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THE INFLUENCE OF AFFECTIVE TIES ON CHILDREN'S CONSEQUENTIAL REASONING ABOUT AMBIGUOUS PROVOCATION SITUATIONS

A Thesis
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Of the Requirements for the Degree
Master of Arts

By
Jennifer R. Maulden

December 2009

THE INFLUENCE OF AFFECTIVE TIES ON CHILDREN'S CONSEQUENTIAL REASONING ABOUT AMBIGUOUS PROVOCATION SITUATIONS

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THE INFLUENCE OF AFFECTIVE TIES ON CHILDREN'S CONSEQUENTIAL REASONING ABOUT AMBIGUOUS PROVOCATION SITUATIONS

Jennifer R. Maulden December 2009 60 pages

Directed by: Dr. Elizabeth Lemerise, Dr. Jacqueline Pope-Tarrence, and Dr. Andrew Mienaltowski

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Past models (i.e., Crick and Dodge, 1994) of children's social information processing (SIP) have neglected to include the role of emotions in children's reasoning during social situations. A recent reformulation (Lemerise and Arsenio, 2000) updated Crick and Dodge's model to incorporate emotions and their impact on children's processing. Since then, studies have examined the influence of emotion in children's SIP, but few have investigated the impact of children's affective ties with their peers. This study explores the effect of the participant's relationship with the provocateur on subsequent consequential reasoning concerning possible hostile, passive, and competent response; in addition, it addresses gaps in the literature by utilizing a different age range and investigating the response decision step of SIP. A sample of second and fifth graders (N=101) completed a social cognitive interview in which they reasoned about competent, hostile, and passive responses when the provocateur was a friend, neutral peer, or an enemy. Results indicated multiple relationship effects and gender differences, which illustrated the impact relationships can have on SIP.

Literature Review

Why do children behave differently in some social situations than in others? Why do some children react aggressively to being bumped by another child in the hallway at school, whereas others respond passively? These individual differences in children's behavior led researchers to hypothesize that the discrepancy must arise from different patterns of processing social information that children undergo before choosing a behavior with which to respond. Perhaps aggressive children reason differently about social conflicts than shy children do – if this is the case, these processing differences would explain why there is such variation among children in social behavior (Lemerise & Arsenio, 2000). This theory that some children reason differently than others led to models which attempted to explain this process, called social information processing (SIP).

SIP has been conceptualized in multiple ways over the years (e.g., Dodge, 1986; D'Zurilla & Goldfried, 1968), but our current understanding of this process comes from Crick and Dodge's (1994) model. This model hypothesizes six steps through which children progress from the time a social situation such as a provocation occurs until they enact a response. An important aspect of Crick and Dodge's model is the "database" that children are assumed to have when they enter any social situation. This database consists of memories of past experiences and knowledge about social rules and schemas; it affects every step of processing.

According to Crick and Dodge's (1994) model, when a child (for this example, "Billy") is initially confronted with a social situation (i.e., another child bumps him while in a crowded hallway at school), he enters the first stage of processing, *encoding of cues*.

During this stage, Billy must encode the various cues of the situation, both internal and external. Billy notices that the other child hurries past him without apologizing, and his back hurts where he was bumped. The cues that Billy encodes will greatly impact his reasoning in the next five steps – if he does not notice that the other child did in fact apologize quietly as he passed, Billy might interpret his behavior differently in the second step, *interpretation of cues*. In this stage, Billy interprets the cues that he encoded during the first stage. He will also make attributions of intent ("Did that kid bump me on purpose, or was it an accident?"). Next, Billy will enter the *clarification of goals* stage in which he identifies the goal that is the most important to him in this situation. The goal he chooses will have an important impact on how he responds; if Billy's goal is to get revenge, he might react aggressively, but if his goal is to be friends with the child who pushed him, he might pretend that nothing happened. During the *response access* stage that follows, Billy will construct reactions that will satisfy his goals. If he decides he wants revenge, for example, he might consider pushing the provocateur back, shoving him down onto the floor, or punching him. Next, Billy will evaluate each of these responses, reasoning about possible outcomes, leading to a *response decision*. He will then carry out the response (*behavior enactment*). After Billy enacts his response, his peers (both the provocateur and other children in the vicinity) evaluate Billy's actions and engage in this same process on their own, leading to multiple response and evaluation cycles.

Lemerise and Arsenio (2000) proposed that the impact of emotions should be added to the Crick and Dodge model. Doing so would allow for a more thorough

understanding of children's information processing during social situations, as the emotional impact of social events can greatly impact the decision making process as children select how to interact with others. Lemerise and Arsenio asserted that during any social conflict, emotional cues and messages are constantly being evaluated and used to modify the child's behavior. Whereas Crick and Dodge's (1994) model would imply that children encounter information in the environment and act upon it logically and mechanically, Lemerise and Arsenio stress that every aspect of social information processing can be influenced by emotion. With these changes, the Crick and Dodge model is altered in many significant ways. These are described below.

One of the most basic changes is to the database with which every child enters a situation. In addition to a child's memory for rules and social knowledge, Lemerise and Arsenio (2000) hypothesize that the child also remembers affect-event links. A child might recall, for example, that being hit by other children makes him angry, and hitting other children in retaliation makes him happy. These links have an encompassing effect on the child's reasoning throughout the conflict. In addition, Lemerise and Arsenio hypothesize that other emotion processes also impact the child's social information processing, such as emotionality and temperament, emotional regulation, and moods. If the child is in a bad mood (or has an irritable temperament) for example, this might have a negative influence on his/her reasoning throughout the social situation.

Lemerise and Arsenio's (2000) revision of the *encoding of cues* stage takes into consideration the affective cues from the peer, the child's ability to recognize his/her own emotions and those of the peer, and the child's capacity for empathy with the peer.

Returning to Billy from the above example, when he is bumped by another student in the school hallway, he must encode the emotion of the provocateur (e.g., sorrowful, angry, etc.) based on the emotional cues that he or she displays while bumping him. If Billy is inefficient at recognizing emotions and emotional cues in others, he may fail to realize that the child who bumped him is actually remorseful.

During the *interpretation of cues* stage, the affective nature of the relationship with the peer is taken into account; this implies that Billy may interpret the cues differently if he and the provocateur are friends than if they are enemies. This affective nature of the relationship between the 'victim' and the provocateur is also an important factor in the child's reasoning during the *clarification of goals* stage in which the child might only identify certain goals depending on their relationship status. If the child and provocateur are enemies, for example, Billy might be more inclined to want to get away from the other child, whereas if they are friends, Billy might want to diffuse the conflict as soon as possible. As with Crick and Dodge's model, this is a pivotal stage – the goal the child sets here filters out certain responses, having a formative impact on the rest of the child's information processing about this social situation.

With Lemerise and Arsenio's (2000) changes, *response access or construction* is adjusted to include the effect of somatic markers. Somatic markers enable children to narrow response options quickly and make on-line decisions efficiently. Children access responses that correspond with the goal selected in the *clarification of goals* stage, which will probably result in the desired emotional result. For example, if Billy wants to reduce

his anxiety by getting away from the other child, he may initially access response options that will comfort him in some way (e.g., finding friends with whom to talk).

Lemerise and Arsenio (2000) suggested multiple changes to the *response decision* stage as well. First, the emotional expectations the child has are taken into account for each possible response; for example, Billy might wonder, "How will I feel about myself if I push him back?" In addition, the child's ability to regulate his/her own emotions has implications for his/her self-efficacy judgments. If Billy is poor at regulating his own emotions, for example, he may refrain from trying to reason with the provocateur because he will not be able to do so without getting upset and crying. The affective nature of the relationship Billy has with the provocateur will once again come into play here – Billy will reason about the responses he is considering based on his friendship status. If his goal is to get the provocateur to apologize and they are friends, for example, Billy might reason that asking him calmly will be more effective than shouting threateningly. Billy's empathic responsiveness is also important during this stage, because if he is unable or unwilling to empathize with the provocateur, he may not react appropriately to emotions that the provocateur is displaying. If the provocateur seems fearful when Billy pulls his arm back to punch him, yet Billy does not empathize, he may choose to go through with this response anyway.

Crick and Dodge's (1994) *behavior enactment* stage is also significantly different because of Lemerise and Arsenio's (2000) additions. This enactment carries with it the production of emotions and emotional display rules. These cues are utilized by peers in

the vicinity (and the provocateur) to reason about Billy's actions and thus respond in their own way.

Thus, Lemerise and Arsenio's (2000) suggested changes to the Crick and Dodge (1994) model pave the way for research to either support or reject the role emotions play in social information processing. Researchers have studied the influence of emotions in SIP in four main ways: they have asked children about their emotions, manipulated the emotions in the stimulus, manipulated the child's emotions, and manipulated the affective ties the child has with the provocateur.

Asking children about their emotions

One method researchers have used is simply to ask children to report the emotions they felt during social situations. Murphy and Eisenberg (2002) asked children (N = 118; mean age = 8.85 years) to remember and describe peer conflicts they had recently experienced. Children were asked afterwards about the specifics of the conflict (e.g., how it had begun, what they felt throughout the experience, what their goals were, etc.) Anger was negatively related to friendliness of children's goals and constructive behavior during the conflict; anger levels were also lower for boys when they were friends with the other children involved in their conflicts. Sadness was more intense for girls during conflicts that began with verbal comments. A potential methodological confound in this study, however, is that children reported more intense sadness in general when they were with the male interviewer than one of the female interviewers. This study highlights that emotions felt during a conflict can influence multiple steps of SIP, as suggested by Lemerise and Arsenio (2000).

