Part VI

Social Skills and Social Cognition

Competence in social understanding and social skills are important for individual psychological well-being and peer group adjustment. While the term social cognition implies an understanding of the social world, literature reviewed by Charlie Lewis and Jeremy Carpendale shows that the terminology reflects a far more complicated and diversified construct than what appears at first glance. Likewise, how social skills are defined represents levels of complexity that are not readily apparent. We begin with a chapter by Antonius Cillessen and Amy Bellmore on the topic of social skills and interpersonal perception, followed by an illuminating chapter by Lewis and Carpendale that explicates two contrasting views of social cognition. Gary Ladd, Eric Buhs, and Wendy Troop then focus on interpersonal skills and relationships in school settings with implications for school-based prevention and intervention programs.

Cillessen and Bellmore approach their topic by distinguishing two traditions in the study of social skills during early and middle childhood. The first tradition focuses on "behavioral assessment" where social skills are defined and measurements are created to assess the veracity of the behavioral constructs. The second tradition stems from a "behavioral process" definition that explicates how child behaviors lend themselves to competent play with peers, emotion regulation, peer group entry, and conflict resolution. Behavioral processes of socially skilled and unskilled children in these critical social tasks are examined with the intent of linking these processes with interpersonal perception skills. The second half of the chapter accomplishes just that. Individual differences in how the social world is accurately perceived are shown to be associated with social self-perceptions of liking and disliking by peers. Research reviewed by the authors suggests that more socially skilled children tend to be more accurate in their self-perceptions of how well they are liked than socially unskilled children. Where do individual differences in perception accuracy come from? They conclude with a discussion of several mechanisms that might be at work and an overview of directions for future research in this area.

Lewis and Carpendale illustrate how vastly complex the study of social cognition is.

Two contrasting views of social cognition are explicated; one focuses on the cognitive approach to the study of children's social understanding while the other highlights the social approach. Surprisingly, the social and the cognitive traditions have never been fully integrated. The authors explain how the division created by these two approaches is problematic in current research on "theories of the mind." Recent developments in the "theory of the mind" literature are reviewed, followed by a discussion of domain specificity in mental-state understanding versus domain-general processes of reasoning and executive function. The false-belief test is critiqued and social approaches to children's understanding of mental states are introduced. Evidence is presented indicating that there is a relationship between children's social interactions and "theory of the mind" understandings. They culminate with a call for integrating the social and cognitive approaches in the study of children's social understanding. Suggestions are provided for how to do so.

On a somewhat different note, interpersonal challenges that children confront at school create difficult tasks for children as they apply their social skills to negotiate needs and establish relationships with other children and teachers. Little attention has been directed towards the many types of relationship difficulties that children work through in their quest to adapt to school environments. Given this backdrop, Ladd and colleagues expound upon a child by environment model that illustrates how child background variables, child attributes, behavioral styles, and supportive and stress-inducing interpersonal factors affect each other and children's adjustment to school. Research-based evidence for linkages among aspects of the model are carefully examined with regard to peer acceptance, friendship, peer victimization, and teacher–child relationships. Given all these factors, how might children's adjustment to school be enhanced? Of great interest to researchers, clinicians, and practitioners are descriptions of school-based interventions that can foster positive social cognitions, social skills, and peer acceptance and that have been empirically shown to reduce problematic behaviors. The authors note, however, that there are still needs for developing interventions that help children form and improve friendships, as well as cope with the effects of peer abuse at individual, rather than at school-wide levels. Future directions are provided for enhancing interventions and for conducting research that can further our understanding of processes associated with children's adjustment to school.

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Social Skills and Interpersonal Perception in Early and Middle Childhood

Antonius H. N. Cillessen and Amy D. Bellmore

The definition of social skills is a much debated and complex issue. General definitions refer to adequacy, effectiveness, or competence in interactions with peers. Beyond these general definitions, what efforts have researchers made to conceptualize and define social skills more precisely and to observe the behavior of children who differ in social skills? The answers to these questions have been sought in two parallel research traditions. Both have made important contributions.

The first research tradition has its roots in educational psychology, has primarily a psychometric orientation, and may be called the "behavioral assessment" tradition. Researchers who follow this approach have made explicit attempts to define social skills and several converging definitions of this construct have been given. The main goals of this research have been instrument development, the identification of children with deficient social skills, and the evaluation of the effectiveness of intervention programs. Typically, teacher-rating scales have been used to assess social skills.

The second research tradition has its roots in social developmental psychology and may be called the "behavioral process" definition. Researchers in this approach often do not define the term social skills explicitly and use it interchangeably with terms such as social competence or social effectiveness. Research in this approach begins with a general indicator of social skills, such as social acceptance, popularity, or general measures of aggression and withdrawal. Next, children who differ on these dimensions are observed in critical social tasks, such as entering a new peer group, playing with peers, or handling conflict and competition. The goal of this research is to observe in detail the behaviors of socially skilled and socially unskilled children in those situations. The preferred research method is direct observation of actual behavior, although children's verbalizations of how they would respond in the task situations (presented to them as hypothetical vignettes) have been used as

well. The strengths of this approach are its orientation on behavioral processes and its potential to compare between age groups.

