

Chapter 2

Social-Cognitive Models and Skills

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SOCIAL-COGNITIVE MODELS AND SKILLS

Researchers studying social competence have been interested not only in specific social skills but also in the types of social-cognitive processes that might underlie individuals' behavioral choices. A variety of theories propose that individual differences in social information processing skills may help explain why people confronted with the same social situation may choose to act in very different ways. For example, two children may be teased by a peer. One child may perceive this as harmless play and may laugh, whereas another child may interpret this as mean and threatening and may choose to act aggressively toward the peer. Many theorists (e.g., Crick & Dodge, 1994; Dodge, 1986; Ladd & Crick, 1989; Lemerise & Arsenio, 2000) suggest that distortions or deficiencies in social information processing may lead to maladaptive behavior. Thus, in addition to focusing on improving specific social behaviors in social skills intervention programs, it seems that social-cognitive variables can be an important target for treatment as well (e.g., Guerra & Slaby, 1990; Hudley & Graham, 1993). In fact, social-cognitive processes can be viewed as social skills themselves (see Chapter 1, for further discussion). In this chapter, several social-cognitive models will be reviewed and the ways in which social-cognitive variables have been assessed in children, adolescents, and adults will be presented.

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THEORETICAL MODELS OF SOCIAL INFORMATION PROCESSING

Among the most influential social-cognitive models in recent years is the model of social information processing proposed by Crick and Dodge (1994), which is a modification of a model originally suggested by Dodge (1986). According to this model, individuals approach a specific social situation with social knowledge, schemas (e.g., scripts for how to join a group), and a database of memories of their past social experiences (e.g., memories of having many group entry attempts rejected). They then receive as input a set of social cues (e.g., group members rejecting their entry attempt), and their behavioral response is a function of how they process those cues. These processing steps include (1) encoding of external and internal cues, (2) interpretation of those cues, (3) selection of goals, (4) response access, (5) response decision, and (6) behavioral enactment. Importantly, although Crick and Dodge propose six steps of processing, they do not view social information processing as strictly linear in nature. Instead, they believe that each processing step may influence the others through a series of feedback loops.

As a person interacts with others, he or she initially encodes and interprets social cues. During these first two processing steps, the individual is guided by relevant social knowledge that is based on previous experiences. This knowledge may play an important role in the social attributions a person makes, such as interpretations of a peer's intent. For example, a child who has a history of being frequently victimized by peers is apt to attribute an act, such as a peer breaking the child's toy, to the peer's hostile intentions rather than to accidental circumstances.

In the third step of social information processing, the person generates possible goals for the situation. The goal given highest priority by the individual is likely to elicit related behavioral strategies. For instance, a retaliation goal is associated with aggressive strategies. In the fourth step of processing, the individual engages in response access, searching long-term memory for possible behavioral strategies for the situation. If, for example, a person's social strategy repertoire contains primarily aggressive responses, it is likely that a variety of possible aggressive strategies will be accessed.

In the fifth step of social information processing, the individual decides on a specific behavioral response. At this step, several social-cognitive constructs are likely to come into play. When deciding upon a particular response, the person should feel confident that he or she could successfully produce that behavior (i.e., feelings of self-efficacy). In addition, the individual should expect that the behavior would result in positive outcomes (i.e., outcome expectations). Finally, the person should view the response as being appropriate according to one's own moral rules or values (e.g., beliefs about the legitimacy of aggression.). Assuming that such positive evaluations are made regarding the selected behavior, the sixth processing step involves enacting the response choice.

Notably, though six steps of information processing are proposed by Crick and Dodge (1994), the model does incorporate feedback loops. For example, it may be that those who tend to interpret a protagonist's intent as hostile may be prompted to place higher priority on retaliation goals, but it also may be that those who are greatly concerned about retaliation may be predisposed to interpret someone's intentions in a hostile manner. Although Crick and Dodge suggest that each social-cognitive variable may predict behavior, they also assert that behavior is best predicted by multiple variables.

Lemerise and Arsenio (2000) have proposed some modifications to the Crick and Dodge (1994) model, resulting in an integrated model of emotional processes and cognition in social information processing. Briefly, Lemerise and Arsenio assert that emotion plays a critical role in each step of the model. Individuals who are confronted with a social situation face

that encounter with a certain emotional style (e.g., intensity of expressing and experiencing emotions) and a specific level of arousal or mood. As an individual interacts with another person, that person's affective cues are an important source of information to be encoded and interpreted. Likewise, goal selection, as well as response generation, decision, and enactment can all be impacted by the emotional experience of the individual and the interaction partner. For example, aroused negative emotion in response to a partner displaying negative affect may contribute to the selection of an antisocial goal and ultimately an aggressive response.