In another study asking children about their emotions, Camodeca and Goossens (2005), administered the Participant Role Scales questionnaire, a peer nomination measure describing varying behaviors to children (N = 242). Based on these scores, children were categorized as bullies, followers, outsiders, defenders, victims, or uninvolved bystanders. Afterward, children answered questions about hypothetical vignettes to assess aspects of their social information processing and emotions. Anger was higher among boys who were bullies or defenders than girls, and victims reported the most overall sadness and wanted to retaliate more than the other groups. Bullies and victims reported more anger overall than the others; the authors contended that bullies and victims react similarly due to their shared tendency toward reactive aggression. This indicates that typical children who often behave like bullies, defenders, and victims tend to get angrier, whereas victims also tend to experience more sadness in social situations.

Orobio de Castro, Merk, Koops, Veerman, and Bosch (2005) examined the social information processing and emotions of clinically aggressive boys and a control group of non-aggressive boys (N=84). Participants listened to a set of four audiotaped vignettes and answered questions about SIP and their emotions. Results indicated that aggressive boys attributed more happiness to the provocateur, reported more anger, and knew of fewer emotion-regulation strategies than comparison boys. In addition, more than 25% mentioned aggression as a method of regulating emotions. Taken together, the results of these three studies indicate that SIP is particularly sensitive to individual differences and emotions.

Manipulation of the child's emotions

Another way of studying the effect of emotions on social information processing is to manipulate the child's emotions before they reason about a situation. Similar experiments using young adults have shown effects of emotional manipulation on judgments (e.g., Bodenhausen, Sheppard, & Kramer, 1994; Tiedens, 2001). In a classic study utilizing this method, Dodge and Somberg (1987) screened 355 third, fourth, and fifth grade boys from both an urban school and a "small town school" in the Midwest, narrowing the participants to 32 rejected aggressive and 33 adjusted-nonaggressive children. These children watched videotaped vignettes showing a provocateur cause difficulties for another boy; the provocateur's action was hostile, ambiguous, accidental, or prosocial. After each vignette, participants answered questions about intent attributions and how they would respond if the situation had happened to them in real life. After completing the first trial of four vignettes (one of each intention type), the experimenter told the child he was leaving to bring in another student. The participant heard what he thought to be an actual conversation (but which was actually a tape-recording played in the next room by the experimenter) in which the experimenter was heard conversing with the other boy. The latter complained about being asked to work with the participant, commenting that he disliked the participant and would probably get into a fight with him or any other boy with which he was paired. Afterward, the experimenter returned and informed the participant that he would be working with the other boy, but that he was in a "bad mood" and would join in a few minutes. The participant was instructed to watch the remaining eight vignettes (two trials) in the meantime.

Results indicated that, predictably, aggressive boys made more hostile attributions than did nonaggressive boys. In addition, groups did not differ in hostile attributions during the relaxed trials, but did in the trials following the threat. Aggressive boys were not as accurate as nonaggressive boys in identifying accidental intentions in the trials following the perceived threat. Interestingly, the boys from the urban school were less accurate than the boys from the small town school, suggesting that these two environments might have differential influences on intent attributions. The results of this study indicate that the affective state induced by a perceived threat can have an impact on social information processing, causing hostile attributions in situations where the offending behavior was actually accidental. They also illustrate that in some situations, the impact of emotions on processing is minimal – as described here, nonaggressive boys did not make more aggressive attributions following the threat, but the aggressive children did. Thus, some children appear to be more capable of regulating this emotional arousal, and others only sometimes show deficiencies in processing.

Building upon the findings of Dodge and Somberg (1987), Orobio de Castro, Slot, Bosch, Koops, and Veerman (2003) used a computer game paradigm to frustrate participants. Participants consisted of boys ages 9-13 from the Netherlands: 29 highly aggressive boys in special education classes (and referred to the classes because of their aggressive behavior problems), 12 moderately aggressive boys in regular classes, and 16 nonaggressive boys in regular classes. Prior to the first emotion induction, children viewed four videotaped ambiguous provocation situations and answered questions concerning intent attributions and an open-ended question asking how they would

respond if the situation had happened to them. Afterward, the children were told that during a small break they would be allowed to play a computer game. They were also informed that they could win a small prize if they successfully completed the game, and asked to choose which one they wanted if they won. After a practice game, the children played the game again – this time, however, it was manipulated to "crash" just before they completed it. After losing this game, the participants answered questions about four more ambiguous provocation stimuli. Results showed overall that the moderately and highly aggressive groups generated more aggressive responses than the nonaggressive group. In addition, the negative mood induction increased hostile intent attributions only in the highly aggressive group. A potential problem with this study, however, came from the measures – a ceiling effect was observed when ten of the participants reached nearly maximum scores in aggressive responses before the threat ever occurred, limiting the ability to detect an effect of the mood manipulation.

Bryan, Sullivan-Burstein, and Mathur (1998) used music to induce moods in children, and then asked them about different social situations. In this study, 96 seventh graders with and without learning disabilities were randomly assigned to one of four induction techniques: music-induced negative affect (MI-NA), music-induced positive affect (MI-PA), self-induced positive affect (SI-PA), and neutral affect (NA). The MI-NA technique was accomplished by children listening to heavy metal music through headphones. The MI-PA technique required participants to listen to excerpts from the lighthearted song "Don't Worry, Be Happy" by Bobby McFerrin. The SI-PA induction was achieved by asking children to close their eyes and think about the happiest time of

their lives. The NA condition consisted of the children closing their eyes and counting. After the mood inductions (lasting one minute), participants were presented with a peer-entry scenario and asked questions about each of the social information processing steps outlined in Dodge's (1986) SIP model.

Results indicated no significant differences between children with and without learning disabilities; differences were found, however, between students with above-median scores on the Iowa Test of Basic Skills language subtest. Children in this group generated more solutions to the peer entry dilemma and interpreted the scenario as less hostile. Differences due to mood-induction were also found – subjects in the self-induced positive affect condition generated more solutions than those in the neutral affect condition. Interestingly, students in the music-induced positive affect group remembered more details from the story that were not actually present; they also interpreted the scenario as more positive than students in the music-induced negative or self-induced positive affect conditions. These results suggest that higher language abilities are associated with improved social competence. In addition, although positive affect may lead to false memories of the situation, it may also lead to a more positive interpretation of the situation, which would in turn result in competent responses.

Another mood induction study illustrates the impact of emotions on the response decision stage. Harper, Lemerise, and Caverly (under review) examined the response decision aspect of this step, inducing either happy, angry, or neutral moods in 480 elementary school students (grades 1, 2, and 3). After this induction, children were asked to reason about competent, hostile, and passive responses to three different provocation

vignettes. For each response, children predicted instrumental and social-relational outcomes and made self-efficacy judgments. Children were also asked about their goals for the provocation (e.g., "would you rather get your place back in line or have the other kid like you?"). Results indicated that children in the angry mood induction condition were more likely to select instrumental goals over social-relational goals than were children in the neutral condition. In addition, differential results of mood induction were found across peer status – children who were low on peer acceptance and high on rated aggressiveness (based on sociometric measures taken beforehand) who received the angry induction chose instrumental goals as more important than low accepted/highly aggressive children who received the happy induction. This pattern did not hold for highly accepted/nonaggressive children, however, indicating that individual differences exist in the effects of mood on SIP. Also of interest, children's goal choices (e.g., a preference for the social or instrumental goal) were a good indication of their response evaluations. Compared to those who chose instrumental goals, children who chose social relational goals predicted that peers would like them more if they enacted the competent response and thought these responses would be more effective and easier to enact. Children who chose the social relational goal also believed it would be more difficult to enact hostile responses compared to those who chose the instrumental goal. In addition, these children were more likely than the other group to believe that their peers would like them more after passive responses, and that these responses would be more effective. These results are important because they show that emotions have differential effects on children of different peer statuses and behavior reputations; also, they illustrate how the

goal stage of SIP directs reasoning toward certain types of responses over others and affects response evaluations.

Manipulation of emotions in the stimulus

Another method researchers have utilized uses experimental procedures that cause the stimulus itself to carry emotional connotations. In one such study, Lemerise, Gregory, and Fredstrom (2005) obtained peer nominations on 1063 students in grades 1 through 4. Nominations were tallied in order to understand the relative social status of the children. On a different day, children viewed videotaped ambiguous provocation stories – two featured a happy provocateur, two showed a sad provocateur, and two featured an angry provocateur. After each video, the experimenter asked participants questions concerning various steps in the SIP model – encoding and interpretation of cues, intent attribution, and response decision. Results showed that children were better able to identify the provocateur's emotion when the latter was happy than when he or she was angry or sad. In addition, children provided friendlier responses to the problem when the provocateurs were sad than when they were angry or happy and made more hostile intent attributions when the provocateur was angry than when they were happy or sad. Interestingly, some of the children were asked about the provocateur's emotion specifically and some were not (this was randomly assigned); those who were not asked about the provocateur's emotion showed differences in problem-solving responses depending on their social adjustment. More specifically, rejected-aggressive children, when not specifically drawn to identify the provocateur's emotion display, generated more hostile responses than average-nonaggressive and popular-nonaggressive students. Also, older students were

better than younger children at recalling details of the provocation, whereas younger children were less friendly in their responses than older children. This study illustrates that emotions are important not only in the context of the reasoning child's current feelings, but also in terms of the emotions of the provocateur. In addition, it supports Dodge and Somberg's (1987) finding that there are individual differences in children's sensitivity to emotion manipulation.

Another study demonstrating the importance of the emotions in the stimulus was conducted by Lemerise, Fredstrom, Kelley, Bowersox, and Waford (2006). This study manipulated the emotional display of the provocateur in ambiguous provocations, examining how this affected children's social goals and problem solving. First, third, and fifth graders completed sociometric measurements to gauge social adjustment. From the initial pool of 402 students, participants were divided into groups based on their social status and peer-nominated aggression scores. Children viewed videotaped ambiguous provocation situations; the provocateurs' emotion displays in these situations were varied. After a comprehension check for each situation, children rated the importance of six different goals. Children were also asked what they would do in the situation, and responses were coded for hostility/friendliness and passivity/assertiveness.

