from three or more group members (see also Gronlund, 1959). Bronfenbrenner (1943, 1944) argued for relative rather than absolute criteria to account for variations in group size, using statistical, probabilistic criteria (e.g., a “star” is accepted by peers at a rate greater than chance). Although support for the probability approach continues (e.g., Newcomb & Bukowski, 1983), few studies utilize statistical probabilities. Proportion scores or standardization procedures are typically used to account for variations in group size.

Perhaps the most important debate concerns the *dimensionality of acceptance and rejection*. Initially, acceptance and rejection scores were thought to be unidimensional – low scores on one meant high scores on the other. However, studies in the 1960s and 70s demonstrated that acceptance and rejection scores were only modestly negatively related (Moore & Updegraff, 1964; Roff, Sells, & Golden, 1972) or unrelated (Hartup et al., 1967), and were differentially correlated with behavior (e.g., Gronlund & Anderson, 1957; Hartup et al., 1967). These data were used to support arguments that acceptance and rejection scores tap different aspects of attraction.

Over the years, the assumption that acceptance and rejection represent two distinct dimensions led to different approaches to assessing status. Despite arguments for a more complex, two-dimensional system (e.g., Bronfenbrenner, 1944), many early studies emphasized only the positive dimension of acceptance (e.g., Dunnington, 1957; Northway, 1940; Thompson & Powell, 1951). These were criticized (e.g., Lemann & Solomon, 1952) for not distinguishing between “rejected” individuals (not accepted and openly rejected) and “neglected” children (not accepted but not openly rejected). Others proposed single indices of status based on combinations of acceptance and rejection scores (e.g., acceptance minus rejection, Hartup et al., 1967). They were criticized for not identifying children who were less visible, or for whom the peer group was “indifferent” in Moreno’s terms, although efforts to include the dimension of “indifference” (Lemann & Solomon, 1952), or “notice” (Dunnington, 1957) were limited. It was Gronlund (1959) who provided the conceptual basis for currently used status classification schemes that considered acceptance and rejection as separate dimensions. His system distinguished four groups using absolute criteria: “stars” (many positive but few or no negative nominations); “rejected” children (few or no positive but many negative nominations); “neglected” children (few or no positive or negative nominations); and “controversial” children (many positive and many negative nominations).

Two decades later, Peery (1979) developed a sociometric taxonomy that considered ac-

ceptance and rejection as well as social visibility. Peery used acceptance and rejection scores to create two orthogonal dimensions – “social impact” (acceptance plus rejection) and “social preference” (acceptance minus rejection) – reminiscent of the earlier notions of “notice” and “status” (e.g., Dunnington, 1957; Hartup et al., 1967). These dimensions were used to distinguish four groups: popular (above the mean on both impact and preference); isolated (below the mean on both impact and preference); rejected (above the mean on impact, below the mean on preference); or amiable (above the mean on preference, below the mean on impact). Although the system was not used extensively, Peery provided a clearly specified, two-dimensional model for sociometric classification that reflected all three interpersonal experiences initially proposed by Moreno (attraction, repulsion, indifference).

Subsequent classification schemes (e.g., Coie et al., 1982; Newcomb & Bukowski, 1983) followed Peery (1979), by utilizing *social preference* (i.e., relative degree of liking by peers) and *social impact* scores (i.e., visibility within the peer group), as well as acceptance and rejection, with two notable improvements (Cillessen & Bukowski, 2000b). The newer schemes allowed for greater differentiation across individuals and for more extreme group classifications, using well-defined cut-offs based on either standard scores (Coie et al., 1982) or binomial probabilities (Newcomb & Bukowski, 1983). For example, Coie et al. defined rejected children as those receiving standardized social preference scores that were one standard deviation below the mean, standardized rejection scores above the mean, and standardized acceptance scores below the mean. Newcomb and Bukowski defined rejected children as those whose rejection scores were greater than would be expected by chance and whose acceptance scores were at or below the mean of the group. Despite these differences, most children (88%) are similarly classified across the two schemes (Terry & Coie, 1991), with approximately 12–13% of elementary children classified as popular among their peers, about 12–13% classified as rejected, 6–7% classified as neglected, and another 6–7% classified as controversial in status. The remaining 58–60% of students are categorized as average in status or unclassifiable.