An emotion component is also included in a model of social-cognitive processing proposed by Ladd and Crick (1989). They suggested that in response to a specific social situation, individuals pursue certain goals, but that self-perceptions and emotions play an important role in social information processing as well. The basic unit of Ladd and Crick's (1989) model is the social exchange (e.g., an interaction between a child and peer), and the focus is on what factors (e.g., goal priorities, attributions about the self, emotional state) precede behavioral enactment and what factors are involved in response evaluation. For example, a prosocial goal and an attribution that one's social success is due to effort may motivate the individual to select prosocial behavioral strategies. Then, as the person assesses the outcome of the social exchange, that individual may persist with the selected goal or revise it as the social interaction continues.

In his attribution theory, Weiner (1985) emphasizes that individuals are concerned with determining the perceived causes of behavior and events, including social interactions and academic achievement outcomes. According to Weiner's theory, there are three underlying dimensions of causes. The first is *locus*, in which the individual must decide whether a cause is internal (e.g., lack of social ability) or external (e.g., bad mood of the interaction partner). The second dimension is *stability*, which identifies a cause as constant or changing over time. The third dimension is *controllability*, or whether a cause is subject to volitional influence. The attributions a person makes can have a strong impact on factors such as behavioral choices, expectancy of success, and emotion. For example, an individual who is victimized by peers may attribute this experience to external, stable, and uncontrollable factors. In turn, the individual may decide to withdraw socially, expect future harassment, and feel hopeless.

Selman and colleagues (Selman, Beardslee, Schultz, Krupa, & Podorefsky, 1986) proposed the Interpersonal Negotiation Strategies (INS) model. According to this model, four information processing issues are central as individuals engage in social problem solving. The first process involves the definition of the problem. The individual must evaluate the specific problem in terms of the relationship (i.e., whether the problem is a mutual one or whether the focus is on one person). The second process focuses on the action to be taken (i.e., the strategy or strategies suggested to deal with the dilemma). The third process involves considering the consequences of the solution proposed. These include consequences to the protagonist, the significant other, and the relationship between the two people. The fourth process takes into account the complexity of feelings expressed. The person must consider the effect of the solution on the emotions of those involved. According to this model, the individual's use of strategies may vary depending on the context (e.g., status difference between interaction partners, type of relationship).

Bandura's (1977) self-efficacy theory proposes that individuals' level of confidence in their ability to successfully perform a certain behavior will impact whether that behavior will be initiated, how much effort will be exerted, and how long the behavior will be attempted in the face of challenge. According to Bandura, expectations of personal efficacy come from four principal sources of information, including performance accomplishments, vicarious experience, verbal persuasion, and emotional arousal. Bandura distinguishes self-efficacy perceptions from outcome expectations. Outcome expectations are defined as an individual's

estimate that a given behavior will result in a particular outcome. Outcome expectations and self-efficacy perceptions are distinct because an individual may believe that a certain behavior will lead to a specific consequence, but that person may not think that he or she could successfully carry out that particular behavior. For example, the individual may believe that using negotiation strategies may lead to the peaceful resolution of a conflict, but she may not think she is a very effective negotiator. Conversely, a person may believe that she could effectively carry out a behavior but may not expect that behavior to result in the desired outcome. Thus, both self-efficacy perceptions and outcome expectations impact individuals' behavioral choices.

All of these theoretical models highlight specific types of social-cognitive variables that may operate as individuals decide on behavioral responses in social situations. The models differ in the specific variables that are emphasized, but across these models certain social-cognitive processes are viewed as playing significant roles in predicting individuals' social behavior. These variables include attributions of hostile intent, attributions for social success or failure, social goals, strategy knowledge, self-efficacy perceptions, outcome expectations, and beliefs about the legitimacy of aggression. Each of these social-cognitive processes will be discussed below, with a focus on some of the most common ways these variables have been assessed in children, adolescents, and adults.