In the first section of this chapter, we will distinguish the two traditions in the study of social skill through discussion of their postulates. We will limit our review of relevant research to studies that have followed the behavioral processes approach because these studies extend the focus from the assessment of individual behaviors to the role that these behaviors play in adaptive social functioning. We will detail the behaviors of children in critical tasks in relation to their peer acceptance (competent play with peers, peer group entry, emotion regulation, and conflict resolution). We are choosing peer acceptance as our indicator of social competence because it is a frequently used index of social competence as well as a good measure of social skillfulness because it incorporates the judgments of many individuals.

An additional line of investigation concerning children's social skills considers how behavior and acceptance by peers are related to social cognition (see Crick & Dodge, 1994). Specifically, competent play with peers, peer group entry, emotion regulation, and conflict resolution not only depend on children's behavioral skills, but also require adequate interpersonal perception skills. A process-oriented view of social skills should not only examine behavioral processes, but also the interpersonal perception processes that both depend on and influence interactive behavior. Consequently, in the second section of this chapter, we will consider children's interpersonal perception processes and their association with social skillfulness as measured by peer acceptance. Specifically, we consider children's understanding of themselves and of others in relation to their social status. We limit our discussion to individual differences in children's perceptions of their own and others' characteristics and to their estimations of how well liked they are by their peers because these basic perceptions may be particularly influential in determining their behavior with peers. We also discuss how research on this topic has contributed to understanding the process of how children arrive at their perceptions.

Assessment of Social Skills in Early and Middle Childhood

The first approach to the study of children's social skills, the behavioral assessment tradition, has proven useful in identifying the dimensions of children's problem behavior that disrupt adaptive social functioning (Gresham, 1986). Typically, the behavioral dimensions that contribute to social adjustment are assessed via teacher-, parent-, peer-, or self-ratings on multi-item behavior checklists. This approach can be described by the following three main characteristics.

First, social skillfulness is viewed as a multidimensional construct. Although researchers emphasize the significance of different social skills in their work, Caldarella and Merrell (1997) established five behavioral dimensions that occurred consistently in 19 separate instruments of children's social skills: peer relations skills, self-management skills, academic skills, compliance skills, and assertion skills. They also found that these dimensions were neither completely distinct nor independent of one another, indicating that although some skills contribute only to one dimension, other skills contributed to more than one

dimension. Thus, although different dimensions have been identified, some of the behaviors of which they are comprised are relevant across situations.

Second, this approach places social skillfulness as a behavioral construct at an intermediate level of complexity, more specific than higher-level constructs such as social competence but more general than specific individual behavioral skills. This is useful because separate dimensions of social skill which represent a cluster of related behaviors can be identified and used for identification, diagnostic, and intervention purposes. However, given Gresham and Elliott's (1984) conclusion that social skillfulness is situationally specific, it would seem that this approach could be further validated by studying children's effective and ineffective social behaviors in specific social contexts.

Third, this approach views social skills relative to a child's age group or developmental stage. The main focus is not on changes in social skills across age groups, but rather on individual differences in social skills within age groups. Accordingly, although the scores are typically standardized within age groups, the main assessment instruments are used across developmental stages. For example, Caldarella and Merrell (1997) reported that most of the 19 studies in their review identified similar dimensions across age levels. This is a limitation of this approach because the dimensions that are most relevant to younger and older children likely differ. Thus, this approach could benefit from more research devoted to identifying age differences in the dimensions of behaviors that are effective in social interactions.

In summary, this assessment approach to social skills is extremely useful for diagnostic purposes. However, it is a relatively static approach and therefore less useful for the developmental study of social competence. To understand the development of social competence, a focus is needed on the developmental processes that underlie the social skills of children of differing ages in various social contexts. Therefore, in the next section, we will describe more extensively the efforts undertaken by researchers interested in these developmental processes.

Behavioral Processes of Socially Skilled and Unskilled Children

The second approach to the study of children's social skills involves identifying how children who differ in social skill respond when they encounter potentially problematical social tasks. This approach has been valuable because researchers have identified numerous behavioral correlates of social skillfulness (i.e., peer acceptance) for various critical social tasks. In this section we will consider four tasks that have been particularly useful in identifying differences between socially skilled and unskilled children. Specifically, we will consider social status differences in how children play with their peers, enter the ongoing activities of groups of their peers, regulate their emotions, and generate strategies to resolve conflicts. Each of these tasks is relevant to the social lives of preschool and elementary school children and requires them to adapt their behavior to allow for continued interaction with their peers. Further, the study of these tasks has utilized observational methods (both experimental and naturalistic), and is therefore particularly valuable because it informs us of what children actually do in their social worlds.

We review differences in children's behavior in each situation separately, because researchers have not examined the connections in children's behavior across these situations. Thus, we are able to determine the critical components of socially skilled behavior within each task setting. However, by focusing on single behaviors in specific contexts, we are not able to recognize how children organize and integrate their skills to produce global adaptive social functioning across multiple social settings. Although we present research relating children's behavior to their social skillfulness in each task separately, we recognize the need to consider the cross-contextual connections in future research.

Competent play with peers

Individual differences in play behavior and play competency have been assessed in early childhood because play is the context in which young children most frequently interact with their peers. Because play is a salient context for preschool age children, it is believed that it should both reflect and promote social competence (Creasey, Jarvis, & Berk, 1998). In this section, we examine preschool children's play behavior in relation to their social adjustment in the peer group.