Recently, Maassen and colleagues (1997, 2000) have revisited the issue of unidimensionality of acceptance/rejection. They argue that the low correlations observed between acceptance and rejection are in part attributable to artifacts of measurement, including the highly skewed nature of acceptance and rejection scores that reduces the magnitude of the intercorrelation that can be obtained. Maassen et al. further argue that liking or attraction is *unidimensional at the individual level*. How one feels about another person reflects a single continuum of liking–disliking, attraction–repulsion or sympathy–antipathy. Nomination measures artificially trichotomize this single dimension by omitting the middle range. At the group level, the relation between acceptance and rejection scores depends on the nature of the group. When groups contain individuals for whom peer attraction is mixed (controversial) or not intense (neglected), a second dimension of visibility or impact influences the relation between acceptance and rejection. Furthermore, at the group level, Bukowski, Sippola, Hoza, and Newcomb (2000) have recently demonstrated that the relationship between acceptance and rejection is actually linear and negative, as well as curvilinear. Thus, at high levels of acceptance, virtually all children are low in rejection, but at low levels of acceptance, one finds a wider range of rejection scores. Similarly, although highly rejected individuals are typically low in acceptance, low rejected children are not necessarily high in acceptance.

*Rating measures*

With *rating-scale* measures, children are asked to rate their level of preference for each group member on a Likert-type scale (e.g., “How much do you like to play with \_\_\_?”). With elementary children, a 5-point numeric scale is typically used (e.g., Ladd, 1983), although 7-point scales have been employed (Maassen et al., 1997). Following McCandless and Marshall (1957), Asher, Singleton, Tinsley, and Hymel (1979) creatively adapted the rating procedure for use with younger (preschool) children by having children assign peer photographs to one of three boxes, distinguished with a happy, neutral, or sad face, in response to sociometric questions. The average rating received from peers provides an index of overall liking versus disliking, or popularity versus unpopularity within the group, with higher scores reflecting greater peer acceptance, liking or popularity, and lower scores reflecting greater rejection, disliking or unpopularity within the group.

Proponents of the rating approach (e.g., Asher et al., 1979; Asher & Hymel, 1981, Maassen et al., 1997; Thompson & Powell, 1951) point to the advantage of tapping perceptions of all group members, thereby providing more refined, ordinal measurement information, and yielding more reliable and stable summary scores, relative to nomination measures. The primary disadvantage (Terry & Coie, 1991) is that rating scales are unidimensional and cannot distinguish neglected and rejected children (as identified in nomination schemes). When distinct “status” groups are needed (e.g., French, 1990; Ladd, 1983), cut-off points are used to divide this single continuum into three groups of children – popular, average, and rejected – on the basis of the average or standardized ratings received (e.g., cut-offs of  $\pm$  one standard deviation, Terry & Coie, 1991). Neglected children, as identified by nomination-based schemes, are not distinguished, and have been shown to receive average peer ratings that span the entire scale (Hymel & Rubin, 1985; Maassen et al., 1977, 2000). Given evidence that “neglected” children can be liked or disliked on a rating scale measure, as well as observations that neglected children are often viewed by peers as likeable (Newcomb, Bukowski, & Pattee, 1993), one might question whether sociometric neglect, as defined by nomination measures actually reflects a meaningful or consistent sociometric category. The issue of interpersonal indifference, at both the individual and group level, therefore remains a contentious one.