ASSESSMENT OF ATTRIBUTIONS OF INTENT

A variety of methods have been used to assess attributions of hostile intent (see Orobio de Castro, Veerman, Koops, Vosch, & Monshouwer, 2002, for a meta-analysis). Through audio, video, or picture presentation or through laboratory analog tasks participants are asked to respond to ambiguous provocation situations in which a provocateur causes some kind of harm for reasons that are unclear. The most frequently used technique involves audio presentation of hypothetical ambiguous provocation vignettes that are read by the experimenter in either an individual interview or a group administration context. In one of the first studies to examine the attribution of hostile intent, in an individual interview context Dodge (1980) presented aggressive and nonaggressive boys from grades two, four, and six with four stories involving ambiguous provocation (e.g., milk is spilled on the child and the provocateur's intent is unclear). In two of the stories the provocateur was an aggressive classmate (identified by name) and in two of the stories the provocateur was a nonaggressive classmate. The boys were then asked how the incident might have happened, with responses being probed in a nonleading manner until the child commented about the intentionality of the peer. Hudley and Graham (1993) also individually interviewed children, and following each vignette, participants were asked three questions to judge the peer's intent: whether the provocateur "meant to do that to you," whether he did it "on purpose," and whether it was "his fault that it happened." Participants responded on a 7-point scale ranging from "yes for sure" to "surely not," a response format that allows for more variability in attributions. Interviews with adolescents (e.g., Slaby & Guerra, 1988) and adults (e.g., The Social Scenarios Interview; Flory, Matthews, & Owens, 1998; Vitale, Newman, Serin, & Bolt, 2005) likewise involve the presentation of ambiguous provocations, followed by questions regarding the provocateur's intent.

Group assessments of attributions of hostile intent via audio presentation are used as well. In research with children, Erdley and Asher (1996) presented fourth- and fifth-grade students with 10 ambiguous provocation vignettes in which the provocateur was the same sex as the participant, and the child was instructed to imagine that he or she was the victim.

Children were asked whether the provocateur caused the harm “by accident” or “on purpose,” and scores were based on the proportion of “on purpose” responses given. In work with adults, Homant and Kennedy (2003) used the Hostile Attribution Scale that includes 10 common frustrating situations (e.g., someone being late for a meeting). Following each scenario, two cognitive reactions were provided, reflecting hostile vs. benign intent. To assess the relation of attributions to aggressive driving behavior, Matthews and Norris (2002) presented adults with 12 scenarios involving driving situations that portrayed malign, ambiguous, or benign intent. Participants’ attributions were assessed using the questions: (a) How certain are you that the driver’s actions are intentional? and (b) How certain are you that the driver’s actions are hostile? Responses were made on a 9-point rating scale, with 1 = *not at all sure* to 9 = *extremely sure*.

Some researchers have assessed the attribution of hostile intent using video presentation of stimuli in which they ask participants to imagine that they are the victims of the negative outcomes. Dodge, Murphy, and Buchsbaum (1984) produced a videotape that included 10 vignettes that depicted hostile, prosocial, accidental, merely present, or ambiguous intent. Children were asked to verbally identify the intent of the actor involved. Similarly, Dodge, Price, Bachorowski, and Newman (1990) presented video recorded stimuli of 16 problematic social events depicting hostile, prosocial, accidental, or ambiguous intent to male juvenile offenders. Participants were asked to select one of four attributional options: (a) to be mean, (b) it was an accident, (c) to be helpful, and (d) it is unclear why he did it. Lemerise, Gregory, and Frestrom (2005) showed children six videotaped ambiguous provocation vignettes featuring pairs of same-gender, same-race children. The gender and race of the stimulus children varied across the stories, as did the emotion displayed by the provocateur. Children were interviewed about the intent of the provocateur and were asked increasingly more direct probes until they made an attribution.

A few studies involving younger children have presented ambiguous provocations with the aid of pictures. Lavalley, Bierman, and Nix (2005) showed first-grade students eight drawings depicting failed attempts at peer entry or minor harm under conditions of ambiguous intent. Children were asked why they thought the children in the pictures had acted as they did. Coders rated the explanation given as hostile or nonhostile, with scores reflecting the percent of hostile attributions given across the vignettes. In work with maltreated 6-year-old children, Price and Glad (2003) presented ambiguous provocations with the aid of a storyboard. The child chose a laminated figure that looked most like him or her, and the interviewer portrayed the provocateur (either the mother, father, unfamiliar teacher, best friend, or unfamiliar peer). Children were asked to explain the reasons for the other person’s actions and were questioned whether the person was “being mean,” “not being mean,” or whether it was “hard to tell.” In this study, separate hostile attribution tendency scores were calculated for each relationship figure.

Finally, attributions of hostile intent have been assessed using laboratory analog tasks involving ambiguous provocation. For example, Hudley and Graham (1993) had pairs of boys participate in a map-reading task in which one boy was to give directions to his partner so that the partner could get to a certain destination, and both boys would win a prize. However, unknown to the boys was the fact that they were each looking at different maps, so it was impossible for correct directions to be given or for a prize to be won. After this task, the participant was asked to judge his peer’s intent.