Results indicated that when the provocateur was happy, few social adjustment differences were found in preferences for certain goals over others. This is an important finding, because it suggests that children who typically display social competence problems (i.e., rejected-aggressive children) do not always exhibit this deficiency. In some situations, they appear to have the same goals as well-adjusted children. When the

provocateur was sad or angry, however, rejected-aggressive children rated dominance as a more important goal than the nonaggressive children did, and they also rated dominance and revenge as more important overall in these situations. When the provocateurs were angry, popular-nonaggressive children rated social relational goals as more important. In addition, aggressive and nonaggressive-rejected children's ratings of the "avoid provocateur" goal changed depending on the provocateur's emotion displays, whereas the other adjustment groups' (average-nonaggressive and popular-nonaggressive) ratings did not. Also, rejected-aggressive children endorsed "dominance" goals as more important regardless of the provocateur's emotion, but rated revenge as important only when the provocateur was sad or angry (and not happy). Overall, these results indicate that manipulating the provocateur's emotion within the stimulus has varied effects on children's goals in SIP; different children (i.e., aggressive vs. nonaggressive) reasoned differently about the same provocateur emotion displays, causing children to hold different goals for the situation. Because of the importance of the goal step in SIP in filtering responses to be processed, the impact of emotions on this stage certainly has repercussions throughout processing.

Manipulation of the child's affective ties

Another method utilized to study the effects of emotion on SIP is the manipulation of the affective ties the child has with the provocateur. More specifically, these studies generally examine the effects that the child's relationship with the provocateur has on his/her reasoning about the situation. Although few studies have

investigated emotions and SIP in this way, most existing research has focused on the *encoding* and *interpretation of cues, response decision,* and *behavior enactment* stages.

Hymel (1986) investigated intent attributions in 160 second and fifth graders. Sociometric measures were utilized to determine the names of liked and disliked peers. Each participant was randomly assigned to either a like or dislike condition and either positive or negative behavior valence. Next, four vignettes were presented to the child; the content of the stories varied slightly based on the experimental condition involved. For example, a child in the like/positive condition might be presented with a situation concerning a liked peer encouraging the child after he did poorly on a test, whereas a child in the like/negative condition might be presented with a situation involving a liked peer teasing the participant for doing poorly on a test. Each child was presented with four different situations in the same order. Two distracter stories were also presented in which the like and valence condition was reversed; one was presented first as a practice story, and another one was presented between the four target scenarios. Participants were asked to make intent attributions about the provocateur in each story. Results showed that positive behaviors were more likely to be perceived as having internal causes than negative behaviors. Interestingly, however, children's judgments concerning a behavior's cause depended on the outcome and whether the peer was liked or disliked. When the outcome was positive, liked peers' behavior was seen as a result of more stable causes, but when the outcome was negative, disliked peers' behavior was seen as a result of more stable causes. In addition, provocateurs were rated as more responsible for positive behaviors than for negative behaviors, but only when he or she was a liked peer; disliked

peers were blamed more often when the outcome was negative. These results support a pattern found in this research that the behavior of friends and enemies are evaluated differentially; friends are rated more positively and as more responsible for positive behaviors, and the opposite is true when disliked peers are involved.

Like Hymel (1986), other studies have focused on only one SIP step. DeLawyer and Foster (1986) examined outcome expectations of 37 fifth graders. Utilizing sociometric measures, investigators determined the names of peers who were liked, disliked, and neutral for each participant. Four vignettes were presented; each vignette was presented four different times, one describing each relationship type and a hypothetical peer as the provocateur. Thus, each participating child was presented with sixteen vignettes. Children were asked how they would feel in general and about the provocateur and what they would do in response to each of the scenarios.

Results showed that participants, as expected, gave higher liking ratings to liked peers than to disliked peers, neutral peers, and hypothetical peers. Children also predicted that they would like disliked peers less even after they behaved the same way as liked peers, and girls said they would feel worse when interacting with disliked peers. In addition, girls said they would respond more passively to negative behaviors than to positive ones. Moreover, boys predicted that they would reciprocate negative behaviors more often than girls, whereas girls said they would reciprocate positive and negative behaviors equally. These results indicate that even when disliked peers exhibit positive behaviors, they continue to elicit negative responses from other children. The results also reflect gender differences found in the literature.

Unlike Hymel (1986) and DeLawyer and Foster (1986), other experiments have investigated more than one SIP step in one study. Many have looked at both intent attributions and response decisions, such as Ray and Cohen (1997). Their participants (168 second, third, fifth, and sixth graders) listened to audio recorded vignettes which featured two hypothetical children; the children's sex and race were matched to the participant. The recordings were accompanied by illustrations that depicted the provocateur and victim's relationship. Children were randomly assigned a relationship condition: best friends, neutral acquaintances, or enemies. The best friends vignette focused on trust and cooperation, the neutral story featured two children who were unacquainted and did not like or dislike one another, and the enemy condition focused on children who actively disliked each other. After information about the children's relationship was presented, participants reasoned about three variations of a provocation featuring the children. The situation concerned a toy block tower that was being built by the victim. The provocateur knocked down this tower; his/her intent was ambiguous, accidental, or hostile. All children listened to the ambiguous scenario first, and the accidental and hostile versions were presented in counterbalanced order. Children were asked to make intent attributions, predict behavior responses of the victim, assess the affective states of both characters, and evaluate the characters' liking for each other before and after the conflict.

Results showed that, consistent with other studies, children evaluated the provocateur's intentions as less positive after ambiguous provocations when the characters were enemies than when they were best friends or acquaintances. Also, boys

generally rated the intentions of the aggressor as less positive than girls did. In addition, following ambiguous and accidental provocations, children expected the victim to respond less positively when the characters were enemies than when they were best friends or acquaintances. Subjects also predicted retaliation would occur in the accidental scenario if the pair were enemies, even though they recognized that the provocateur had harmed the victim unintentionally. Age differences were found as well: older children predicted that the victims' responses would be more negative after the hostile scenario than did younger children. These results suggest that children take the affective nature of relationships into account when making decisions about peer intentions and predicted outcomes.

Peets, Hodges, Kikas, and Salmivalli (2007) investigated SIP in 137 randomly selected fourth grade students from a pool of 442 who had completed social and behavioral reputation measures in third grade. When students were in fourth grade, a social cognitive interview was administered. Each child supplied the name of a friend, enemy, and neutral peer that fit given descriptions. The names of these peers were then inserted into ambiguous situations (one provocation and one rebuff) as provocateurs. Children were asked questions concerning intent attributions (scored on the basis of hostile or not hostile) and what they would do in response (coded as passive, verbal, or hostile). Consistent with results already discussed, this study found that children attributed less hostility to friends and more to enemies, predicted less hostile behavior in response to provocations toward friends than enemies or neutral peers, and predicted passive strategies more often toward friends than toward enemies. Interestingly, even

after controlling for the reputation of the peer, results still showed a clear trend of participants differentiating between friends and enemies. Beyond highlighting the general consensus of the literature that friendships and antipathies are relevant to SIP, the method utilized (i.e., asking children to identify peers who fit relationship descriptions before asking them to reason about scenarios involving said peers) also illustrates that this is an effective method of investigating the effects of relationships on SIP.

Burgess, Wojslawowicz, Rubin, Rose-Krasnor, and Booth-LaForce (2006) investigated intent attributions and response decisions in 2,037 fifth and sixth graders. Children nominated two best friends and three good friends; children were only allowed to nominate same-gender friends in the same grade. Children also nominated others as fitting certain descriptions (i.e., this child stays by him/herself). Based on these nominations, children were identified as either shy/withdrawn, aggressive, or control. All children with a mutual friendship were invited to the lab and given an Attributions and Coping questionnaire. This measure assessed the participants and their friends' attributions and emotional reactions in hypothetical situations. Part one of this measure assessed social information processing with peers in general, and part two assessed SIP when the best or good friend was the provocateur. Children were asked to make intent attributions and predict how they would behave if the situation happened to them and how they would respond.

Results showed that aggressive children were more likely to make attributions of external blame when a hypothetical peer was involved than did control and shy/withdrawn children. Consistent with other studies referenced here, children were

more likely to attribute prosocial intent to mutual friends than to hypothetical peers. In addition, aggressive and shy/withdrawn boys were more likely than control boys to report angry emotional reactions when a hypothetical peer was involved. Responses differed as well – aggressive and control children were less likely to endorse revenge when a good friend was involved. Also, children were generally more likely to choose an appeasement strategy when the provocateur was a friend than when he/she was an unfamiliar peer. These results are consistent with other research on the impact of friendships and antipathies on social information processing; children take into account their relationships with provocateurs when making social decisions.

Peets, Hodges, and Salmivalli (2008) studied intent attributions and response decisions in 209 Finnish fifth graders. First, they used sociometric procedures to discern reciprocal nominations for liked, disliked, and neutral peers. Unilateral nominations were used when reciprocal ones were not available. For each child, a peer fitting each of these three relationship descriptions became the provocateur in ambiguous provocation scenarios. Children reasoned about four vignettes for each peer type. For each vignette, participants answered questions about the provocateurs' intentions; they also reasoned about outcome expectancies and self-efficacy concerning possible aggressive responses. In addition to the social cognitive interview, children completed a self-report measure gauging their own reactive aggression (e.g., "I blame ____ in fights"), proactive aggression ("I threaten and bully ____"), and victimization ("I get called names by ____"). For each item, participants rated every same sex classmate in terms of each item's frequency (i.e., I blame Sarah in fights never, Laura all the time, etc.). Participants also

nominated up to three peers who fit descriptions of aggressive and victimization behaviors (e.g., "Who are the kids who threaten and bully others?" and "who are the kids who get called names by other kids?").