Play behavior is most frequently observed in naturalistic settings such as preschool classrooms or childcare settings during periods where children may freely choose both their playmates and activities (e.g., Howes & Matheson, 1992). Within this context, researchers have attended to different aspects of play. For example, Howes (1988) assessed the complexity of social play forms (e.g., complementary and reciprocal play) and suggested that children's play forms follow a developmental sequence. Ladd, Price, and Hart (1988) attended to differences in the behavioral styles of preschool children's play (e.g., solitary play) as well as structural characteristics (e.g., the average size of the group in which play occurs).

Investigators have established that these various measures of play behavior are related to both concurrent and later indicators of a child's functioning with peers. Howes and Matheson (1992) reported that preschool-age children who engaged in more complex peer play at earlier developmental periods were rated by teachers as having less difficulty with their peers. Doyle and Connolly (1989) found that social acceptance, as measured by peer nominations, was positively associated with the frequency of engaging in social pretend play. Moreover, Ladd et al. (1988) reported that some styles of play predicted changes in peer acceptance over the course of one school year. They found that the cooperative play of preschoolers in the fall of the school year predicted gains in peer acceptance by spring and that arguing during play in the fall predicted lower peer acceptance by winter of the school year.

In more recent studies, cultural differences in children's play behavior have received attention. As Fantuzzo, Coolahan, Mendez, McDermott, and Sutton-Smith (1998) argued, given the presumed contextual specificity of play, relationships between competent play behaviors and peer acceptance should be considered within cultural groups. As a first step, these authors established the validity of an instrument designed to specifically assess play competencies that differentiate children who have positive peer relationships from children who have poor peer relationships within a sample of African American Head Start children.

Farver, Kim, and Lee (1995) presented evidence that play complexity may be affected by culture specific socialization practices. They found that Korean American preschool children participated in less social pretend play than their Anglo-American counterparts and suggested that this difference may be related to either the more structured classroom setting of Korean American preschools or to the collectivist orientation of Korean culture. Whatever the reason, this finding demonstrates the importance of assessing the relationship between play behaviors and peer acceptance within natural play settings for diverse groups of children as the norms for play styles may vary among different cultural groups.

Researchers have also established sex differences in the play behaviors that predict peer acceptance. For example, Hart, DeWolf, and Burts (1993) reported that lower peer preference was associated with observed solitary-passive play for preschool girls but not for boys and was linked to withdrawn/reticent behavior (onlooker and unoccupied) for preschool boys but not for girls. Additionally, Hart, DeWolf, Wozniak, and Burts' (1992) observations of preschoolers' social behaviors revealed that prosocial behavior was related to peer acceptance for girls only. In addition to sex differences in play styles, researchers have also attended to sex differences in peer interaction contact patterns. For example, Ramsey (1995) reported that older preschool children decreased their mixed-sex peer contacts over the course of one school year (i.e., fall to spring), whereas younger preschool children increase their contacts. Playground behaviors and group composition (e.g., network intensivity vs. extensivity and network homogeneity vs. diversity) have also been found to predict peer acceptance differentially for elementary-school age boys and girls (see, e.g., Ladd, 1983).

We expect children's play behaviors to be sensitive to other contextual effects (e.g., the play environment and the composition of the playgroup), and the effects of these variables on the relationship between peer group acceptance and play should be examined. Additionally, the stability of children's play behaviors from preschool to middle childhood should be studied. There is evidence that the quality of elementary school children's rough-and-tumble play is positively related to their peer-group acceptance (Pellegrini, 1988), but negatively related for preschoolers (Hart et al., 1992). However, no evidence exists showing that play behavior is stable from preschool to middle childhood. Thus, an additional avenue for future research is to establish the degree to which age moderates the relationship between specific play behaviors and peer acceptance.

Peer group entry

The ability to successfully enter into a ongoing social interaction is considered a marker of social skill because adequately initiating social contact and being accepted by the peer group is a prerequisite to developing stable social relationships. Therefore, the behaviors that result in successful peer group entry are important indicators of social competence. The research reviewed here includes studies that have examined which aspects of children's peer group entry behavior are related to their social status.

Following the protocol established by Putallaz and Gottman (1981), a target child's bid behavior is usually assessed in a laboratory with experimenter-formed groups of children who are involved in a game-like task when the target child arrives. Some experimenters comprise the "host" group of children with whom the target "guest" child is acquainted

(e.g., Zarbatany, Van Brunschot, Meadows, & Pepper, 1996). Others use host children who are unacquainted with the guest (e.g., Russell & Finnie, 1990) or hosts who are confederates who follow the experimenter's instructions during the observation session (e.g., Wilson, 1999). Less frequently, target children have been observed in more naturalistic settings including the classroom (Dodge, Coie, & Brakke, 1982) and playground (Putallaz & Wasserman, 1989).

Using these methods, researchers have established the relationship between peer acceptance and group-entry behavior (see Putallaz & Wasserman, 1990, for a review). Specifically, unpopular children are more likely to call attention to themselves, attempt to control the interaction, and take longer to enter the peer group than higher status children (e.g., Dodge, Schlundt, Schocken, & Delugach, 1983; Putallaz & Gottman, 1981). These disruptive and self-centered behaviors are ineffective strategies because the children who use them are less likely to be accepted by the host children (Borja-Alvarez, Zarbatany, & Pepper, 1991; Putallaz & Gottman, 1981). Conversely, popular children successfully become a part of the group by sharing in the group's interest and offering relevant statements to the ongoing interaction (e.g., Dodge et al., 1983; Putallaz & Wasserman, 1989).