Although most assessments of attributions of hostile intent use situations depicting physical harm, more recently some studies have examined relational provocation, defined as acts focused on harming one’s reputation or sense of belonging (e.g., the child overhears peers discussing a party to which the child has not been invited). Using group administration, Crick, Grotpeter, and Bigbee (2002) presented children with five relational and five overt

provocation situations, and participants evaluated the provocateur's intent (mean or not mean). Leff, Kupersmidt, and Power (2003) have also given relational provocation situations in a group context, and they varied the status of the provocateur (someone with a relationally aggressive reputation or someone without such a reputation). Children rated the intentionality of the provocateur on a 5-point scale. The Social Cognitive Assessment Profile (SCAP; Hughes, Cavell, & Meehan, 2004) is administered individually in an interview format and presents eight ambiguous provocation situations, four involving relational aggression and four involving overt aggression. Participants are asked to spontaneously generate an attribution for why the harm occurred. Interestingly, a cartoon-based attributional measure for urban girls has recently been developed by Leff et al. (2006). These researchers partnered with African-American inner-city third- and fourth-grade girls to create a measure that uses cartoons to illustrate physically and relationally provocative situations in a culturally sensitive way. This measure is individually administered, and participants are asked to select their attribution from among the intentional and unintentional possibilities provided.

ASSESSMENT OF ATTRIBUTIONS FOR SOCIAL SUCCESS AND FAILURE

To assess individuals' attributions for social success and failure, questionnaires, individual interviews, and laboratory analog tasks have been used. The Student Social Attribution Scale (Bain & Bell, 2004) is a 30-item questionnaire that assesses causal attributions for social success and failure in school-related situations. Children are presented with social situations, half that involve success and half that depict failure. Then, children are asked to rate on a Likert scale (1 = *seldom*, 2 = *sometimes*, 3 = *often*) how likely each of four causal statements (ability, effort, chance, and task difficulty) is for the situation. The Assessment for Social Failure measure (Guerra, Huesmann, & Zelli, 1990) presents adolescents with four social situations in which another person frustrates the participant. Participants are asked to state the one reason why the social failure would happen, and then they rate the cause on the dimensions of causality, stability, and controllability. The Attributional Style Assessment Test (Anderson, Horowitz, & French, 1983) has been used with college students and includes situations that involve interpersonal success, interpersonal failure, noninterpersonal success, and noninterpersonal failure. Following each situation, participants are asked to select an attribution for the situation from choices that reflect ability, effort, and strategy explanations. The Attributional Style for Heterosocial Situations questionnaire (Bruch & Pearl, 1995) is designed to sample heterosocial situations relevant to college students. The measure consists of eight situations, and participants are asked to imagine themselves in the situation and then to write down what the major cause would have been if the situation happened to them. Then, they rate the cause for each situational item on the dimensions of locus, stability, and controllability.

In an individual interview context, participants are typically presented with a set of social situations and are asked to provide an explanation for the outcome. For example, Earn and Sobol (1990) used 12 situations that varied in their outcome (success or failure) and the initiator of the contact (either the child or an agemate). Children respond to scenarios such as "You ask a child to go to the movies with you and he does. Why do you think this would happen?" Children's open-ended responses are then coded on the dimensions of locus (internal, mutual, or external), stability (stable or unstable) and controllability (controllable, mediate, or uncontrollable).

Finally, attributions have been measured in laboratory analog situations in response to actual social challenges. For example, Erdley, Cain, Loomis, Dumas-Hines, and Dweck (1997) invited children individually to try out for a pen pal club. A child's first attempt was rejected, but all children were accepted into the club after their second attempt. Children were then asked to make attributions for their initial social failure. Four attributions (i.e., ability, personality, effort, and incompatibility) were presented on a wheel divided into 32 sections, and children could assign each attribution some proportion of the 32 points. In another study, Pelham, Waschbusch, Hoza, Pillow, and Gnagy (2001) used a social interaction task in which a boy met a same-age, same-sex confederate and was instructed to try to get the other boy to like him and to talk the boy into coming to a summer program. Boys experienced a social success and a social failure, separated by several days. Immediately after each social interaction task, boys evaluated possible attributions (effort, ability, task difficulty, external, luck) for their success or failure, rating items on a 1–10 scale, 1 = *really true*.