Results indicated that when the provocateur was a disliked peer, children attributed more hostility, expected fewer positive social relational and instrumental outcomes for aggressive responses, and felt that they would do a better job of aggressing toward the target. In contrast, when the provocateur was a liked peer, children showed the exact opposite social information processing, attributing less hostility, expecting better outcomes for aggression, and feeling less skillful at enacting aggressive responses. In addition, children who were nominated by their peers as being victimized generally expected worse outcomes if they responded aggressively, regardless of their affective status with the provocateur. The results of this study illustrate that children show clear biases toward enemies, which impact multiple stages of social information processing. In addition, children who are repeatedly victimized by their peers adopt biases of their own, expecting worse outcomes if they aggress no matter what kind of relationship they share with the provocateur.

Although many studies looked at both the intent attributions and response decision stages, few have investigated the behavioral enactment stage. One study by Fabes, Eisenberg, Smith, and Murphy (1996) did not study social information processing specifically, but still provides insight into this stage. Fabes et al. observed free-play interactions of 49 children in five preschool/kindergarten classes for six months. Observers monitored designated play areas in the classroom (e.g., the block area) and

watched for expressions of anger between children. Sociometric measures were also taken. Results showed that the intensity of anger provoked did not change between children who were well-liked and children who were not - the difference lay in children's apparent ability (and/or willingness) to control their reactions to this anger more effectively in response to provocations by well-liked as opposed to disliked peers. Differences were also evident in the types of provocations that would elicit anger - between friends, anger was more often provoked by rule violations and rejection, and between enemies, the cause was more often physical acts. The authors also noted that children who were generally not well liked were more likely to be targets of hostile and aggressive behaviors than children who were more liked. This study provides more evidence for the assertion that affective ties influence the causes and outcomes of social conflicts.

To summarize, research focusing on the *encoding* and *interpretation of cues* stages has generally found that children tend to give friends “the benefit of the doubt” during ambiguous conflicts; they attribute nicer intentions to friends than to enemies or neutral peers (Burgess et al., 2006; Fabes et al., 1996; Peets et al., 2007, 2008; Ray & Cohen, 1997). In addition, children attribute both liked peers' positive behaviors and disliked peers' negative behaviors to stable causes; also, disliked peers are blamed more often for negative behaviors than are liked peers (Hymel, 1986). Research on the *response decision* stage has revealed much about the impact of affective ties on SIP as well. Burgess et al. (2006) found that children are less likely to endorse revenge as a response when the peer is an actual friend than when the peer is hypothetical, and are

more likely to choose an appeasement strategy. In addition, Fabes et al. (1996) found that although the intensity of anger provoked by liked and disliked peers was the same, children tended to respond in more controlled ways to liked peers than to disliked peers. Moreover, even when disliked and liked peers behave in the similar, positive ways, children report more negative emotional responses towards the disliked peers (DeLawyer & Foster, 1986).

The current study built upon previous research in the area while exploring topics that are less understood. First, although most studies have focused on late elementary age and/or middle school age children (e.g., Peets et al., 2008), this study investigated the impact of affective ties on SIP in children in both second and fifth grades. In addition, most studies have focused on *encoding* and *interpretation of cues* and *response decision* stages. Although Peets et al.'s (2008) study examined behavioral outcomes and self-efficacy aspects of the latter stage (finding that children expect better outcomes when aggressing toward friends and feel less skillful at aggressing toward liked peers and more skillful at aggressing toward disliked peers), the sample studied consisted of Finnish fifth graders, and only aggressive responses were examined. The current study investigated various response options, including those that are aggressive, competent, and passive. Children reasoned about ambiguous provocation situations featuring a friend, neutral peer, or enemy whose name they supply themselves. In addition, for each situation, children reasoned about expectancies concerning specific outcomes given their enactment of aggressive, competent, and passive responses.

Hypotheses

Competent responses were expected to be contemplated differently by the child depending on whether the provocateur was a friend, neutral peer, or enemy. Because children reasoned about five different predictions for each response, discrete differences were expected on these dimensions. Children were hypothesized to predict that when the provocateur is a friend, as opposed to an enemy or neutral peer, competent responses will be easier to enact and more effective, cause the provocateur to like them more, and result in the participant feeling more positively. When the provocateur was an enemy, however, children were hypothesized to reason that competent responses will be more difficult to enact, less effective, and cause the provocateur to like them less. Also, consistent with DeLawyer and Foster (1986), children were expected to predict more intensely negative feelings in response to interacting with an enemy provocateur. When the provocateur is neutral, children were expected to reason that competent responses will result in outcomes more positive than those predicted when the provocateur is an enemy but less positive than when the provocateur is a friend.

Hostile responses were expected to cause interesting differences in reasoning as well, depending on the relationship between the participant and the provocateur. Consistent with Peets et al. (2008), when the provocateur is a friend, compared to an enemy or neutral peer, children were hypothesized to reason that hostile responses will prove more effective, cause the provocateur to like them more, and be associated with relatively more positive emotions in themselves, but will also be more difficult for them to enact. When the provocateur is an enemy, however, children were expected to predict

that hostile responses will be less effective, result in the provocateur liking them less, and cause more negative (i.e., sad or angry) feelings in themselves, but will be easier for them to enact. In other words, children will expect to be better at aggressing toward enemies than toward friends, but will predict more positive outcomes when dealing with friends than with enemies. As far as hostile responses toward neutral peers were concerned, children were expected to believe these responses will result in less positive results than they would with friends, but more positive results than they would with enemies. In addition, they were expected to predict higher self-efficacy ratings than when dealing with friends but lower than when dealing with enemies.

Predicting children's reasoning concerning passive responses posed more of a challenge. Most of the aforementioned studies investigated hostile responses (i.e., Peets et al., 2008) or asked children to supply their own responses (i.e., DeLawyer and Foster, 1986; Burgess et al., 2006; Peets et al., 2007). Thus, hypothesizing how children reason about passive responses was more complex. Peets et al.'s (2007) results showed that children predicted passive responses more often when interacting with friends than with enemies, so in this study, children were hypothesized to reason that passive responses will prove more effective when the provocateur is a friend than when the provocateur is an enemy or neutral peer. In addition, children were expected to predict that the provocateur will like them more, the response will be associated with more positive feelings in themselves, and be easier for them to enact when the provocateur is a friend. When the provocateur was an enemy, children were expected to state that passive responses will be less effective, leave them feeling more negative emotions, result in the

provocateur liking them less, and be more difficult to enact. Once again, children were expected to believe that passive responses will result in less positive results with neutral peers, but more positive results than with enemies.

Because of the specific gaps in the literature that the present study aimed to address, well-established results concerning gender and grade effects in this context were not available. For example, some of previously mentioned studies that addressed affective ties utilized populations of fourth, fifth graders, and/or sixth graders (e.g., Burgess et al., 2006; Peets et al., 2007, 2008) and thus the grade differences that could have been found in the current study of second and fifth graders were unclear. Moreover, Hymel's (1986) study of SIP in second and fifth graders found no grade differences. However, two studies indicated that grade differences were possible: Harper et al.'s (under review) investigation found that first graders believed passive responses would be more effective than second and third graders did. Because of this difference, it was expected that in the current study, second graders would believe passive responses would have better instrumental outcomes than fifth graders would. In addition, because Ray and Cohen (1997) found that older children (11 year olds) predicted that in a hostile scenario the victims' responses would be more negative than did younger children (8 year olds), it was hypothesized that older children would be better able to understand the ramifications of negative social interactions and thus would be less likely to believe that hostile responses would lead to positive instrumental, social-relational, and emotional consequences.

Gender differences were not definitive either in this context, but certain results were expected. Given DeLawyer and Foster's (1986) finding that girls reported more negative emotions when interacting with disliked peers, it was hypothesized that the current study would support these results. In response to the emotional consequences question (i.e., "How would you feel inside if you [enacted this response]"), girls were expected to report more negative emotions than boys. In addition, because Burgess et al. (2006) found that girls were more likely to endorse responses of emotional coping combined with inaction, one expectation in the current study was that girls would be more likely than boys to report positive outcomes following a passive response. Because few gender differences were evident in the affective ties literature (aside from those resulting from sociometric measures of peer-rated aggressiveness and popularity, which were beyond the scope of this thesis), gender differences in this study were exploratory.

Method

Participants

All procedures were reviewed and approved by the Human Subjects Review Board (see Appendix A). Participants were second (n = 58; 27 boys) and fifth graders (n = 43; 20 boys) from two elementary schools drawn from one school district in a small Southern city. The schools' free and reduced lunch programs served 30% of second and fifth graders total at one school and 31% of second and fifth graders at the other. After permission was obtained from associated school boards, schools, and teachers, all children in each participating class were given permission forms to take to their parents. Only children who returned these signed parental consent forms were allowed to participate, and only classes in which 70% or more of children were given parental consent were included in the study.

Data were collected in seven classes; in these classes, 153 children were sent home with permission slips, and 135 returned the forms. Of these, 112 were given permission by their parents to participate, whereas 23 were denied permission, resulting in an overall participation rate of 73%. Of these children, 47 boys and 54 girls were interviewed, for a total of 101 participants; time constraints prevented the entire sample from being interviewed. The sample was 65% Caucasian, 14% African-American, with 13% of an "other" race and 8% missing racial data; the mean age of second graders was 7.66 years (SD = .61), and the mean age of fifth graders was 10.81 years (SD = .39).

Procedure and Materials

Children were seated with one experimenter in a quiet room. The experimenter first instructed the child on the purpose of the study (to see what the child "thinks about

things that happen to kids"). The child was instructed to pay attention to the stories that followed so that he or she could answer questions about them afterward. Next, the child was reminded of his/her parents' consent for the child to participate and asked if he or she still wanted to continue with the interview. If child assent was obtained, the interview continued; if not, he or she was be escorted back to class. No children refused to participate in the interview.

Children were instructed that there were no right or wrong answers, and that their answers would remain a secret. They were asked to refrain from telling other children what they discussed with the experimenter ("so other kids can hear these stories for the first time, just like you did"). At this point, children were once again asked if they were sure they would like to participate, and if they were, the question and answer portion of the interview began.