Investigators also have considered other factors that may influence children's group-entry behaviors and their resulting success. Gelb and Jacobson (1988) examined social-contextual factors and found that unpopular children are less likely to behave aversively in noncompetitive peer group entry situations than in competitive peer group entry situations. Rabiner and Coie (1989) examined intrapersonal factors and found that when rejected children have positive expectations about an upcoming play session with unfamiliar peers, they are more likely to be preferred by these unfamiliar peers during a peer group entry situation than when their initial expectations are neutral.

In addition, researchers have examined the effects of the interactions between the sex composition of the principal group and the sex of the guest child on the success of the guest child's entry behavior. Putallaz and Gottman (1981) failed to find sex differences in their laboratory study of peer group entry behavior, but naturalistic observations on the playground showed that girls were less effective and rejected more often than boys during entry bids with peers (Putallaz & Wasserman, 1989). When only same-sex interactions were considered, however, girls were more effective and more likely to be accepted than boys. This may result from the fact that girls are more likely to include newcomers than boys when they are the hosts in the peer entry paradigm (Zarbatany et al., 1996).

The findings reported above are based on elementary school children's social interactions. Hazen and Black (1989) reported similar findings for preschool children. Putallaz and Wasserman (1989) found that the group entry skills of first-, third-, and fifth-grade children differed. Specifically, older children were more likely to remain with the peers they initially approached, whereas younger children were more likely to engage in entry bids with various groups of peers. An important goal for future research is to further these age differences.

An additional goal for research is to consider the effects of additional social contextual variables on children's peer group entry behavior. For example, previous research suggests that group size (see Putallaz & Wasserman, 1989), sociometric status composition (see Gelb & Jacobson, 1988), and its psychological state (see Zarbatany & Pepper, 1996) all may affect the guest's behavior and entry success. These studies further highlight the

interactional nature of the relationship between the target child and the hosts, further suggesting that children's social skills need to be considered in the social context.

Emotion regulation

Because effective social functioning with peers requires attending and adapting to the demands of specific social situations, children's ability to modulate emotions is expected to be an important aspect of their social competence. To assess this relationship between social skill and emotion regulation, researchers recently have designed observational studies that focus on children's responses to emotionally arousing situations, using sociometric status as an indicator of their social competence.

Observational studies of emotion regulation have been conducted in both naturalistic and experimental settings. Naturalistic observations usually take place in classroom or playground settings. For example, Denham, McKinley, Couchoud, and Holt (1990) attended to the emotional expression of target children in their preschool classrooms. Fabes and Eisenberg (1992) observed children on the playground, limiting their observations to children's behavioral responses to provocation during free play.

Observation of children's responses to provocation is considered a good paradigm to assess emotion *regulation*, because it allows us to compare children's actual feelings in addition to the behavioral and facial indices of emotion that they display (Hubbard & Coie, 1994). Various experimental paradigms have been designed that provoke children into a specific emotion, followed by recordings of children's recovery from that emotion. For example, Saarni (1984) provoked disappointment in children, whereas Underwood, Hurley, Johanson, and Mosley (1999) provoked anger in target children through the use of a confederate child actor. Once the target child was provoked, his or her facial expressions, gestures, and verbal responses were then recorded.

Naturalistic observations of preschool children have revealed a concurrent relationship between emotion regulation and peer-group acceptance. The expression of positive affect has been found to be related positively to liking by peers (Denham et al., 1990; Walter & LaFreniere, 2000), whereas the expression of anger is negatively related to peer-rated likability (Denham et al., 1990). Similarly, Fabes and Eisenberg (1992), studying preschool children's responses to real anger conflicts, found that children who were accepted peers dealt with anger provocations in direct and nonaggressive ways.

Underwood et al. (1999) demonstrated developmental differences in response to anger provocation in middle childhood through the use of an experimental, observational paradigm. They reported that outward expressions of anger decreased with age in a sample of 8-, 10-, and 12-year-old children. This observational study is unique in that the majority of studies of the relationship between emotion regulation and peer status with elementary school children have relied on hypothetical vignettes or self-report measures. Given the finding of Underwood et al. (1999), further insight into the relationship between emotion regulation and peer competence at different developmental stages, in particular through observational methods, is an important goal for future research.

An additional goal for future work is the assessment of sex differences in emotion regulation. To date, the findings from observational studies indicate that girls are less likely

than boys to express angry feelings (e.g., Fabes & Eisenberg, 1992; Underwood et al., 1999). Further evidence exists that sex differences in emotion regulation interact with sociometric status. For example, Walter and LaFreniere (2000) found that girls' anger was negatively related to peer rejection whereas boys' anger was positively related to peer rejection. More research is needed to identify similar differentiations by sex and sociometric status for positive emotions.

The studies reviewed here highlight the utility of the observational paradigm for understanding the relationship between emotion regulation and peer acceptance. Investigators should continue to modify these methods to assess which situational and interpersonal variables moderate the status-emotion regulation link. Explicit attention should be given to identifying specific interpersonal factors (such as liking of the provocateur, see Fabes, Eisenberg, Smith, & Murphy, 1996) in addition to intrapersonal factors that may affect children's emotion regulation skills.

Conflict resolution

Shantz (1987) defines conflict as a dyadic social exchange characterized by mutual opposition between two parties. Because adequate management of conflict is necessary for the maintenance of children's interpersonal relationships, researchers have identified children's conflict resolution strategies as an important social skill. This research is corroborated empirically by research showing that preschool and elementary school children's conflict resolution strategies are related to their peer acceptance.