ASSESSMENT OF SOCIAL GOALS

Individuals' social goals have been measured using a variety of methods, such as asking participants to spontaneously generate goals or to evaluate possible goals presented to them. Goals are assessed in response to hypothetical challenging social situations, real-life situations, or in more general social contexts. In work using hypothetical situations, Erdley and Asher (1996) interviewed children about their goals in response to each of three ambiguous provocation vignettes. Children were asked, "What would you be trying to do?" and eight goal alternatives were presented. Children rated the goals (e.g., get back at the provocateur, avoid the provocateur, maintain the relationship) on a 1 (*really disagree*) to 5 (*really agree*) scale. The Social Cognitive Assessment Profile (Hughes et al., 2004) likewise asks children to evaluate their goals in response to ambiguous provocation vignettes. Children are instructed to rate on a 4-point scale the importance of each of three social goals (i.e., dominance, revenge, and affiliation). Adolescents' goals in response to ambiguous provocations have been assessed in interviews using very similar methods (e.g., Lochman, Wayland, & White, 1993; Slaby & Guerra, 1988).

Researchers have also used a group administration format when assessing individuals' goals in response to hypothetical challenging social situations. Some studies ask children to select the one goal they would pursue. For example, in response to each of four conflict situations and four peer group entry situations, Crick and Dodge (1996) asked children to select either an instrumental goal or a relational goal. When completing the Children's Conflict Resolution Measure (Chung & Asher, 1996), children are instructed to choose a relationship, control, self-interest, or avoidance goal for each of 12 peer conflict situations. Other studies ask children to rate a variety of goals, rather than selecting just one primary goal. Rose and Asher (1999) have asked children "What would your goal be?" in response to situations depicting a conflict of interest with a friend. Children rated six goal options (e.g., relationship, instrumental, revenge) on a 1 (*really disagree*) to 5 (*really agree*) scale. Rose and Asher (2004) have employed the same rating scale approach to assessing goals using situations that involve help-giving (e.g., goals of prosocial support, not getting involved, and assigning responsibility) and help-seeking (e.g., goals of resolution, self-presentation, and privacy) tasks within a friendship.

Another technique employed to assess social goals involves having individuals evaluate their goals for situations they have directly experienced. Studies with children have had participants engage in a socially challenging task, after which their goals are evaluated.

Underwood, Schockner, and Hurley (2001) had children play (and mostly experience losing) a computer game with a peer who made provoking remarks during the session. Then, children were asked how much they were trying to achieve each of three social goals (i.e., prosocial, assertive, problem solving), which they rated on a 1 (*not at all*) to 5 (*a lot*) scale. Frey, Nolen, Edstrom, and Hirschstein (2005) had children participate in a structured conflict task, a prisoner's dilemma game. Depending on children's relative use of cooperative or exclusively self-interested strategies, four types of goals were defined (i.e., dominating, individualistic, egalitarian, and altruistic). Studies with adults typically have participants generate social situations they have experienced and then rate their goals. For example, Ohbuchi and Tedeschi (1997) asked college students to describe an experience of conflict and then rate how strongly they wanted to achieve particular outcomes (e.g., relationship, power-hostility, justice) on a 7-point scale. Similarly, Mikulincer (1998) had college students generate events that involved trust validation or trust violation in their close relationships and then rate their social goals (i.e., intimacy, security, control) on a 6-point scale.

Some researchers measure individuals' social goals in more global contexts, employing a group administration format. Salmivalli, Ojanen, Haanpaa, and Peets (2005) assessed children's goals using the Interpersonal Goals Inventory for Children, a self-report questionnaire consisting of 33 items representing eight goal scales. This measure is adapted from a questionnaire used with adult samples (The Circumplex Scales of Interpersonal Values; Locke, 2000). The goal scales represent different combinations of agentic (dominance, power, status) and communal (friendliness, warmth, love) goals. Individuals rate the importance of these outcomes when they are with peers on a 0 (*not important to me at all*) to 3 (*very important*) scale. To assess the social goals of adolescents, Wentzel (1994) has had students rate on a 6-point scale how often they try to achieve various types of prosocial and social responsibility goals in school. Jarvinen and Nicholls (1996) have asked adolescents to rate on a 5-point scale how much they like to achieve certain goals when they are with friends. The six goal scales (i.e., dominance, intimacy, nurturance, leadership, popularity, and avoidance) each have approximately five items. Finally, with adult samples, Dryer and Horowitz (1997) have used the Interpersonal Goals Inventory. Respondents rate the importance of 51 goal items on a 5-point scale, and goals are determined based on the dimensions of dominance and affiliation.