Are rating and nomination measures tapping the same social constructs? Bukowski et al. (2000) have shown that rating scale indices of liking/disliking are more highly related to nomination-based *social preference* scores than to *acceptance* scores. However, the number of highest ratings received from peers is comparable to nomination-based indices of acceptance, and the number of lowest ratings received is consistent with nomination-based indices of rejection at both the group (Bukowski et al., 2000) and individual levels (Maassen et al., 1997). Thus, average sociometric ratings tap the construct of social preference, although both rating scale and nomination data can be used to tap the constructs of acceptance and rejection (assessed by number or proportion of highest/lowest ratings and positive/negative nominations).

Terry and Coie (1991) compared nomination and rating-scale sociometric *status classifications* of elementary children, noting that the two sociometric approaches identified similar numbers of students as rejected and popular, with a larger average status group in



the rating system. The correspondence between these classifications was only fair to moderate for popular and rejected children in grades 4–5, with lower estimates observed for younger, grade 3 students. Nevertheless, several studies indicate that children who are categorized as rejected on nomination-based classification schemes are also those rated as highly disliked on rating-scale sociometric measures (e.g., Hymel & Rubin, 1985; Rubin, Chen, & Hymel, 1993; Rubin, Hymel, Le Mare, & Rowden, 1989).

Until recently, neglected and controversial status categories could only be distinguished using nomination measures. However, Maassen and colleagues (2000) have developed a new procedure called “SSrat” for classifying students into the five traditional status groups (popular, average, rejected, neglected, controversial) using 7-point sociometric ratings. Specifically, peers are rated on a scale from –3 (extremely disliked) to +3 (extremely liked), with the midpoint of the scale (0) reflecting neutral judgments. For classification purposes, ratings of +1 to +3 are used to create acceptance (like most) scores and ratings of –1 to –3 are used to create rejection (like least) scores, with 0 ratings indicating peers who are “not nominated”. These simplified rating data are then transformed using a probability approach to classify students into the five traditional status categories. Maassen et al. found that SSrat status classifications were more stable over a 1-year interval than classifications based on either the Coie et al. (1982) or the Newcomb and Bukowski (1983) systems.

In terms of prevalence rates, the traditional, unidimensional rating scale identifies about 13–14% of elementary children as popular and about 16% as rejected, with the remaining 70% of students classified as average in status (Terry & Coie, 1991, using mean  $\pm$  one standard deviation criteria for these categories). With the more recent, 5-category rating-scale system, Maassen et al. (2000) identified about 10–15% of children as popular, 13–17% as rejected, 0–1% as controversial, 1–5% as neglected, and 67–70% as average in two samples of elementary children. Relative to nomination-based classifications, Maassen et al.’s system identifies proportionately more popular and rejected children and fewer neglected and controversial children, although these numbers vary depending on the cut-off criteria employed.

Debates regarding the relative utility of nomination versus rating scale approaches have dominated the sociometric literature for decades (e.g., Asher & Hymel, 1981; Hymel & Rubin, 1985; Landau & Milich, 1990; Rubin et al., 1998; Terry & Coie, 1991; Maassen et al., 2000). Although these debates have been largely methodological, issues regarding how individuals experience their relationships with others remain. Indeed, it is still not entirely clear whether interpersonal experience reflects a single continuum of liking–disliking, sympathy–antipathy (Maassen et al., 1997, 2000), or a more complex triangular model of attraction, repulsion, and indifference (Moreno, 1934). Future theoretical as well as empirical and methodological studies will likely continue to address these fundamental issues.

### *Psychometric adequacy*

Evaluations of the psychometric adequacy of sociometric measures has been surprisingly limited within this literature, owing in part to difficulties separating issues of measurement from characteristics of the phenomenon being measured. As Terry (2000) points out, the

classic criteria used to assess psychometric adequacy – reliability and validity – are problematic in evaluating measures of acceptance and rejection. Sociometric studies have focused primarily on test–retest reliability, assessing the short-term as well as long-term stability of peer assessments of status based, albeit implicitly, on the assumption that group status is a rather stable, trait-like characteristic. If groups are dynamic and changing, however, such measures reflect the stability of the group rather than the reliability of the measurement. Nevertheless, some demonstration of stability is necessary if the sociometric construct is to be useful in prediction (see Terry, 2000). The assessment of reliability in terms of internal consistency is also problematic, since sociometric judgments across members of a group are not expected to be consistent, especially in the case of some status groups (e.g., controversial students).

