EMPATHY AND COGNITIVE DISTORTION: EXAMINING THEIR RELATIONSHIP WITH AGGRESSION IN ADOLESCENTS

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A Thesis

Submitted to the Graduate College of
Bowling Green State University in partial
fulfillment of the requirements for
the degree of

MASTER OF ARTS

August 2007

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ABSTRACT

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The relationship between empathy and aggression has been widely studied and this relationship has typically have been found to be indirect. The relationship between cognitive distortions and aggression has also been studied and it appears that cognitive distortions tend to be associated with aggressive behavior. However, both empathy and cognitive distortions have not been studied together to examine their relationship with aggression. There were four aims of the current study. The first two were to examine whether empathy can predict physical aggression and whether cognitive distortions can predict physical aggression. The third aim was to examine the combined effects of empathy and cognitive distortions on aggression. The fourth was to examine the influence of age and gender on cognitive distortions, empathy, and physical aggression. Two hundred and thirty-nine high school students in grades 10, 11, and 12 completed a questionnaire assessing their levels of affective and cognitive empathy, a questionnaire of cognitive distortions, and a questionnaire of physical aggression. The results indicated that cognitive distortions have a strong relationship with physical aggression in that high levels of cognitive distortions were associated with higher levels of physical aggression. Both types of empathy (affective and cognitive) were found to be negatively related to physical aggression, but neither type of empathy was able to predict participants' aggression levels. The combination of empathy (affective and cognitive) and cognitive distortions did not turn out to be a significant predictor of physical aggression. It is concluded that the present results have important implications for future research, particularly with adolescent aggression.

ACKNOWLEDGMENTS

I would like to thank my co-advisors, Dr. Marie S. Tisak and Dr. John Tisak for their guidance and support and for being patient with me while I was learning to use a different statistical software program. I would like to thank Dr. Robert Carels for his thoughtful questions and careful preparation for my thesis committee meetings. I would also like to thank my dear friends and fellow graduate students for their advice and support throughout this project. I also owe great gratitude to the principals, teachers, schools, and students who participated in my project.

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INTRODUCTION

The purpose of this thesis was to examine the relationships among empathy, cognitive distortions, and aggressive behavior in adolescents. One aim of the study was to examine whether empathy can predict physical aggression. A second aim of the study was to examine whether cognitive distortions can predict physical aggression. A third aim was to examine the combined effects of empathy and cognitive distortions on aggression. A fourth was to examine the influence of age and gender on cognitive distortions, empathy, and physical aggression.

In order to establish a foundation for this study, an introduction of theories of empathy and aggression will be presented, along with a review of previous research with empathy and aggression.

Empathy

Definition

Empathy is an elusive concept that is a source of constant debate. Even something as simple as its definition cannot be widely agreed upon. Researchers have attempted to capture the essence of empathy for decades, and yet there is still so much about it that we do not know. Empathy has implications for many other psychological processes, making it a valuable area of research. According to Carl Rogers, empathy is "one of the most powerful ways we have of using ourselves" (1975, p. 2). This statement gives further evidence that empathy is an important construct to study.

While the term empathy is frequently used, there exists no universally accepted definition for it. It is a difficult term to define as well as a difficult concept to capture (Eisenberg & Strayer, 1987). The word empathy can be traced back to the Greek word *empatheia,* which "implies an active appreciation of another person's feeling experience" (Goldstein & Michaels,

1985, p. 57). Another predecessor of the term empathy is, "einfühlung", which means "feeling into" (Strayer, 1987). The term *einfühlung* was introduced into the English language by Edward B. Titchener in the early 1900s (Davis, 1996; Stotland, Matthews, Sherman, Hansson, & Richardson, 1978). Since then, the definition of empathy has evolved to include two distinct components: affect and cognition.

During this evolution, some researchers preferred a definition containing either the affective or cognitive component, but not both (Mehrabian & Epstein, 1972), although it is widely recognized today that empathy contains both of these components (Arsenio & Lemerise, 2001; Davis, Hull, Young, & Warren, 1987; Davis & Oathout, 1987; Feshbach, 1975, 1983, 1989, 1997; Feshbach & Roe, 1968; Hoffman, 1982, 1987, 2000). For researchers that emphasize the affective component of empathy, the match or sharing between the emotions of the target and of the observer is stressed. Thus, the observer must experience the same emotion the target does. Others have preferred a definition of empathy that centers on cognition. These cognitive definitions often relate empathy to social cognitive and role-taking skills/perspective-taking skills (Eagle & Wolitzky, 1997; Feshbach, 1975, 1997). According to the cognitive view of empathy, the observer must accurately identify the emotions of the target in order to be considered empathic.

There are a few important issues to consider when developing a definition of empathy. The first issue to consider is the nature of empathy as being primarily affective or cognitive. Most modern theories of empathy acknowledge that both processes are involved in empathy, but they can be distinguished by how much emphasis they place on either one. It is important to carefully consider the definition of empathy used since it will have an impact on the study. For example, the definition can affect whether young children and infants are considered to express

genuine empathy. Cognitively-based definitions of empathy such as that of Feshbach (Barnett, 1987; Feshbach, 1975, 1997; Thompson, 1987) make it nearly impossible for infants and toddlers to express genuine empathy because they have not yet developed the necessary cognitive mechanisms, such as perspective-taking. The forms of empathy in which perspective and role-taking occur are very cognitively advanced, leaving out most young children (Hoffman, 2000).