Because conflict responses are situation specific (Putallaz & Sheppard, 1992), the relation between peer acceptance and conflict resolution strategies needs to be examined in various settings. Children's behavioral strategies (e.g., seeking an adult's help or using physical aggression) and verbal strategies (e.g., discussing the situation or using verbal aggression) in peer conflict situations have been investigated by observing children's naturally occurring interactions in field settings such as classroom free play (e.g., Hartup, Laursen, Stewart, & Eastenson, 1988). They have also been examined in controlled laboratory settings where the composition of dyads and the activities are manipulated by the experimenter (e.g., Hartup, French, Laursen, Johnston, & Ogawa, 1993). Observations of young children's naturally occurring conflicts in free play have revealed that being disliked by peers is positively correlated with more frequent participation in conflict episodes (D. Shantz, 1986) and verbal strategies are used far more frequently than physical force within conflict episodes (Eisenberg & Garvey, 1981). However, research in which observations of children's behavior in conflict situations is related to their peer acceptance is lacking.

The most widely used method to investigate the relation between peer acceptance and conflict resolution is to examine children's responses to hypothetical conflict situations. Typically, children are presented with a realistic hypothetical situation that involves a conflict with a peer and are asked to indicate how they themselves would respond in that situation. Because every participating child is exposed to the same social scenarios, this method allows researchers to make controlled comparisons between children. Rose and Asher (1999) used this method to assess the strategies that fourth- and fifth-grade children use in response to conflict with a friend. They found that children's use of hostile strategies

(e.g., physical or verbal aggression) was negatively correlated with peer acceptance. Chung and Asher (1996) assessed fourth- through sixth-grade children's strategies in conflict situations with a same-sex classmate and reported that selection of prosocial strategies (e.g., accommodation of the needs of both parties) was positively correlated with peer acceptance. They also found that sex moderated the relationship between peer acceptance and conflict strategies. Specifically, the selection of hostile strategies was negatively correlated with peer acceptance for girls, whereas the selection of adult-seeking strategies (e.g., request help from an adult) was negatively correlated with peer acceptance for boys.

These sex differences in the relation between peer conflict responses to conflict and social status correspond with the different social orientations expected of boys and girls. In response to both actual and hypothetical conflict situations (Chung & Asher, 1996; Hartup et al., 1993; Miller, Danaher, & Forbes, 1986; Murphy & Eisenberg, 1996; Rose & Asher, 1999), girls are more likely to select relationship-oriented strategies, while boys are more likely to select assertive, self-centered strategies. These sex differences are further qualified depending on the sex of the interaction partner. Miller et al.'s observational study of children's actual conflict behavior revealed that boys used assertive strategies when interacting with boys and girls, whereas girls were more likely to use prosocial strategies with girls than with boys. These differences have not been corroborated by hypothetical vignette studies as these typically have focused on children's interactions with same-sex peers.

Although clear sex differences have emerged, there is little information regarding developmental differences in children's conflict resolution strategies. Most studies of children's strategies have used elementary-school age children, and within these studies, age differences typically have not been examined. Finally, in addition to individual characteristics such as age, sex, and ethnicity, various social-contextual factors are expected to influence children's responses to conflict (see Hartup & Laursen, 1993). Future research should examine how contextual variables such as relationship characteristics (e.g., friend vs. nonfriend), characteristics of the setting (e.g., space, resources, and activities), and conflict type (e.g., object acquisition, peer provocation, and rights infraction) influence children's behavioral and social-cognitive responses to conflict.

Conclusion

Taken together, these results indicate that children's behavior in various critical social tasks is related to their peer acceptance and that these social tasks are diagnostic to assess socially skillful behavior. In spite of these results, the critical social task approach has not provided much information about developmental changes in the relationship between children's behavior and acceptance. While age differences can be identified indirectly by comparing the findings of studies assessing different age groups for each task, no direct comparisons of developmental differences in relation to sociometric status exist for any task reviewed here. Additionally, researchers have not consistently attended to sex differences for every task. For example, while clear differences between the conflict resolution strategies of boys and girls have been identified, differences in boys' and girls' play styles have not received much attention. Given the findings from research on peer group entry showing that sex differences of the actor interacted with the sex of his or her peers, more research is needed on the

situational specificity of skillful behaviors. In particular, researchers should conduct more detailed analyses of individual characteristics of both the actor and their dyadic or group partners in particular situations. Finally, researchers should attend to how children form the strategies that guide their behavior in these specific social situations. Because appropriate behavior may be dependent on accurate perception of the actions and intentions of the participants in a given social situation, the second section of this chapter considers this ability in relation to social acceptance.

Interpersonal Perception

Interpersonal perception refers to one's understanding of self and of others that results from social interactions. As indicated in the introduction to this chapter, children's understanding of self and others in relationships is expected to both reflect and influence their social behavior in the domains of peer play, peer group entry, emotion regulation, and conflict. Therefore, in this section, we consider children's interpersonal perception skills in detail and examine, both conceptually and empirically, how they are related to social competence as measured by peer acceptance.