All participants were administered a social-cognitive interview individually. This interview assessed the child's consequential reasoning in response to ambiguous provocation situations. Before the first story began, the child supplied the name of a friend, neutral, or enemy child in their classroom based on descriptions; these peers were named as the provocateurs in the stories that followed. These descriptions (which can be found in Appendix B) were adapted from Peets et al. (2007), and allowed for the manipulation of the child's relationship with the provocateur for each vignette. All children were given the same interview with the order of stimuli counterbalanced. Each type of peer became the provocateur for three stories, and the order of the stories and peer type were counterbalanced across participants. Thus, for example, some participants first

reasoned about stories A, B, and C with their friend as the provocateur, while others might have first reasoned about stories D, E, and F with a disliked peer as the provocateur.

Each child was read a series of nine short stories (about 2 to 3 sentences in length) describing a social situation. These vignettes described instances of common conflicts that children often experience, and were adapted from stimuli used by Crick and Dodge (1996). The ambiguous provocation situations described social conflicts that the child may encounter on any normal day. In each vignette, one provocateur initiated a conflict between himself (or herself) and the participant. In one story, for example:

> "Pretend that you and your class went on a field trip to the zoo. You stop to buy a coke. Suddenly, _____ bumps your arm and spills your coke all over your shirt. The coke is cold, and your shirt is all wet."

The provocateur's intentions were always ambiguous (in this example, the child does not know if he or she bumped them on purpose or on accident). The other eight provocation situations can be found in Appendix C.

While reading each ambiguous provocation situation, the experimenter used an illustration to aid in telling the story. Each story was associated with its own picture; these black and white illustrations were adapted from Crick and Dodge (1996). Each illustration contained sexually androgynous characters; this allowed both female and male participants to pretend they were the children in the picture without any conflicting issues. Each illustration also differentiated between 'victim' and provocateur by showing the former with a dark-colored shirt; thus, children could easily pinpoint themselves in

the picture and immediately understand the situation the picture was depicting; the interviewer pointed this out to the child as well. A selection of illustrations is available in Appendix D.

In response to each conflict, children were asked a series of questions that assessed their reasoning about the situation. These questions involved three different types of response options: hostile, passive, and competent. The hostile response options concerned means of responding to conflicts that were aggressive, threatening, or hostile in nature. Actual examples of these types of response options included pushing the provocateur or saying, "If you bump me again, I'm going to hit you!" The passive response options concerned methods of responding that were inappropriate because they simply ignored the problem instead of trying to remedy it. For these vignettes, passive responses typically involved the child saying nothing in response to the provocation. The competent response options involved responses that were effective, skillful ways to deal with conflicts. In this study, examples of competent responses included asking the provocateur nicely to stop the unwanted behavior or politely asserting oneself. These response options were presented in counterbalanced order for all participants.

For each of these three response options (hostile, passive, and competent), children were presented with four questions assessing their reasoning about the consequences of enacting each response. These questions assessed social-relational, instrumental, and emotional consequences; another question assessed children's self-efficacy judgments about the response. The social-relational consequences question gauged the child's understanding of what social consequence was likely given a specific

social response (e.g., “How much would _____ like you if you pushed him after he made fun of you?”). The instrumental consequences question assessed the child’s feelings about whether a given response would work (e.g., “Would ____ keep making fun of you if you pushed him?”). Children’s understanding of the emotional consequences of a given response was assessed with two questions. The first asked how participants would feel (e.g., “How would you feel if you pushed _____ after he made fun of you?”) and the second asked how *much* of that emotion they would feel (e.g., “How sad would you feel?”). Children were also asked to make judgments about their self-efficacy (e.g., how difficult it would be) for performing the response (e.g., How hard would it be for you to _____?”).

For each question, children selected their answers from one of five answer scales. The five answer scales corresponded to the related question that the child answered (i.e., one scale was used to answer the social-relational consequence question, one was used to answer the instrumental consequences question, etc.), and each offered four answer choices from which the child could choose.

The stories, questions, and scales were presented on the participant protocol; each child utilized the participant protocol when indicating their responses to the social cognitive interview questions. The protocol included written versions of the stories and questions, and answer scales corresponding to each question. The child could thus listen to the stories and questions while following along on the protocol, and could choose his/her answers from the provided scales. This method also prevented possible interviewer errors by not requiring them to shuffle separate scales around; the possibility

of choosing the wrong scale to show the child was eliminated. A portion of the participant protocol (including scales and same questions) is included in Appendix E.

The use of answer scales allowed for the variables to be coded numerically. For example, when answering the social-relational question, "How much would [peer] like you if you [performed this response]?" participants had four answer choices, resulting in the following coding sequence: *not much* = 1, *a little* = 2, *OK* = 3, *a lot* = 4. Each variable was averaged according to its relationship type, response option, and consequence. Thus, for example, all 3 instances of the question asking about a neutral peer, a competent response, and self-efficacy (i.e., NCeff1, NCeff2, and NCeff3) were averaged together to result in a variable which described each child's responses to these questions. Thus, participants had average scores for social relational, instrumental, and self-efficacy judgments for each type of relationship (friend, neutral, enemy) for each type of response (hostile, competent, passive). The two questions concerning emotional consequences (i.e., "How would you feel inside if you [performed this response] to [peer]?" and "How [angry, sad, or happy] would you feel?") required a transformation before this variable could be averaged in the same manner. This transformation resulted in a score that indicated both the valence and intensity of the emotion selected by the child. Negative emotions (i.e., angry or sad) resulted in a score from -4 to -1, depending on the intensity chosen, and positive emotions (i.e., happy) resulted in a score of +1 to +4. Responses of "okay" (i.e., neutral) to the emotional consequences question resulted in a score of 0.

Results

Overview of Analyses

Demographic data were scored dichotomously (e.g., males vs. females, and second grade vs. fifth grade) and analyzed to look for sex and age differences. Three MANOVAs were conducted, one for each response type (hostile, passive, and competent). This study involved two between-subjects (sex and grade) and one within-subjects (relationship type: friend, enemy, and neutral) independent variables. Thus, each MANOVA followed a 4 (judgment) x 3 (relationship type) x 2 (gender) x 2 (grade) design. Independent variables included relationship, grade, and sex, and dependent variables included self-efficacy ratings and consequential reasoning judgments (social-relational, instrumental, and emotional intensity).

Response Evaluation: Competent Responses to Provocation

A 4 (judgment) x 3 (relationship) x 2 (gender) x 2 (grade) MANOVA was conducted on the judgments made for competent responses to the provocateur. Significant multivariate effects of relationship, $F(2, 166) = 34.26$, $p < .001$ and judgment, $F(3,249) = 424.69$, $p < .001$, were modified by a significant interaction of relationship and judgment, $F(6,498) = 6.06$, $p < .001$. Follow-up univariate analyses were run for each judgment type as well as Bonferroni corrections.

Effects of Relationship on Competent Response Evaluation. Table 1 summarizes the effects of relationship on competent response evaluation for the four different judgments. For social relational consequences, there was a significant effect of relationship, $F(2,186) = 53.71$, $p < .001$, with participants expecting friends to like them better than would neutral peers and enemies when competent responses to the

provocation were performed. More specifically, children expected friends to like them more than neutral peers and neutral peers to like them more than would enemies, with significant differences between all three relationships (see Table 1). For instrumental consequences, there was a significant effect of relationship, $F(2,186) = 38.58$, $p < .001$; post hoc tests indicated that children expected competent responses to be more effective with friends than with neutral peers, and with neutral peers compared to enemies. Significant differences existed between all three relationships (see Table 1). For emotional consequences, there was a significant effect of relationship, $F(2,184) = 3.69$, $p < .05$, with children expecting to feel better after enacting competent responses with friends than with enemies, but no significant effects concerning neutral peers (see Table 1). There were no relationship effects for self-efficacy judgments.

Table 1

Competent Response Option Means by Judgment and Relationship

Judgment Type	Friend	Neutral	Enemy	Effect
Social Relational	3.197	2.609	2.261	F** > N** > E**
Instrumental	3.314	2.952	2.447	F** > N** > E**
Self Efficacy	3.183	3.125	3.014	*ns*
Emotional	.338	.017	-.169	F > E*

Note. All scores range from 1 to 4, except the Emotional judgment, which ranges from -4 to +4. All values are means. Higher values indicate a more positive prediction (e.g., better emotional consequences, easier response to enact, etc.).

*p<.05; **p<.01

Effects of Grade on Competent Response Evaluation. For instrumental consequences, a significant effect of grade was also found, $F(1, 93) = 6.70$, $p < .05$, with second graders expecting competent responses to be less effective ($M = 2.76$) than fifth graders ($M = 3.05$). For self-efficacy judgments, an effect of grade was found, $F(1, 83) = 4.47$, $p < .05$, with second graders expecting competent responses to be more difficult to enact ($M = 2.99$) than fifth graders ($M = 3.23$).

Response Evaluation: Passive Responses to Provocation

A 4 (judgment) x 3 (relationship) x 2 (gender) x 2 (grade) MANOVA was conducted on children's judgments about passive responses to the provocateur. Significant multivariate effects of relationship, $F(2, 170) = 22.90$, $p < .001$, judgment, $F(3,255) = 840.60$, $p < .001$, and gender $F(1, 85) = 4.17$, $p < .05$, were modified by significant interactions of judgment and gender, $F(3, 255) = 4.12$, $p < .01$, and of judgment and grade, $F(3, 255) = 5.51$, $p < .001$. Follow-up univariate analyses were run for each judgment type as well as Bonferroni corrections.