Despite these concerns, acceptance and rejection scores (at the group level) have been shown to be fairly stable over time for elementary school age children. Over 6 months, Asher and Dodge (1986) reported test–retest correlations of .55 for acceptance and .65 for rejection scores, for both nomination and rating measures. Over 2 years, Terry and Coie (1991) reported test–retest correlations of .45 for acceptance, .32 for rejection, .46 for social preference and .29 for social impact scores, and .46 for average ratings. Over a 3-year period (grades 3–6), Roff et al. (1972) reported test–retest correlations of .42 for acceptance, .34 for rejection, and .45 for social preference scores, and Hymel, Rubin, Rowden, and Le Mare (1990) reported correlations of .56 for peer ratings from age 8 to 11 (grades 2–5). Among preschool children, sociometric indices have been shown to be somewhat less reliable over even shorter time periods, with higher test–retest correlations reported for rating than nomination measures (see Hymel, 1983; Wu, Hart, Draper, & Olsen, 2001). For example, over an 8-week period, Wu et al. reported test–retest correlations of .47 for acceptance, .44 for rejection, and .64 for rating-scale scores among preschoolers (3–6 years).

With regard to sociometric *categories*, Cillessen, Bukowski, and Haselager (2000) reviewed 12 studies examining stability over periods of 1 month to 4 years, in children ranging from preschool to grade 12. Not surprisingly, the stability of status classifications was found to decrease as test–retest intervals increased. Moderate stability was evident over 1–3 months, among middle to late elementary age children (grades 4–6). Sociometric classifications were less stable over intervals of 4 months to 4 years. For example, Coie and Dodge (1983) reported that 41% of elementary students maintained their status over 1 year, but only 23% maintained their status classification over 4 years. The stability of status classifications also varies across status groups, with average, popular, and rejected status categories showing greater stability than controversial and neglected children (Cillessen et al., 2000).

Another consideration is the degree to which peer evaluations are consistent with assessments by others, providing information on inter-rater reliability and/or concurrent validity. Studies of preschool and elementary children have consistently demonstrated moderate correspondence between peer and teacher sociometric evaluations, with coefficients ranging from .20 to .70 across studies (see Landau & Milich, 1990; Wu et al., 2001 for reviews). Thus, peer and teacher sociometric evaluations tap both similar and unique aspects of interpersonal experience (Wu et al., 2001), with some but not complete overlap between teacher and peer perceptions of popularity and status. The meaning of these modest

relationships must be considered carefully, however, given arguments that peers provide a more face-valid, "insider" perspective on group social functioning.

Inter-rater agreement has also been considered by examining the consistency of sociometric assessments derived from same-sex versus opposite-sex peers within the same group. Same- and opposite-sex sociometric evaluations have been found to be very highly correlated for "like most" and "like least" nominations, social preference, and social impact scores, as well as average peer ratings (Asher & Hymel, 1981; Terry & Coie, 1991). Moreover, Terry and Coie found excellent agreement across the two voting populations for each of the five status groups (i.e., rejected, neglected, popular, controversial, and average students). Although there is some evidence that children tend to nominate and/or rate same-sex peers more favorably (e.g., Asher & Dodge, 1986; Hartup, 1983), the strong correspondence between same- and opposite-sex evaluations suggests that elementary school boys and girls hold quite similar perceptions of their peers. Thus, there may be no advantage to the more time-consuming practice of including both same-sex and opposite-sex sociometric evaluations at the elementary level.