Basic questions of interpersonal perception research

Most early research on the development of interpersonal perception was directed towards establishing its normative development. For example, researchers addressed the types of perceptions children form of themselves and others (see Dubin & Dubin, 1965, for a review). More recent research has focused on establishing individual differences in children's interpersonal perceptions and the factors that are related to these differences (see Berndt & Burgy, 1996, for a review). In this more recent research trend, researchers have examined children's perceptions of their own and others' general characteristics and competencies in the social, behavioral, cognitive, and physical domains, including their general peer sociability and liking by peers. In addition, researchers have examined children's assessments of how well liked they are by specific peers. A major question guiding recent research on children's interpersonal perceptions addressed the degree to which children's general and dyad-specific interpersonal perceptions are accurate.

In research on the accuracy of children's interpersonal perceptions, an important distinction is maintained between accuracy of perceptions of competencies and accuracy of perceptions of liking because they do not necessarily reflect the same underlying ability, nor have they been assessed in the same manner. For example, perception accuracy of characteristics and competencies is usually measured by comparing one child's ratings of the self on some characteristic (e.g., disruptive behavior in school) with another person's ratings of the same behavior (e.g., teacher ratings of disruptive behavior). In some instances, a child's self-perceptions are compared to the perceptions of a social group (e.g., all peers in her grade). Accuracy of liking perceptions, however, is usually assessed by comparing the sociometric nominations or ratings a target child expects to receive from others

with others' actual nominations or ratings of the target child. This has been done at both the dyadic and group levels.

Development of interpersonal perception accuracy

Research on the development of interpersonal perception accuracy has been guided by the assumption that children's social perception skills develop in accordance with general cognitive abilities (cf. social perspective taking, see Piaget, 1983). For example, based on Piaget's conclusion that young children's egocentric thinking prevents them from being accurate perceivers of others, most studies of perception accuracy have excluded children under age 6. Consistent with Piaget's theory, interpersonal perception accuracy has been demonstrated in children age 6 and older (e.g., Malloy, Yarlas, Montvilo, & Sugarman, 1996). Additionally, perception accuracy increases throughout middle childhood and into early adolescence, although the amount of improvement tends to be small across various domains (Ausubel, Schiff, & Gasser, 1952; DeJung & Gardner, 1962; Krantz & Burton, 1986; Malloy et al., 1996; Phillips, 1963).

Although perception accuracy does increase minimally with age throughout middle childhood, the notion that interpersonal perceptions will not be accurate until middle childhood has not been supported empirically. Smith and Delfosse (1980) found that preschool age children are able to correctly identify who their own friends are as well as who their classmates' friends are. Thus, the specific cognitive skills that underlie this ability might be established as early as 4 years of age.

Interpersonal perception accuracy as an indicator of social skill

The notion that interpersonal perception is related to social skillfulness has been propelled by demonstrations of individual differences in accuracy. The majority of studies that have addressed this topic have used sociometric status as an indicator of social competence. Rose-Krasnor (1997) argued that this is not only the most widely used, but also the best measure of social skill. Consequently, for all studies reviewed here, peer acceptance as measured by sociometric techniques will be used as the measure of social skill.

Perception of traits and competencies.   Studies investigating individual differences in perception accuracy for characteristics of self (e.g., the domains outlined by Harter, 1982) have been conducted almost exclusively with elementary-school age children. These studies have consistently revealed that low status children are the least able to assess themselves or others accurately on various traits compared to evaluations by others, while high status children's perceptions are more congruent with others' perceptions.

In one study, Kurdek and Krile (1982) assessed the social self-perceptions of children in grades 3–8 and found that children who were seen as the most socially competent also reported the highest perceived social self-competence. This finding indicates that popular children do have some awareness of their social acceptance. In another study, Patterson, Kupersmidt, and Griesler (1990) tested the relationship between accuracy of

self-perceptions and social status more explicitly. They classified children in grades 3 and 4 into sociometric status categories and compared these children's self-perceptions in the social, academic, and behavioral domains with independent assessments by others. They reported that rejected children overestimated their social acceptance, popular and average children underestimated their peer acceptance, and neglected children underestimated their behavioral competence. Cillessen and Bellmore (1999) also examined the social self-perceptions of fourth graders who were classified into sociometric status groups. They compared self- and teacher perceptions in four domains (disruptive conduct, anxiety/withdrawal, peer sociability, and school adjustment), and found that rejected children's self-ratings showed the smallest amount of agreement with their teachers' ratings in the areas of conduct, peer sociability, and school adjustment.

Overall, the self-perceptions of rejected children have received more attention than those of other children. Boivin and Bégin (1989) reported that two clusters of rejected children could be identified based on their self-perceptions: one group who reported lower competence in various domains than other children, and one group who reported higher ratings in some domains than other children. These differential patterns of self-perceptions complement other evidence for subgroups of rejected children, typically labeled aggressive-rejected and withdrawn-rejected (see Boivin, Hymel, & Bukowski, 1995, for a review). Together, the behavioral and social-perceptual differences suggest that different negative outcomes may be expected for each group (externalizing vs. internalizing problems), and that these differences may be related to the accuracy of children's self-perceptions.

To test this idea, Patterson et al. (1990) used peer nominations to assign third- and fourth-grade children to one of three groups: rejected only, rejected-aggressive, and aggressive only. When they compared children's self-reports of their competencies to more objective assessments they found that relative to peer reports, rejected-aggressive children but not rejected children overestimated their peer acceptance compared to average children. Rejected-aggressive children also overestimated their behavioral competence compared to rejected and average children, even though they rated themselves lower than the other two groups did on this attribute.