ASSESSMENT OF SOCIAL STRATEGIES

The assessment of individuals' social strategy repertoires has focused on examining both the quantity and quality of solutions, typically in response to challenging social situations. In some cases, participants are asked to generate solutions spontaneously, and in other cases solutions are presented for participants to evaluate. One measure that has been used extensively in the assessment of social strategy knowledge is the Preschool Interpersonal Problem Solving Test (PIPS; Shure & Spivack, 1974). In this assessment, which has been validated with children aged 4–6 years, participants are presented with two types of interpersonal problems. In one scenario, participants are asked about the ways in which a child might obtain a toy that another child has. In the second scenario, participants are asked about ways to avert their mother's anger caused by the child damaging a valuable object. Each theme (e.g., trying to get a toy) is presented via a variety of pictures to elicit new responses (with prompting from the interviewer) and to maintain the participant's interest. A child's PIPS score is based on the total number of different, relevant solutions given to the two problems. The ability to

generate a greater number of strategies, regardless of quality, was viewed as more socially competent by Shure and Spivack.

More recent approaches to the assessment of social strategy repertoires continue to recognize that having the knowledge and flexibility to produce a high quantity of solutions is important. However, current assessments also emphasize that the ability to generate high-quality, prosocial strategies vs. low-quality, aggressive or passive strategies is especially crucial to socially competent behavior. The Social Problem Solving Scale (Dodge, Bates, & Pettit, 1990) has been used with children in the elementary school years. Participants are presented with eight drawings, four that depict a child who would like to join other children who are playing and four that show a child who is being teased or frustrated by another child. Participants are asked to generate three possible strategies for each situation. These strategies are coded into one of six categories: aggressive, competent, authority-punish, authority-intervene, passive/inept, or irrelevant/other. The percent of responses in each category is then calculated. The Knowledge of Interpersonal Problem Solving Strategies Assessment (KISA; Asarnow & Callan, 1985) has been used with children in the late elementary school years. In an interview context, participants are presented with four situations: physical aggression, prosocial, opportunity for prosocial behavior, and friendship. They are asked what the child could do to solve the problem and are then given a second probe. Responses are coded into one of seven categories: physical aggression, tattletale, ignore, assertion, positive, mature, or intense aggression. The number of separate solutions generated is also determined. In addition, after producing their own responses, participants are presented with six potential strategies and are asked to rate on a 5-point scale how much they would like to play with someone who did each behavior. Another interview approach, used primarily with preschool-aged children, involves an enactive assessment in which situations are presented via the use of puppets (e.g., Mize & Ladd, 1988). Children use a puppet themselves within the situation to suggest or enact as many strategies as possible. The number of strategies is determined, and responses are coded for content and effectiveness.

In work with adolescents, Kuperminc and Allen (2001) used nine hypothetical social dilemmas involving conflicts with peers, parents, and other adults. Adolescents reported their most likely responses that were then coded for the overall effectiveness and for the level of sophistication of the strategies. Selman et al. (1986) have used the Interpersonal Negotiation Strategy (INS) interview with adolescents. Participants are presented with eight dilemmas that involve an interpersonal disequilibrium between a protagonist and a significant other. They are asked the best way for the protagonist to deal with the significant other in the situation. Strategies are coded for quality, based on the level of collaboration reflected in the responses.

Social strategies have also been assessed in a group setting using questionnaires. In the Children's Conflict Resolution Measure (Chung & Asher, 1996), children are instructed to choose a prosocial, hostile, assertive, passive, or request for adult help strategy in response to each of 12 peer conflict situations. Erdley and Asher (1996) assessed children's strategies in response to ambiguous provocation situations. Following each of 10 situations, children are asked to rate on a 3-point scale (*no*, *maybe*, *yes*) if they would engage in each of six behaviors (e.g., physical aggression, passive reaction, problem-solving response). Then, they are instructed to circle the one behavior they think they would be most likely to engage in following the provocation. Children have also been asked to rate their strategies in response to various conflicts of interest with a friend (Rose & Asher, 1999) and in response to help-giving and help-seeking tasks within a friendship (Rose & Asher, 2004). Approximately six strategies are provided for each situation, and strategies are rated on a 1 (*definitely would not do*) to 5 (*definitely would do*) scale. To assess adolescents' problem-solving strategies, Keltikangas-Jarvinen (2002) presented participants with two interpersonal conflict situations. Following

each situation, 28 possible behavioral alternatives from the three domains of aggressive, prosocial, and withdrawn behavior are presented. Adolescents rate these strategies on a 1 (*I would do just that*) to 5 (*I would never do that*) scale.

An assessment of social problem-solving behaviors for adults was designed by Rusbult, Johnson, and Morrow (1986). This 28-item questionnaire measures the individual's perceptions of his or her own problem-solving behaviors. Four types of responses are assessed, using seven items for each type. These response types include voice (e.g., discussing the problem), exit (e.g., threatening to end the relationship), loyalty (e.g., waiting and hoping things will improve), and neglect (e.g., ignoring the problem). Each item is rated on a 1 (*never do this*) to 9 (*always do this*) scale.