### *Peer group context*

To date, researchers have usually evaluated sociometric status within the classroom and school context, since classrooms represent a primary socialization group during childhood that can be conveniently accessed. However, the classroom and school context provides a narrow view of childhood social relations, and reflects neither the breadth nor the dynamic nature of children's peer interactions (e.g., Internet contacts, neighborhood, extracurricular groups, etc.) nor the potential compensatory role of relationships with adults, siblings (e.g., East & Rook, 1992) or high-quality friendships (Parker & Asher, 1993). Consideration of a more diverse range of social groups becomes increasingly important with age, as reference groups expand rapidly beyond the school context during adolescence (e.g., Brown, 1990). This seems an important consideration in future sociometric research.

Within the classroom context, however, it is critical that sociometric evaluations be based on an adequate sampling of peer group members, that is, on an adequate "participation rate." Crick and Ladd (1989) used computer simulations to demonstrate that the accuracy of sociometric measures becomes compromised as the proportion of peer group members who provide ratings declines. Their findings suggest that sociometric evaluations should be based on data obtained from at least 75% of the group members to preserve a reasonable degree of accuracy. It is also important to recognize that participation rates are typically nonrandom, and are often tied to issues of informed consent. Comparisons of students who did and did not receive parent consent for participation in sociometric studies have shown that nonparticipants are often viewed more negatively by teachers and peers in terms of social behavior, academic performance, and/or popularity (see Iverson & Cook, 1994; Noll, Zeller, Vannatta, Bukowski, & Davies, 1997). Thus, high rates of participation are required to increase the accuracy and minimize potential biases in sociometric evaluations (see Iverson & Cook, 1994, for effective strategies).

*Ethical considerations*

Some educators, parents, researchers, and ethics review committees question the use of sociometric measures, concerned that asking children to negatively evaluate peers will implicitly or explicitly sanction saying harmful things about others or contribute to poor treatment within the group (Asher & Hymel, 1986; Foster & Ritchey, 1979; Landau & Milich, 1990). Several studies have demonstrated that completion of sociometric assessments does not increase negative interactions with less accepted peers, and does not contribute to social withdrawal or to feelings of loneliness and unhappiness following testing. Indeed, most students report positive reactions to sociometric tasks (see Iverson, Barton, & Iverson, 1997 for a review).

Although encouraging, these results do not eliminate concerns regarding potential risk, as administration procedures vary widely across researchers. Several practices have been recommended to minimize potential negative effects (Asher & Hymel, 1986; Bell-Dolan & Wessler, 1994; Landau & Milich, 1990), including explicit emphasis on confidentiality in instructions, optimal scheduling (i.e., not prior to unstructured [recess] periods, embedded within other structured, distracter activities), and planned debriefing and follow-ups with participants. Others have reduced negative effects by using unlimited nominations, allowing children to identify friends outside the classroom if they had no friends in class, carefully wording negative criteria (e.g., “least preferred” or “rather not play with” rather than “disliked”), and/or avoiding negative nominations altogether. Rating scales, allowing children to evaluate peers along a continuum, are often seen as more ethically defensible, as they do not *require* children to identify peers according to negative criteria, although negative ratings are possible. Accordingly, Asher and Dodge (1986) developed procedures for combining positive nomination and rating-scale data to identify rejected and neglected children, using low ratings in lieu of negative nominations. Until recently (Maassen et al., 2000, SSrat system), this was the only alternative to negative nominations that identified both neglected and rejected children (Terry & Coie, 1991).

A second ethical consideration is whether or not to include “nonparticipants,” for whom parental consent or self assent has not been received, on sociometric lists. Some interpret negative consent as complete noninvolvement, both as an evaluator and as a person who is evaluated. For others, negative consent is interpreted as not allowing the child to complete the sociometric questionnaire, with the names of “nonparticipants” retained as potential peers to be rated or nominated. As Bell-Dolan and Wessler (1994) suggest, being evaluated by peers may be as much of a concern as evaluating peers. Researchers must continue to seriously consider the ethical issues involved in sociometric research and be vigilant regarding the appropriateness of their procedures.