Hymel, Bowker, and Woody (1993) also investigated the perception accuracy of subgroups of rejected children. They classified fourth and fifth graders into one of four groups: aggressive unpopular, withdrawn unpopular, aggressive-withdrawn unpopular, and average. They assessed accuracy by comparing discrepancies between children's self-ratings and their peers' ratings of their competencies in four domains: academic, athletic, peer relations, and appearance. The authors reported that average and withdrawn-unpopular children were the most accurate perceivers while children in both aggressive subgroups were more likely to overestimate their competencies in all four domains.

Although the sex of the perceiver child is gaining increasing attention in childhood social perception research, few researchers have included perceiver sex as a variable. The few studies that have considered perceiver sex indicate that the self- and other-perceptions of competencies are somewhat more concordant for girls than for boys (Bellmore, 2000; Cillessen & Bellmore, 1999; Kurdek & Krile, 1982). Clearly, however, there is a need to include perceiver sex as a variable in future studies.

Perception of liking and disliking.   Investigation of individual differences in accuracy of

perceived liking and disliking has been limited to samples of elementary school children. Most studies of liking perceptions have focused on whether or not children are able to accurately identify who likes or dislikes them. An exception is the study by Krantz and Burton (1982), who tested the ability of kindergarten through third-grade children to identify their classmates' peer preferences. They found that popularity was positively correlated with greater accuracy in identifying the specific friendship preferences of their friends.

Cillessen and Ferguson (1995) compared the accuracy of perceptions of liking and disliking for kindergarten and first-grade boys who were classified into sociometric status groups. They created accuracy scores at two levels: the dyadic level (the extent to which each boy knew which specific other classmates liked him) and at the group level (the extent to which each boy knew how well liked he was by the group as a whole). They found that rejected boys were the least accurate perceivers of liking perceptions at the dyadic level and least accurate in both liking and disliking perceptions at the group level.

MacDonald and Cohen (1995) examined dyadic accuracy scores of liking and disliking for first through sixth graders. They reported that rejected children were least accurate in their judgments of who liked them and popular children were the least accurate in their judgments of who disliked them. Cillessen and Bellmore (1999) tested the accuracy of fourth-grade children's perceptions of liking and disliking by their peers using a similar method. They also formed dyadic accuracy scores by comparing liking and disliking nominations received and expected, but did not find any status differences for perceptions of liking or disliking with this sample.

Zakriski and Coie (1996) compared the accuracy of perceived liking and disliking by peers using a sample of fourth-grade children who were classified as aggressive-rejected, nonaggressive-rejected, or average. They found that aggressive-rejected children underestimated their social rejection more than nonaggressive-rejected did. Interestingly, they also reported that this inaccuracy did not generalize to perceptions of others but was limited to perceptions of self and therefore may serve a self-protective function. This study is also important because it is the only study to find an effect of ethnicity in the study of children's social self-perceptions. They authors found that African American children were less accurate than white children, but attributed this effect to methodological aspects of their study. The authors concluded that rejected-aggressive children were the least accurate social perceivers, and that no differences in perception accuracy were associated with ethnicity.

Few researchers have examined perceiver sex differences in accuracy of perceived liking and disliking by peers and those that have reported different results. Cillessen and Bellmore (1999) found that girls were more accurate than boys for perceptions of liking only, whereas MacDonald and Cohen (1995) found no sex differences in perception accuracy. One important difference between these two studies is that Cillessen and Bellmore allowed cross-sex nominations in their sociometric procedure, whereas MacDonald and Cohen allowed only same-sex nominations. Sex differences could not be examined in other studies because only boys served as participants (Cillessen & Ferguson, 1995; Zakriski & Coie, 1996).

Origins of interpersonal perception skill

Given the individual differences in perception accuracy discussed above, the question of how children arrive at their perceptions of self and others needs to be addressed. Two processes have been offered to explain the link between children's social cognitions and their interactions with others. The first process describes how perceptions are formed and is congruent with the ideas of symbolic interactionists (e.g., Cooley, 1902) who claim that others' perceptions are internalized to form self-perceptions. Indeed, Cole (1991) found that teacher and peer perceptions influenced the self-perceptions of fourth graders over the course of a school year. Felson (1989) found a similar effect of parents' perceptions on children's self-perceptions. Although these findings provide evidence that other's perceptions do affect self-perceptions, how this occurs has not yet been established.

According to symbolic interactionists, the accuracy of children's perceptions depends on the extent to which they have had social interactions with others. Theorists agree that relations with others afford children the opportunity to acquire the skills they need to successfully interact with others (e.g., Hartup, 1992). Thus, rejected children who are excluded from peer interaction may be inaccurate social perceivers because they lack the opportunities to practice this important social skill.

The second process that describes the relationship between social perceptions and social interactions considers the social cognitions of the child as the antecedent to social interactions. Accordingly, inaccurate self-perceptions are presumed to have negative consequences for social behavior and peer acceptance. This notion mirrors Dodge's (1986) model of the link between social information processing and social adjustment: perception deficits cause problematic social interactions. Research on social cognition and peer relations has demonstrated that children's self-perceptions may determine their peer relations (Crick & Dodge, 1994).