ASSESSMENT OF SELF-EFFICACY PERCEPTIONS

Individuals' evaluations of their self-efficacy perceptions have been measured either in their responses to specific, challenging situations or in their more global assessments of their social abilities. Participants may be asked to rate how easy or hard it would be for them to enact each strategy following a social situation. These assessments are conducted in either an individual interview context (e.g., Erdley & Asher, 1996) or a group administration context (Crick & Dodge, 1996; Erdley, 1996). Perry, Perry, and Rasmussen (1986) developed a self-efficacy questionnaire that investigates several types of social contexts and asks children to rate on a 4-point scale how easy or hard it would be for them to deal with these situations (self-efficacy for aggression, inhibition of aggression, verbal persuasion skills, and prosocial behavior). To assess self-efficacy perceptions in adolescents, Kuperminc and Allen (2001) presented nine hypothetical conflict situations, each paired with a competent response that was described as "another teenager's response." Participants were then asked, "Do you think you could [perform the specified competent behavior] if you tried to?" Adolescents responded on a 1 (*definitely no*) to 10 (*definitely yes*) scale. In this same study, Kuperminc and Allen also asked adolescents to generate actual interpersonal conflicts. Teens were then asked three questions about their effectiveness in resolving these conflicts so that each would be unlikely to recur [e.g., How well they felt they had handled the situation, rated on a 1 (*worst way possible*) to 10 (*best way possible*) scale]. Measures for adults have focused on participants' assessments of their ability to carry out certain behaviors in the context of becoming acquainted with a stranger (Doerfler & Aron, 1995) or to perform various acts of communication with different types of interaction partners (e.g., The Glasgow Social Self-Efficacy Scale; Payne & Jahoda, 2004).

Several measures have been constructed to assess social self-efficacy in more general contexts. The Perceived Competence Scale for Children (Harter, 1982) investigates a variety of domains of self-esteem (e.g., social, scholastic, athletic). Children are presented with contrasting statements (e.g., Some kids find it hard to make friends BUT Other kids find it's pretty easy to make friends). Children select which statement is truer for them, and then they further rate the selected statement as either "sort of true for me" or "really true for me." Responses are scored on a 4-point scale. The Adolescent Self-Perception Profile (Harter, 1988) is structured in a similar way and includes various subscales assessing competence (e.g., social acceptance, close friendship, romantic appeal). The Pictorial Scale of Perceived Competence and Social Acceptance for Young Children (Harter & Pike, 1984) is designed for use with children from preschool age through third grade and examines domains such as peer acceptance and maternal acceptance. This measure is administered during an interview in which the child is presented with two pictures, one depicting a child performing

competently and one showing a child having difficulty. The interviewer then asks which child the participant is more like. Next, the interviewer asks whether the participant is a little bit or a lot like the child in the selected picture. The Academic and Social Self-Efficacy Scale (Gresham, Evans, & Elliott, 1988) measures children's perceptions of effectiveness in different types of social situations (e.g., group entry, conflict resolution). It is available in a self-report version, as well as in parent and teacher report versions.

ASSESSMENT OF OUTCOME EXPECTATIONS

The approach that has typically been used to assess outcome expectations involves presenting certain social situations (e.g., a child deciding to cut in line) and then asking participants to report what the outcome might be if particular behavior strategies (e.g., physical aggression, compromise) are enacted. This method has been used both in individual interviews during which participants generate outcome expectations that are later coded (e.g., Crick & Ladd, 1990, Study 1) and in group administration questionnaires in which participants rate the likelihood that specific positive or negative outcomes would result (e.g., Crick & Dodge, 1996; Crick & Ladd, 1990, Study 2). The Social Cognitive Assessment Profile (SCAP; Hughes et al., 2004) measures outcome expectations using an individual interview format. Participants are presented with eight hypothetical ambiguous provocation vignettes and are asked to evaluate consequences (i.e., peer approval, positive tangible outcome, peer retaliation) of using aggressive and prosocial responses to each situation.

The Perceived Consequences Questionnaire (Perry et al., 1986) is another instrument designed to measure outcome expectations. The questionnaire consists of 48 items, each of which requires children to imagine themselves behaving in a certain way toward a specified classmate (e.g., yelling at someone who is teasing you). Children are asked to rate their level of confidence that a specific consequence would occur (1 = *very sure it would not*, 4 = *very sure it would*). Thirty-six items assess children's anticipated consequences for aggressive behavior (i.e., tangible rewards, adult approval, peer approval, reduction of aversive treatment, victim suffering, and self-reward). The remaining 12 items assess children's expected outcomes for prosocial behavior.