**Concurrent Correlates**

Numerous studies have examined the correlates of acceptance and rejection (see Asher & Coie, 1990; Cillessen & Bellmore, this volume; Newcomb et al., 1993; Rubin, Bukowski,

& Parker., 1998) in order to determine what it *means* to be popular, rejected, controversial, or neglected within the peer group. In a large-scale meta-analysis, Newcomb et al. (1993) identified four major areas that distinguish accepted and rejected children: aggression, withdrawal, sociability, and cognitive skills. Accepted children exhibit more sociable and less withdrawn and aggressive behavior, as well as greater cognitive competence than rejected children. The primary focus in the literature, however, has been on the correlates of peer rejection.

Rejected status is associated with a number of deficits (see McDougall et al., 2001; Rubin et al., 1998), including social-cognitive skills (poor sociability, limited perspective-taking, poor communication skills), and academic performance (low achievement, poor school adjustment). Researchers have also linked peer rejection to lower socioeconomic status (e.g., Pettit, Clawson, Dodge, & Bates, 1996) and physical unattractiveness (e.g., Coie et al., 1982). However, the two most consistent correlates of peer rejection are aggressive and withdrawn behavior. These have been viewed as two distinct pathways leading to peer rejection (Rubin, LeMare, & Lollis, 1990) and have been used to distinguish subgroups of rejected children (see Boivin, Hymel, & Bukowski, 1995). About 40–50% of rejected children are behaviorally aggressive, and about 10–20% are behaviorally withdrawn (Rubin et al., 1998).

Links between peer rejection and aggressive as well as withdrawn behavior are robust, but do appear to be influenced by the behavioral norms of the peer group in which they are studied. For instance, the link between social withdrawal and peer rejection is not evident during the preschool years (Rubin, 1982), when withdrawn behavior is neither salient nor unusual. However, withdrawal is linked to peer rejection during the elementary years (e.g., Hymel & Rubin, 1985; Rubin, Hymel, & Mills, 1989), as withdrawal becomes increasingly nonnormative with age (Younger, Gentile, & Burgess, 1993; see Rubin et al., 1998). Further, although associations between rejection and aggression are common, there is evidence that some aggressive children enjoy elevated peer acceptance in some settings (e.g., Dodge, Coie, Pettit, & Price, 1990; Vaillancourt, 2001). Also, links between aggression and peer rejection are *less* likely in classrooms where aggression is normative and *more* likely in classrooms where aggression is rare (Boivin, Dodge, & Coie, 1995; Stormshak et al., 1999; Wright, Giamarino, & Parad, 1986). These findings underscore the need to consider mitigating factors like age and peer group context before concluding that all rejected children are aggressive or withdrawn. The relationship between social behavior and rejected status is more complicated than is often assumed.

Just as peer rejection is consistently associated with a plethora of unappealing characteristics, peer acceptance (sociometric popularity) is typically associated with desirable qualities (see Newcomb et al., 1993; Rubin et al., 1998). Accepted children are more sociable, helpful, and cooperative than less accepted children, and display better leadership, perspective-taking, and problem-solving skills. Also, highly accepted individuals are perceived by peers to possess greater assets and competencies including being athletic, attractive, rich, stylish, etc. (Vaillancourt, 2001).

Far less is known about the correlates of controversial and neglected status, owing primarily to the fact that these categories are rather rare and unstable, requiring large samples to identify them in adequate numbers (see Rubin et al., 1998). The available evidence indicates that controversial children represent a behavioral *mélange* of popular and

rejected children in that they are described as both highly sociable and highly aggressive. In fact, controversial children have been found to be *more* aggressive than rejected children (e.g., Cairns, Cairns, Neckerman, Gest, & Garipey, 1988; Coie & Dodge, 1988), and to be perceived as *more* popular (dominant, visible) than popular children (e.g., Parkhurst & Hopmeyer, 1998). Neglected children appear to be less sociable, less aggressive, less disruptive, and less interactive than their average status peers (e.g., see Newcomb et al., 1993; Rubin et al., 1998). Although neglected status has been associated with withdrawn behavior in some (e.g., Coie & Kupersmidt, 1983; Coie & Dodge, 1988; Dodge et al., 1982), but not all studies (e.g., Coie et al., 1982; Rubin et al., 1993), social withdrawal is generally viewed as a characteristic of peer rejection, rather than neglect.