Effects of Relationship on Passive Response Evaluation. The effects of relationship for each judgment type are summarized in Table 2. For social relational consequences, there was a significant effect of relationship, $F(2,186) = 30.10$, $p < .001$; children expected that doing nothing about the provocation would cause friends to like them more than would neutral peers or enemies. More specifically, children expected friends to like them significantly more than neutral peers, and friends to like them significantly more than enemies (see Table 1). For instrumental consequences, a main effect of relationship was found, $F(2, 184) = 10.95$, $p < .001$, with children expecting

passive responses to be less effective with enemies than with friends or neutral peers. In addition, a relationship by gender interaction was found, $F(2, 255) = 3.59$, $p < .05$, with females responding differently depending on the relationship between themselves and the provocateur. Girls expected passive responses to be more effective with friends (M = 3.07) than with neutral peers ($M = 2.71$; $p < .05$), and with friends compared to enemies ($M = 2.17$; $p < .01$) whereas boys (M = 2.70, 2.66, and 2.46, respectively) did not show any significant differences. For self- efficacy judgments, a significant effect of relationship was again found, $F(2, 180) = 8.61$, $p < .001$, with children expecting passive responses to be easier to enact with friends than with enemies (see Table 1). For emotional consequences, a main effect of relationship, $F(2, 178) = 8.79$, $p < .001$, was found. Children expected to feel better about themselves after enacting passive responses with friends than with neutral peers or enemies. More specifically, they expected to less negative with friends than with neutral peers, and with friends than with enemies.

Table 2

Passive Response Option Means by Judgment and Relationship

Judgment Type	Friend	Neutral	Enemy	Effect
Social Relational	2.971	2.519	2.342	F > N**, E**
Instrumental	2.885	2.686	2.315	E < F**, N*
Self Efficacy	2.663	2.467	2.264	F > E**
Emotional	- .839	- 1.422	- 1.638	F > N*, E**

Note. All scores range from 1 to 4, except the Emotional judgment, which ranges from -4 to +4. All values are means. Higher values indicate a more positive prediction (e.g., better emotional consequences, easier response to enact, etc.).

*p<.05; **p<.01

Effects of Grade and Gender on Passive Response Evaluation. For social relational consequences, a significant interaction of gender and grade was also found, $F(1, 93) = 4.59$, $p < .05$; however, post hoc analyses showed no significant differences between groups. For self-efficacy judgments, an effect of grade was found, $F(1, 90) = 5.51$, $p < .05$, with second graders expecting passive responses to be easier to enact ($M = 2.61$) than did fifth graders ($M = 2.32$). For emotional consequences, main effects of grade, $F(1, 89) = 7.22$, $p < .01$, and gender, $F(1, 89) = 5.35$, $p < .05$ were found, with second graders expecting to feel less negative ($M = -1.00$) than fifth graders ($M = -1.60$) and males expecting to feel less negative ($M = -1.04$) than females ($M = -1.56$) after enacting a passive response.

Response Evaluation: Hostile Responses to Provocation

A 4 (judgment) x 3 (relationship) x 2 (gender) x 2 (grade) MANOVA was conducted across all hostile responses. Significant multivariate effects of relationship, $F(2,176) = 3.679$, $p < .05$, and judgment, $F(2, 178) = 1161.08$, $p < .001$, were modified by a significant interaction of relationship, judgment, gender, and grade, $F(6, 528) = 2.44$, $p < .05$. Follow-up univariate analyses were run for each judgment type as well as Bonferroni corrections.

Effects of Relationship on Hostile Response Evaluation. Table 3 summarizes effects of relationship on each judgment for hostile response evaluation. For social relational consequences, a significant effect of relationship was found, $F(2, 184) = 14.92$, $p < .001$, with children predicting that friends would like them better after a hostile response than would neutral peers or enemies. More specifically, children expected friends to like them more than neutral peers and friends to like them more than enemies (see Table 3). For instrumental consequences, a significant effect of relationship was found, $F(2, 180) = 6.95$, $p < .001$, with children expecting hostile responses to be less effective when dealing with enemies than with friends or neutral peers (see Table 3). A relationship by gender interaction was also found, $F(2, 180) = 3.041$, $p = .05$; post-hoc Tukey's showed that whereas females expected hostile responses to be more effective with friends ($M = 2.90$) than enemies ($M = 2.29$; $p < .01$), and with neutral peers ($M = 2.79$) than enemies ($p < .01$), males did not show any significant differences across relationships ($Ms = 2.75$, 2.79, and 2.65, respectively). For self-efficacy judgments, a main effect of relationship was found, $F(2, 184) = 24.44$, $p < .001$, with children

expecting hostile responses to be harder to enact with friends than with neutral peers and enemies; significant differences were found between all three relationship types (see Table 3). This effect was modified by a relationship by gender interaction, $F(2, 184) = 3.27$, $p < .05$, with females again expecting hostile responses to be harder to enact with friends ($M = 1.66$) than with enemies ($M = 2.47$; $p < .01$), and with neutral peers ($M = 1.88$) than with enemies ($p < .01$), whereas males did not show any differences across relationships (Ms = 1.98, 2.17, and 2.38, respectively). For emotional consequences, a main effect of relationship was found, $F(2, 178) = 10.76$, $p < .001$, with children expecting to feel less negative after enacting a hostile response with an enemy than with a friend or neutral peer (see Table 3). This effect was modified by a relationship by gender interaction, $F(2, 178) = 3.60$, $p < .05$, with females expecting to feel less negative after enacting a hostile response with an enemy ($M = -1.73$) than with a friend ($M = -2.88$; $p < .01$) or a neutral peer ($M = -2.53$; $p < .05$), whereas males did not show any differences across relationships (Ms = -2.08, -2.42, and -2.19, respectively).

Table 3

Hostile Response Option Means by Judgment and Relationship

Judgment Type	Friend	Neutral	Enemy	Effect
Social Relational	1.632	1.402	1.305	F > N**, E**
Instrumental	2.824	2.789	2.466	E < F**, N**
Self Efficacy	1.819	2.024	2.426	F** < N* < E**
Emotional	- 2.651	- 2.361	- 1.902	E < F**, N*

Note. All scores range from 1 to 4, except the Emotional Consequences judgment, which ranges from -1 to +4. All values are means. Higher values indicate a more positive prediction (e.g., better emotional consequences, easier response to enact, etc.).

*p<.05; **p<.01

Effects of Grade on Hostile Response Evaluation. For social relational consequences, a gender by grade interaction was found, $F(1, 92) = 4.147$, $p < .05$, but post-hoc analyses revealed no significant differences between groups.

Discussion

The goal of this study was to investigate the possible effects of relationship with the provocateur on children's consequential reasoning about ambiguous provocations, and multiple effects were found. In terms of competent responses, the hypotheses that children would expect these responses to be more effective, cause the provocateur to like them more, and result in participants feeling more positively when enacted with friends were supported. For social relational and instrumental consequences, children predicted better outcomes for friends than for neutral peers or enemies, and for emotional consequences, children predicted better outcomes for friends than for enemies. However, children did not follow the same pattern with self-efficacy judgments as they did with other judgments; they believed that competent responses would be equally easy to enact with friends, neutral peers, and enemies. The outcomes concerning emotional consequences support those of DeLawyer and Foster (1986) in which girls expected to feel worse in response to interacting with an enemy, but differ in that boys showed the same pattern in the present study as well. As predicted, social relational and instrumental judgments followed a trend wherein children expected better results for friends and the worst results for enemies, with neutral peers falling in between the two; emotional outcomes followed a similar trend except neutral peers did not significantly fall between friends and enemies, and self-efficacy ratings showed no significant differences whatsoever. Thus, these results suggest that children feel equally confident about their ability to enact a competent response regardless of their relationship with the provocateur, whereas their predictions regarding emotional, social-relational, and instrumental consequences do vary.

Hostile responses were hypothesized to elicit particularly interesting results. Following Peets et al. (2008), children were expected to predict that hostile responses would be easier to enact with enemies but result in better outcomes with friends. To a certain extent, these hypotheses were supported: results indicated that children expected hostile responses to be easier to enact with enemies but more effective and resulting in the provocateur liking them more when he/she was a friend. However, the hypothesis that children would expect to feel better following a hostile response to a friend was not supported, with children reporting the opposite: children expected to feel better when enacting a hostile response with an enemy than with a neutral peer or a friend. These results suggest that although children do believe that hostile responses provide benefits when enacted with friends (i.e., the responses will be effective and their relationship will be preserved), they come with disadvantages as well (i.e., the responses will lead to them feeling badly about themselves). In addition, children's prediction that hostile responses would be easier to enact with enemies imply that they are confident in their ability to behave antagonistically if they believe the situation warrants it.

Passive responses were by far the most difficult to predict, and yet they provided meaningful and interesting data. Because most previous studies investigated hostile responses and/or open-ended responses, hypotheses were more difficult to formulate from a review of the literature. However, because Peets et al.'s (2007) investigation showed that children predict passive responses more often when interacting with friends, similar results were expected in the present study. More specifically, children were hypothesized to expect that passive responses would again have better consequences

when enacted with friends, essentially mirroring hypotheses concerning competent responses. These hypotheses were supported, with children expecting that a friend would like them more, the participant would feel better, and the passive response would be easier to enact and more effective. As predicted, social relational, instrumental, and emotional consequences followed a pattern in which better results were expected when enacting passive responses with friends and the worst results were expected when interacting with enemies; for self-efficacy judgments, however, the results children expected when interacting with neutral peers were not significantly different from that of friends or enemies. Thus, passive response judgments are similar to those made for competent responses, with the exception of self-efficacy judgments; for competent responses, these judgments did not significantly vary according to the relationship between the child and the provocateur, but they did for passive responses. This seems to imply that children are more sensitive to relationships when reasoning about their ability to simply "do nothing" in response to a provocation than when they are reasoning about performing a competent response.