The Interpersonal Negotiation Strategy (INS) interview (Selman et al., 1986) has been used to assess outcome expectations in adolescents. In response to social dilemmas, participants are asked what consequences they believe will be associated with the use of specific social strategies. Responses are coded for quality, based on the level of concern shown for the relationship (ranging from no anticipation of relationship consequences expressed to self-protective justification provided to concern for immediate vs. long-term effects on the relationship).

It does not appear that research with adults approaches the assessment of social outcome expectations using the types of interview and questionnaire methods employed with children and adolescents. Rather, most typically, participants' expectancies (e.g., regarding the attractiveness, competitiveness, or intelligence of the interaction partner) are manipulated in experimental settings, and their resulting social behavior is observed (see Olson, Roese, & Zanna, 1996, for an extensive review).

ASSESSMENT OF LEGITIMACY OF AGGRESSION BELIEFS

Several different questionnaires have been developed to measure individuals' beliefs about the acceptability of using aggressive responses. The Normative Beliefs about

Aggression Scale (NOBAGS; Huesmann & Guerra, 1997) is a 20-item scale designed to assess beliefs about the legitimacy of aggressive behavior. The measure has been used with both children and adolescents and consists of two subscales. The Retaliation Approval subscale includes 12 items measuring beliefs about the acceptability of retaliating to aggressive provocation in aggressive ways. A sample item is, “Suppose a boy hits another boy, John. Do you think it’s wrong for John to hit him back?” The General Approval subscale includes eight items assessing beliefs about the legitimacy of aggression in general (e.g., “In general, it is wrong to hit other people”). Responses are made on a 4-point scale (1 = *it’s really wrong* to 4 = *it’s perfectly okay*). The NOBAGS has been modified to examine beliefs about the legitimacy of physical, verbal, and indirect aggression in response to specific situations involving physical, verbal, and indirect provocation (Musher-Eizenman et al., 2004). The NOBAGS also has been shortened for use with preschoolers in an individual interview (Giles & Heyman, 2003), with the response choice limited to two options, endorsement of aggression or rejection of aggression.

Slaby and Guerra (1988) developed a questionnaire for adolescents that presents 18 beliefs supporting aggression. The types of beliefs measured include legitimacy of aggression (e.g., “It’s OK to hit someone if you just go crazy with anger”), aggression increases self-esteem, aggression helps to avoid a negative image, victims deserve aggression, and victims do not suffer. Respondents answer “true” or “false” to each item. Erdley and Asher (1998) created a legitimacy of aggression questionnaire that is a modification of the Slaby and Guerra (1988) legitimacy of aggression subscale. This measure consists of 16 items, eight that focus on physical aggression and eight that focus on verbal aggression. Items are appropriate for children, and responses are made on a 1 (*really disagree*) to 5 (*really agree*) scale.

Adults’ beliefs about the legitimacy of aggression have been assessed using the Moral Approval of Aggression Inventory (MAAI; Lagerspetz & Bjorkqvist, 1985; see also Lagerspetz, Bjorkqvist, Bjorkqvist, & Lundman, 1988). There is a short version of this measure that is intended to function as a general test of aggressive attitudes. The long version of the MAAI allows for the investigation of cultural differences in the approval of different types of aggression. This long version consists of 11 situations in which aggression may be used (e.g., in war, in self-defense, in child rearing), and these situations are paired with each of eight acts of aggression (e.g., shout, threaten, kill). Respondents are asked to rate the extent to which they consider aggression justified under each set of circumstances, with ratings made on a 4-point scale ranging from 0 (*never justified*) to 3 (*usually justified*).

CONCLUDING COMMENTS

Various social-cognitive theories propose the ways in which specific thought processes may relate to the social behaviors in which people choose to engage. Studies have shown that individual variables (e.g., attributions of hostile intent, social goals) are predictive of behavior. However, it is also clear that the assessment of multiple social-cognitive variables provides a stronger prediction of behavior (Crick & Dodge, 1994). Social-cognitive variables can be measured to identify individuals who may be more likely to engage in maladaptive behavior. Although the focus of social skills intervention approaches has typically been on changing individuals’ behaviors, if the thought patterns underlying socially incompetent behavioral choices are not modified as well, it is likely that the person will soon lapse back into those same maladaptive behaviors. Thus, it is important to target social-cognitive variables in social skills interventions and to monitor these variables to assess for possible improvement.

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