In summary, researchers have delineated the behavioral profiles of rejected and accepted children, describing what it typically means to be part of these two sociometric groups. More recent (and future) research is beginning to uncover a more complex picture in which the links between peer rejection and various characteristics differ as a function of age and group norms or priorities. The characteristics of controversial and neglected children are less clear, and this remains an important question for future research. Our knowledge of the correlates of status lends strong support to the *concurrent validity* of sociometric measures (at least for indices of acceptance and rejection), but tells us little about the processes through which children come to achieve their status and the mechanisms through which status contributes to later adjustment. The *predictive utility* of sociometric indices is considered next.

## Mechanisms and Processes: Long-Term Outcomes

Although the present volume focuses on childhood, it is important to understand the implications of early peer experiences for later adjustment, extending into adolescence and adulthood. Research on the long-term correlates of social status has demonstrated predictive links between early peer rejection and three major adjustment outcomes (see McDougall et al., 2001): academic difficulties, internalizing problems (loneliness, low self-esteem, depression), and externalizing problems (aggression, acting-out behavior, criminality). Questions remain, however, regarding whether status is a cause or simply a consequence of adjustment and behavior.

Research on the consequences of one's status within the peer group has focused largely on rejected children and has commonly followed a theoretical sequence first articulated by Parker and Asher (1987). In this causal sequence, children who demonstrate deviant or negative social behavior (e.g., aggression and/or withdrawal) are predisposed to experience difficult peer relationships (rejection). Rejection, in turn, deprives them of the positive peer socialization experiences that help build adaptive social skills, and places them at risk for negative peer experiences including victimization and involvement with deviant peers (e.g., gangs) (see also Parker, Rubin, Price, & DeRosier, 1995). What evidence is there to support this causal sequence? Longitudinal research reveals strong support for the idea that the combination of negative or deviant social behavior *and* peer rejection can lead to quite damaging outcomes, although this pattern seems to vary somewhat depending on the outcome explored.

### *Academic outcomes*

Early peer rejection has been linked to subsequent school difficulties, including grade retention, absenteeism, truancy, and school dropout (see Hymel, Comfort, Schonert-Reichl, & McDougall, 1996; McDougall et al., 2001). The causal nature of these long-term links is not always clear. For example, although peer rejection in childhood predicts early school leaving, there is no evidence that students are rejected at the time they drop out. Here, it appears that social behavior works in concert with peer rejection in contributing to academic difficulties. Specifically, students who are both aggressive and rejected seem to be at greatest risk for early school leaving (e.g., Cairns, Cairns, & Neckerman, 1989, Kupersmidt & Coie, 1990). Hymel et al. (1996) propose that these aggressive-rejected students are more likely to affiliate with what many would characterize as the “wrong” peer group, who place less value on academic pursuits and who themselves may be at risk for drop out. Thus, aggressive students who are rejected are effectively deprived of the positive socialization experiences that cultivate both the skills and the desire to remain in school, and gradually disengage from the school milieu, eventually dropping out. Future research is needed to verify the role of deviant socialization as a mechanism in the causal sequence for school dropout.

### *Externalizing problems*

The role of peer rejection in the prediction of externalizing problems has been somewhat confusing (see McDougall et al., 2001). Although studies have shown that being poorly accepted in childhood contributes directly to later delinquency and criminality (e.g., Parker & Asher, 1987; Kupersmidt, Burchinal, & Patterson, 1995), other research suggests that it is aggressive behavior (rather than rejection) that predicts subsequent aggression and anti-social behavior (e.g., Kupersmidt et al., 1995; Kupersmidt & Coie, 1990). Still others indicate that it is the combination of aggression and rejection that most strongly predicts later externalizing difficulties like conduct problems (e.g., Bierman & Wargo, 1995), at least for boys (e.g., Coie, Terry, Lenox, Lochman, & Hyman, 1995). Within the context of our causal sequence, there is some converging evidence for the path linking aggressive behavior and difficult peer relationships to long-term externalizing problems, although peer rejection appears to play an indirect role. In particular, Patterson, Capaldi, and Bank (1991) argue that when individuals are rejected by their peers, they are more likely to become affiliated with deviant peer groups, which increases their risk of externalizing problems (e.g., delinquency, acting out). As in the case of academic outcomes, then, the negative impact of peer rejection depends in part on whether the rejected child is exposed to deviant socialization experiences. Preliminary findings support this contention (e.g., French, Conrad, & Turner, 1995), although further research is needed before definitive conclusions can be reached.