The processes explaining the link between interpersonal perceptions and social relationships that are specified by the symbolic interactionist and social-cognitive perspectives should not be considered mutually exclusive. The accuracy of children's interpersonal perceptions likely depends on the frequency and/or quality of their peer interactions and, in turn, the accuracy of children's interpersonal perceptions is likely to affect the quality and/or frequency of their social interactions. An important goal for future research is to explore the directionality of the link between children's perceptions and their peer relationships. Longitudinal studies will help to establish the point at which status differences in perception accuracy emerge and whether they decrease with age and maturing social-cognitive abilities.

Future directions in interpersonal perception research

Current debate exists about whether normative development or individual differences in interpersonal perception accuracy should be emphasized. Researchers should continue to devote attention to each aspect and its related theoretical perspectives, methods, and findings. The findings presented here indicate the necessity of continued study of individual

differences in accuracy, because although differences have emerged, many questions remain. For example, all existing studies have examined perceiver differences, however, social perception is dependent on qualities of the target as well as the perceiver (Kenny, 1994). Thus, researchers need to consider characteristics of the perceiver, target, and their relationship in future research.

This interaction between perceiver and target is especially relevant for social interactions that occur between children from different groups (e.g., culture, sex, sociometric status). For example, interpersonal perception accuracy for children who come from different cultures should be examined because they participate in different types of social interactions that may affect perceptions. It might be expected that more inaccurate social perceptions would occur for interactions between children from different cultures than between children from the same culture. Thus, children's interpersonal perception accuracy for children from the same group and children from a different group should be investigated. This requires research in peer groups that are culturally heterogeneous in nature.

In addition to examining cultural differences, sex differences also require further attention. Although some sex differences have been reported, they tend to be small and inconsistent. Also, in addition to establishing whether boys or girls have different perception abilities, their perceptions of same-sex peers and other-sex peers should be studied. Children's perceptions of the opposite sex are particularly intriguing because of the sex-segregated social context of middle childhood. Accordingly, children might be more accurate about their same-sex peers' perceptions than about the perceptions of other-sex peers.

There is also a need to extend interpersonal perception research to younger age groups. The bias towards studying elementary-school age children derives from the assumption that very young children have limited cognitive abilities that prevent accurate social perception. However, this assumption has hardly been tested empirically and the limited available evidence suggests, contrary to the expectations, that perception accuracy may exist in children as young as 4 years of age. However, more research is needed to determine when in early childhood this ability emerges, how it is related to other social-cognitive skills (e.g., perspective taking), and to what domains it extends (e.g., perceptions of friendships vs. perceptions of traits and behaviors).

Finally, consideration should be given to the use of the term "accuracy" in research on children's interpersonal perceptions. Use of this term is only valid when children's self-perceptions are compared with an objective standard. The term "accuracy" is not appropriate in studies where children's self-perceptions of their competencies are compared to perceptions by others such as teachers, peers, and parents, because these are not necessarily unbiased judges of children's behavior. In those cases, it is more appropriate to use the term self-other agreement instead (Kenny, 1994). The term "accuracy" is appropriate in studies where children's self-perceptions of liking are compared to peers' actual liking judgments. Thus, consideration to variations in the assessment task may improve the consistency between findings from various studies.

Conclusion

In this chapter, we have examined two important domains of children's social skillfulness: evidence for behavioral processes related to social skills in various critical social situations, and evidence for the accuracy of children's interpersonal perceptions in interactions with others. As indicated by Rose-Krasnor (1997), the definition of social competence remains a complicated issue, but what is clear in her review is that social competence or social skill can and should not be conceptualized in terms of a single domain or a limited number of behaviors. We believe therefore that the examination of both interpersonal behaviors and interpersonal perceptions in concert may contribute to our understanding of children's social competence.

Throughout our review, we have used peer acceptance or sociometric status as an index of children's social competence. While peer acceptance provides a useful working definition of social competence, allowing us to include and examine a wide variety of research studies, there are limitations to this approach. As indicated by Rose-Krasnor, sociometric status is a group-based construct, that does not necessarily always adequately reflect a child's social skill. For example, popularity with peers may be a questionable index of social competence in deviant peer groups, whereas in other circumstances the ability to form individual friendship relations may provide a better indicator of social skill than group acceptance. The current status of the literature on interpersonal behaviors and interpersonal perception, however, does not allow us to make these finer distinctions. Thus, an important goal for future research is to examine children's social-behavioral and social-cognitive skills more precisely at each of the individual, dyadic, and group levels of peer interaction.

Finally, our review indicates that more research is needed that examines the effects of development, gender, and ethnicity on children's behavioral and perception skills. In the behavioral domain, various age groups have been examined, but few studies exist that include direct comparisons of age groups. The same is true for studies on children's interpersonal perceptions. In both domains, the roles of gender and ethnicity need to be examined further, and the examination of these effects need to become part of a more complex conceptualization of interpersonal processes than currently exists. Behaviors and perceptions in groups can be considered from a perspective known as the social relations model (Kenny, 1994). This perspective distinguishes effects due to children as actors towards or perceivers of others, children as recipients or targets of behaviors and perceptions by others, and the unique effects due to specific dyadic relationships than cannot be explained by actor or partner effects.

Moreover, this approach can take into account individual differences variables such as gender and ethnicity. That is, the actor, partner, and relationship effects can be qualified further depending on whether boys and girls interact with same-sex or other-sex peers, and whether nonminority or minority children perceive or interact with peers of their own or other ethnicity. This methodological approach will provide a useful tool for estimating children's social interaction and interpersonal perception skills in the increasingly diverse peer system.

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