Hypotheses concerning gender and grade effects were also difficult to formulate because of two factors: different grades utilized in this study than in previous work and varying grade differences found in previous literature. However, because of specific findings in literature previously described, second graders were hypothesized to believe passive responses would have better instrumental outcomes than fifth graders would; this hypothesis was not supported by the present study (But findings from the current study do suggest that second graders would feel less negative than fifth graders if they enacted

a passive response). In addition, because studies have shown that older children might be better able to predict the negative consequences of hostile social interactions, fifth graders were hypothesized to predict that hostile responses would have worse outcomes than second graders would, but these hypotheses were not supported. Analyses, however, did uncover grade effects for competent responses, with second graders expecting competent responses to be less effective and harder to enact than fifth graders. Thus, it can be said that concerning competent and passive responses, second and fifth graders do seem to show differences. Because passive responses featured behaviors that avoided the problem, these results imply that second graders incorrectly infer that the best thing to do in response to a provocation is simply ignore it, whereas fifth graders recognize that a competent, assertive response is the ideal choice. This difference could be attributed broadly to socialization and experience interacting with peers, or narrowly to critical thinking skill development throughout the elementary school years.

Gender differences were hypothesized to exist as well. Given results previous described, girls were expected to predict more negative emotional outcomes when interacting with enemies and better outcomes following passive responses with all peers. The present study identified some key gender differences. Females expected worse emotional consequences following passive responses. Following passive responses, females expected passive responses to be more effective with friends than with neutral peers or enemies, whereas males did not evidence this or any significant pattern. In addition, girls expected hostile responses to be most effective with friends and neutral peers than with enemies but be easiest to enact and result in less negative emotions when

enacted with enemies; these patterns were again not substantiated by boys' responses. These results indicate that females may have been more sensitive than boys to the relationship they shared with the provocateurs. One reason for this sensitivity may be that boys and girls tend to have different peer relationship experiences. Research suggests that girls' friendships are more intimate and develop this intimacy at younger ages for girls than for boys (Buhrmester & Furman, 1987). In addition, boys tend to play in larger groups with children who are not necessarily friends (but may be simply acquaintances, for example), whereas girls tend to prefer smaller, dyadic interactions (Rose, 2007). Thus, if relationships are more important for young girls on a daily basis, their tendency in this study to place more importance on this factor than boys can be better understood.

Strengths and Limitations

One strength of the present study is the fact that it addresses specific gaps in the literature on social information processing. By investigating the response evaluation of passive and competent responses in addition to hostile responses, this study adds more to our understanding of emotions and SIP. This study also utilizes a comparable sample size to other studies, and features findings concerning girls and a sensitivity to relationships that has not been found in preceding investigations. In addition, the current study's utilization of both second and fifth graders suggest that children of these ages may differ in their views on passive and competent responses, but otherwise few differences may exist. Thus, studies focusing on middle-school aged children may not be missing many age-related effects.

A key limitation to this study is its relatively low sample diversity. Although the sample size was sufficient, more diversity could have allowed for a better understanding of children of different backgrounds (i.e., racial, socioeconomic status, etc.). In terms of social information processing, utilizing participants of a broader range of ages could have been invaluable, and other steps of SIP could have been investigated as well.

Future Research

Future research should expand upon the present study while incorporating changes that resolve its limitations. Because evidence is building for the impact of relationship on SIP, future studies can investigate the extent of this impact by examining other steps, such as the child's reasoning about goals. In addition, because this study found differences between second and fifth graders concerning passive and competent responses, future studies might want to explore this in more detail, perhaps investigating when these and other possible changes occur. The gender differences found also highlight a possible direction; researchers could consider what other differences may exist between SIP in males and females, and when these differences begin. Also, future studies could take the reputation of the children into account through sociometric measures, investigating whether children who are rejected, for example, may answer significantly different than popular children.

References

Bodenhausen, G., Sheppard, L., & Kramer, G. (1994). Negative affect and social judgment: the differential impact of anger and sadness. *European Journal of Social Psychology*, 24, 45-62.

Buhrmester, D. & Furman, W. (1987). The development of companionship and intimacy. *Child Development*, 58, 1101-1113.

Burgess, K., Wojslawowicz, J., Rubin, K., Rose-Krasnor, L., & Booth-LaForce, C. (2006). Social information processing and coping strategies of shy/withdrawn and aggressive children: Does friendship matter? *Child Development*, 77(2), 371-383.

Bryan, T., Sullivan-Burstein, K., & Mathur, S. (1998). The influence of affect on social-information processing. *Journal of Learning Disabilities*, 31(5), 418-426.

Camodeca, M., & Goossens, F.A. (2005). Aggression, social cognitions, anger and sadness in bullies and victims. *Journal of Child Psychology and Psychiatry*, 46(2), 186-197.

Crick, N.R. & Dodge, K.A. (1994). A review and reformulation of social information-processing mechanisms in children's social adjustment. *Psychological Bulletin*, 115(1), 74-101.

Crick, N.R., & Dodge, K.A. (1996). Social information-processing mechanisms in reactive and proactive aggression. *Child Development*, 67, 993-1002.

DeLawyer, D., & Foster, S. (1986). The Effects of Peer Relationship on the Functions of Interpersonal Behaviors of Children. *Journal of Clinical Child Psychology*, 15(2), 127.

Dodge, K.A. (1986). A social information processing model of social competence in

children. In M.Perlmutter (Ed.), Minnesota Symposium in Child Psychology (Vol. 18, pp.77-125). Hillsdale, NJ: Erlbaum.

Dodge, K. A., & Somberg, D. R. (1987). Hostile attributional biases among aggressive boys are exacerbated under conditions of threats to the self. *Child Development*, 58(1), 213-224.

D'Zurilla, T.J., & Goldfried, M.R. (1968, September). Cognitive processes, problem-solving, and effective behavior. Paper presented at the American Psychological Association Convention, San Francisco, CA.

Fabes, R., Eisenberg, N., Smith, M., & Murphy, B. (1996). Getting angry at peers: Associations with liking of the provocateur. *Child Development*, 67(3), 942-956.

Harper, Lemerise, E.A., & Caverly (under review). The effect of induced mood on children's social information processing: social goals and response evaluation.

Hymel, S. (1986). Interpretations of Peer Behavior: Affective Bias in Childhood and Adolescence. *Child Development*, 57(2), 431.

Lemerise, E. A., & Arsenio, W. F. (2000). An Integrated Model of Emotion Processes and Cognition. *Child Development , 71* (1), 107-118.

Lemerise, E.A., Fredstrom, B., Kelley, B., Bowersox, A., & Waford, R. (2006). Do Provocateurs' Emotion Displays Influence Children's Social Goals and Problem Solving? *Journal of Abnormal Child Psychology*, 34(4), 555-567.

Lemerise, E. A., Gregory, D. S., & Fredstrom, B. K. (2005). The influence of provocateurs' emotion displays on the social information processing of children varying in social adjustment and age. *Journal of Experimental Child Psychology*,

90(4), 344-366.

Murphy, B. C., & Eisenberg, N. (2002). An integrative examination of peer conflict: Children's reported goals, emotions, and behaviors. *Social Development*, 11, 534-557.

Orobio de Castro, B., Merk, W., Koops, W., Veerman, J. W., & Bosch, J. D. (2005). Emotions in social information processing and their relations with reactive and proactive aggression in referred aggressive boys. *Journal of Clinical Child and Adolescent Psychology: The Official Journal for the Society of Clinical Child and Adolescent Psychology*, 34(1), 105-116.

Orobio de Castro, B., Slot, N. W., Bosch, J. D., Koops, W., & Veerman, J. W. (2003). Negative feelings exacerbate hostile attributions of intent in highly aggressive boys. *Journal of Clinical Child and Adolescent Psychology*, 32(1), 56-65.

Peets, K., Hodges, E., Kikas, E., & Salmivalli, C. (2007). Hostile attributions and behavioral strategies in children: Does relationship type matter? *Developmental Psychology*, 43(4), 889-900.

Peets, K., Hodges, E., & Salmivalli, C. (2008). Affect-Congruent Social-Cognitive Evaluations and Behaviors. *Child Development*, 79(1), 170-185.

Ray, G., & Cohen, R. (1997). Children's evaluations of provocation between peers. *Aggressive Behavior*, 23(6), 417-431.

Rose, A.J. (2007). Structure, content, and socioemotional correlates of girls' and boys' friendships: Recent advances and future directions. *Merrill-Palmer Quarterly*, 53(3), 483-506.

Tiedens, L.Z. (2001). The effect of anger on the hostile inferences of aggressive and nonaggressive people: Specific emotions, cognitive processing, and chronic accessibility. *Motivation and Emotion*, 25(3), 233-251.

Appendix A

WESTERN KENTUCKY UNIVERSITY
Human Subjects Review Board
Office of Sponsored Programs
301 Potter Hall
270-745-4652; Fax 270-745-4211
E-mail: Sean.Rubino@wku.edu

In future correspondence please refer to HS09-099, December 5, 2008

Dr. Elizabeth Lemerise
Psychology
WKU

Dear Dr. Lemerise:

Your revision to the research project, *Affective Ties and Social Information Processing*, was reviewed by the HSRB and it has been determined that risks to subjects are: (1) minimized and reasonable; and that (2) research procedures are consistent with a sound research design and do not expose the subjects to unnecessary risk. Reviewers determined that: (1) benefits to subjects are considered along with the importance of the topic and that outcomes are reasonable; (2) selection of subjects is equitable; and (3) the purposes of the research and the research setting is amenable to subjects' welfare and producing desired outcomes; that indications of coercion or prejudice are absent, and that participation is clearly voluntary.

1. In addition, the IRB found that you need to orient participants as follows: (1) signed informed consent is required; (2) Provision is made for collecting, using and storing data in a manner that protects the safety and privacy of the subjects and the confidentiality of the data. (3) Appropriate safeguards are included to protect the rights and welfare of the subjects.

This project is therefore approved at the Full Board Review Level until November 20, 2009.

2. Please note that the institution is not responsible for any actions regarding this protocol before approval. If you expand the project at a later date to use other instruments please re-apply. Copies of your request for human subjects review, your application, and this approval, are maintained in the Office of Sponsored Programs at the above address. Please report any changes to this approved protocol to this office. A Continuing Review protocol will be sent to you in the future to determine the status of the project. Also, please use the stamped consent form that accompanies this letter.