### *Internalizing problems*

There is no shortage of research indicating that both withdrawn behavior and peer rejection are important predictors of subsequent internalizing problems (see McDougall et al., 2001), including loneliness (Renshaw & Brown, 1993) and depression (Boivin et al., 1995, 1997). The links between withdrawal, rejection, and later internalizing difficulties, however, are complex, mediated in part by negative peer experiences as well as how the individual feels about his/her social situation. Specifically, Boivin et al. documented that the pathway from withdrawn behavior and rejected status to subsequent depression was strongest when children were not only rejected but also victimized by their peers. Moreover, the impact of negative peer experiences on depression held true only for those children who felt lonely and dissatisfied with their social circumstances. Alongside socialization experiences, then, children's view of their own social circumstances might help to explain the mechanisms by which social behavior and peer rejection contributes to internalizing problems (see also Valas & Sletta, 1996). The potential significance of self-perceptions brings us back to Moreno's initial proposal that it is important to consider both the perspective of the individual as well as the perspective of the group. As Parker et al. (1995) point out, a more complete examination of mechanisms and processes involving peer acceptance/rejection requires that we track the connections between the environment (i.e., poor peer relationships) and characteristics of the child (e.g., negative social cognitions, maladaptive behavior) across time.

### **Conclusions**

Research on childhood peer acceptance and rejection has a long and rich history, dating back to the early writings of Moreno in 1934. The primary focus, however, has been on peer-group perceptions of the child, operationalized in terms of summary sociometric scores or status categories quantifying the degree to which children are accepted or rejected within the peer group. Although much of this literature has focused on methodological issues, these studies have contributed importantly to our understanding of social development and the degree to which peer socialization and preference contributes to adjustment, both concurrently and in later life.

Over the years, progress in this area has been and will continue to be linked to the development of new statistical and analytical approaches that extend the range of possible empirical inquiries (see Rubin et al., 1998 for a discussion). In addition, however, future research will continue to echo theoretical arguments made by Moreno over 60 years ago. Like Bukowski and Cillessen (1998; Cillessen & Bukowski, 2000), we acknowledge that much of the research on acceptance and rejection has been and will continue to be inspired, directly or indirectly, by Moreno's early formulations about the nature of individuals and groups. Two important future directions are highlighted in this regard. First, our primary emphasis to date has been on how the group perceives the individual, using peer-derived indices of acceptance and rejection. As Johnson and colleagues (1991, 1994) point



out, neither nomination nor rating approaches are adequate in that they fail to consider the more complex structure of the peer group in which rejected children may occupy very different levels of integration and influence within the social network. We have only begun to explore the complexities of the larger social network, although the measurement tools for such an exploration now exist (e.g., see Cairns, Xie, & Leung, 1998; Kindermann, 1998). Second, despite Moreno's (1934) suggestions for multiple perspectives on group functioning, much of our research to date has considered the perceptions of the group, rather than perceptions of the individual. However, recent recognition of the importance of the child's perspective on his/her own group functioning and social status (see McDougall et al., 2001), as well as recent advances in theory and measurement of self-perceptions (see Cillessen & Bellmore, 1999; Hymel, LeMare, Ditner & Woody, 1999; Kupersmidt, Buchele, Voegler, & Sedikides, 1996) now set the stage for a new focus in future research within this area.

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