Sincerely,

Sean Rubino, M.P.A.
Compliance Manager
Office of Sponsored Programs
Western Kentucky University

cc: HS file number Lemerise HS09-066
cc: Jennifer Maulden
cc: Amanda Drake

Appendix B

Friend, Neutral, and Enemy Descriptions

Adapted from Peets, Hodges, Kikas, & Salmivalli (2007)

Neutral:

"Tell me the name of someone from your class whom you do not know well. It does not mean that you do not like him (her) or he (she) does not like you. You do not know each other so well to be sure if you like each other or not."

Enemy:

"Tell me the name of someone in your class with whom you do not along well. You do not like the boy (girl) and he (she) does not like you either. You argue with each other. You have not been getting along for a while already."

Friend:

"Tell me the name of someone from your class who is your best friend. You regard him (her) as your best friend and he (she) considers you his (her) best friend. You spend a lot of time together. You are having fun together. You have been friends for a while already."

Appendix C

Ambiguous Provocation Situations

Adapted from Crick and Dodge (1996)

1. Pretend that you are at school one day, and you are lining up with your class to go to recess. Just as you are getting in line _____says "I want this spot!" and cuts in front of you.

2. Pretend that you are walking down the hallway in school. You are carrying your books in your arm and talking. You stumble and fall and your books go flying across the floor, _____ makes fun of you.

3. Pretend that you are playing a game with _____ and you realize that _____ has taken your turn.

4. Pretend you are on the playground playing a game with _____. You accidentally rip your pants, and _____ starts laughing at you.

5. Pretend that you are walking to school and you are wearing brand new sneakers. You really like your new sneakers and this is the first day you have worn them. Suddenly, _____ bumps you from behind. You stumble into a mud puddle and your new sneakers get muddy.

6. You ask _____ to watch cartoons one Saturday morning. After about ten minutes, _____ changes the channel without asking.

7. Pretend that you are on the playground playing catch with _____. You throw the ball to _____ and he/she catches it. You turn around, and the next thing you realize is that _____ has thrown the ball and hit you in the middle of your back. The ball hits you hard, and it hurts a lot.

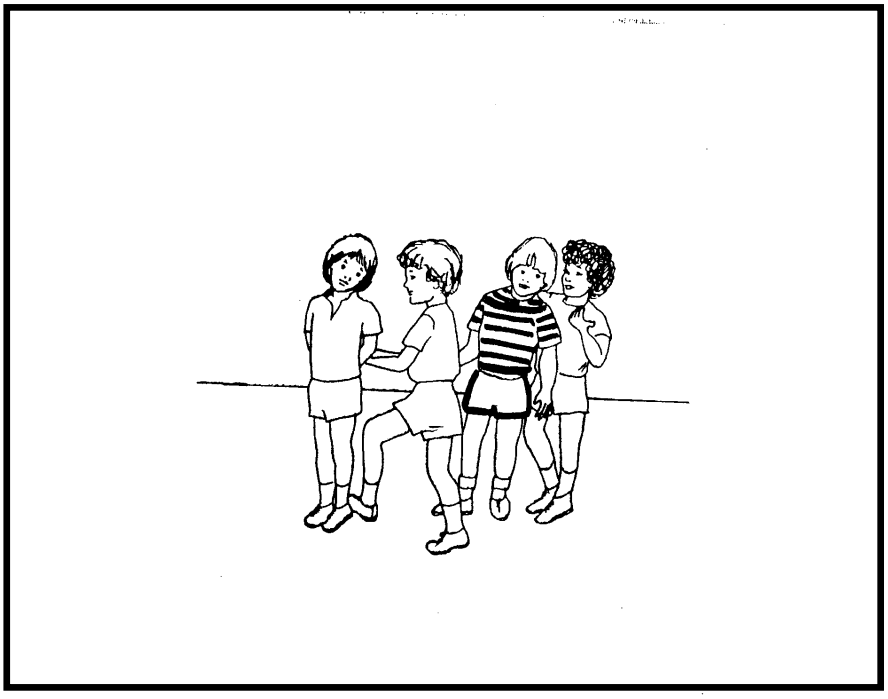
8. Pretend that you and _____ are both on the playground and _____ starts calling you names and making fun of you.

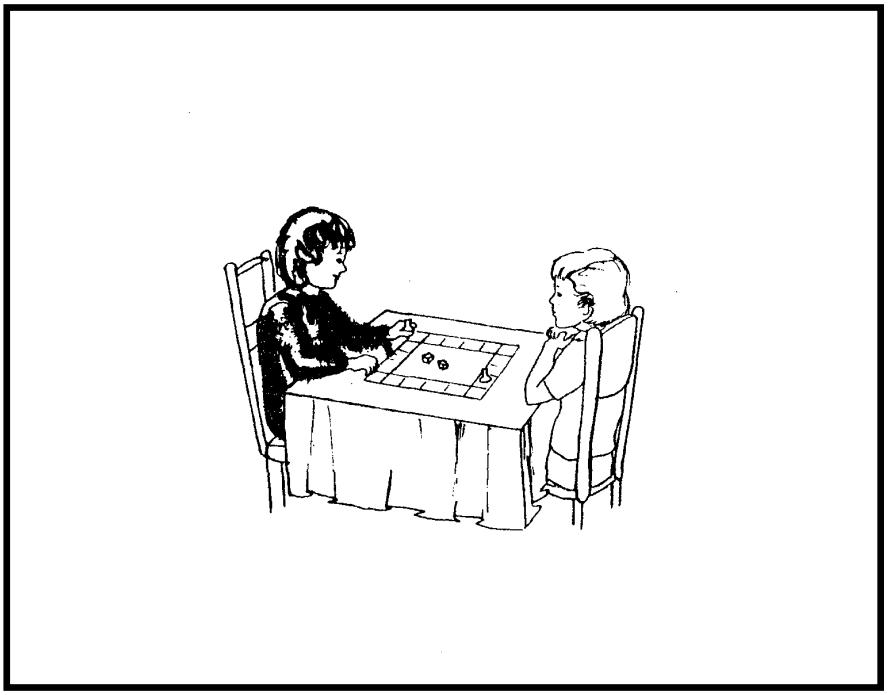
9. Pretend that you and your class went on a field trip to the zoo. You stop to buy a coke. Suddenly, _____ bumps your arm and spills your coke all over your shirt. The coke is cold, and your shirt is all wet.

Appendix D

Selection of Protocol Illustrations

From Crick and Dodge (1996)





Appendix E

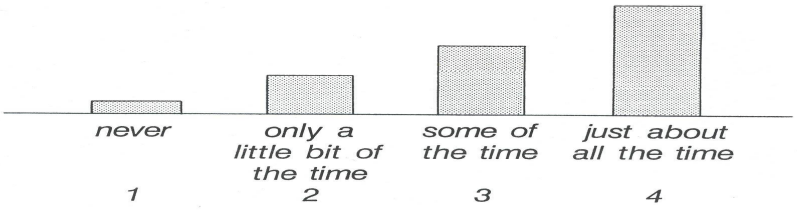
Sample Socio-Cognitive Interview Participant Protocol

Game Situation, Competent Response Option

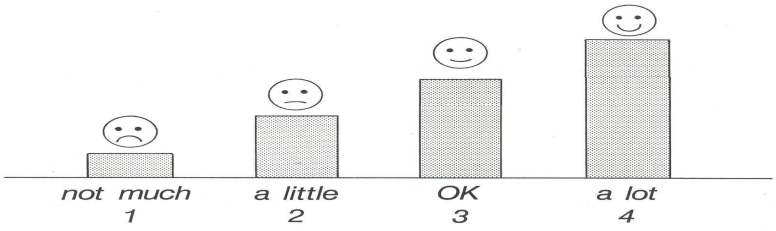
Pretend that you are playing a game with _____ and you realize that _____ has taken your turn.

A. What would happen if you said, "Excuse me, but it is my turn now"?

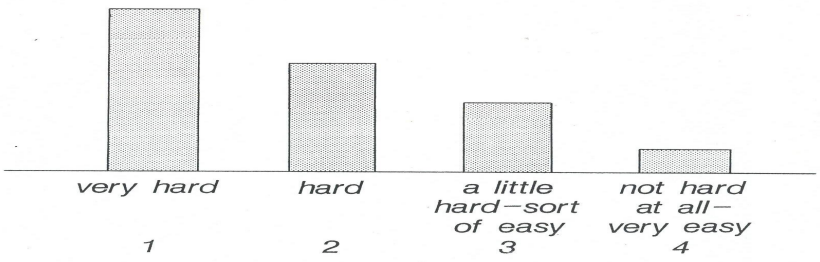
(i) Would _____ let you take your turn?



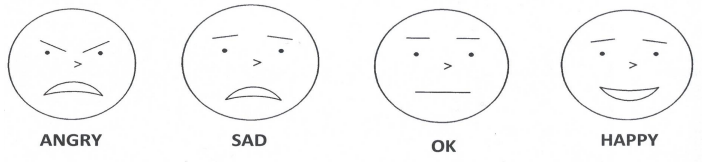
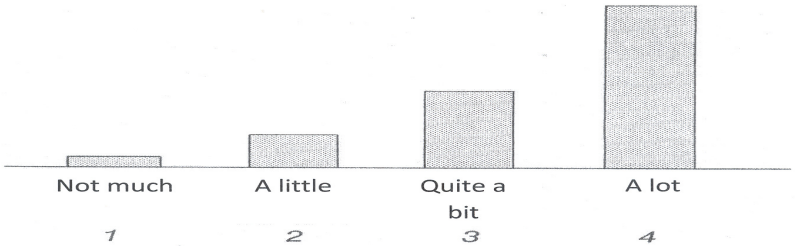
(ii) How much would _____ like you if you said, "Excuse me, but it is my turn now"?



(iii) How hard would it be for you to tell _____ that it is your turn?



(iv) What would you feel if you said, “Excuse me, but it is my turn now”?



(v) How _____ would you feel?