Empathy, as Hoffman (Hoffman, 1982, 1987, 2000; Thompson 1987) defines it, is mostly affective and this has been an influential definition of empathy. Such affective definitions make room for infants and toddlers to be considered to express empathy. Although Hoffman considers infants and very young children capable of empathy, others believe that what these children experience is a precursor of empathy, rather than genuine empathy (Eisenberg & Strayer, 1987).

Another issue to consider in forming a definition of empathy is the matching of emotion between the victim and the observer. Does the definition require an exact match or can it just be similar? In Feshbach's theory (1975, 1983, 1989; Feshbach & Feshbach, 1969; Feshbach & Roe, 1968), there must be an exact match for empathy to occur. Under her theory, young children are excluded from being considered empathic simply because they have not yet developed the cognitive mechanisms necessary to achieve an exact matching of emotion. Theories that allow for the observer to possess similar emotions, but not exact, to that of the target person allow for more people, including young children, to be considered empathic.

The final issue to consider in choosing a definition of empathy is the interpretation of indirect cues in the empathy-inducing situation. Young children are not as capable as adults at inferring emotions from indirect cues. For example, an adult may be able to infer emotions from facial expression cues that are inconsistent with social context. An adult would be more likely

than a child to understand that a person may be sad after opening presents at a birthday party when he or she realizes that he or she did not get a desired present. A child would be most likely to base his or her inference of emotion on the social context by saying that the person in the story is happy because it is his or her birthday. This issue is important to consider when defining empathy because studies that use empathic stimuli with indirect cues may indicate that young children do not have empathy, when in fact they actually may. The measure may be a better indicator that young children cannot interpret indirect emotional cues very well (Thompson, 1987), rather than indicating that young children are not empathic.

The definition of empathy used in this thesis will contain components of both cognition and affect. Cognition will be included in the definition since it is emphasized by the theories covered in this study and the cognitions of adolescents will also be measured as a part of this study. Social cognitive theory, social information processing theory, neutralization theory, and cognitive distortion theory all emphasize the use and interpretation of cognition in aggressive youth, so empathy will be defined accordingly. Although a more cognitive-oriented definition will tend to exclude young children from being considered empathic, that is not a concern of this study as only adolescents will be participants. Another reason the cognitive component of empathy will be included is because it has been shown to be significantly related to an inhibition of aggression (Richardson, Hammock, Smith, Gardner, & Signo, 1994). Thus, there is a previous research basis for the claim that empathy has a negative relationship to aggression, which is one of the aims of the study. However, affect will also be included in the definition of empathy as it is a widely-recognized component of empathy. Affect has been demonstrated to be negatively related to aggression (Casey & Schlosser, 1994), which is another aim of this thesis.

The definition chosen is based on two of the most influential theories of empathy that will be reviewed in this thesis. The first theory is that of Feshbach, who defined empathy as an "interaction between any two individuals, with one experiencing and sharing the feeling of the other" (1997, p. 34). However, as Feshbach's definition of empathy requires an exact matching of emotions between the observer and the victim, the definition of empathy used in this thesis will be combined with Hoffman's definition. He defines empathy as a vicarious affective response that is more appropriate to someone else's situation than to one's own situation (Davis, 1996; Hoffman, 1977, 1982, 1984, 1987, 2000). The concept of perspective-taking will also be included in this definition as it is a part of Hoffman's theory and also represents an important cognitive component of empathy. Therefore, in this thesis, empathy will be defined as *an interaction between two individuals with one taking the perspective of the other to enable him to have an affective response that is more appropriate to the other's situation than to his own.*

Distinction

Empathy should also be distinguished from sympathy, projection, and personal distress, since these are very similar concepts that are often confused with each other. With regard to sympathy, "both sympathy and empathy have been defined as the ability to identify others' emotional states or to assume the emotional role of the other, that is, to achieve a cognitive understanding of the feelings of the other person" (Miller & Eisenberg, 1988, p.325). Sympathy centers on feelings of pity and sorrow for another, while empathy is broader in that it encompasses virtually all emotions. Although empathy and sympathy are separate processes, empathic responding can easily turn into sympathy for another and this is quite common (Eisenberg, 2000). Projection is the placing of one's feelings on another person, and thus acts in the opposite direction of empathy (Eisenberg & Strayer, 1987). In empathy, an observer

recognizes and shares another person's emotions. Personal distress may be elicited by empathy, but its focus is entirely different. Personal distress is egoistical and the concern is with alleviating one's own distress, whereas empathy is primarily other-focused (Eisenberg & Strayer, 1987; Lennon & Eisenberg, 1987).

Development of Empathy

Hoffman's theory

There exist many competing theories of how empathy develops in humans. The most influential theories that pertain to this thesis will be discussed here, beginning with Hoffman's theory. Hoffman defined empathy as a vicarious affective response that is more appropriate to someone else's situation than to one's own situation (Davis, 1996). The key component of empathy, according to Hoffman is the ". . . involvement of psychological processes that make a person have feelings that are more congruent with another's situation that with his own situation" (Hoffman, 2000, p. 30). Under this model, the shared emotions do not have to be an exact match, merely similar to each other (Davis, 1996; Hoffman, 1982, 1987, 2000).

Hoffman theorized that children form generalized ideas about certain situations and their corresponding emotions and these can organize children's thoughts about sociomoral rules (Arsenio, 1988; Goldstein & Michaels, 1985; Hoffman, 2000). His model, focusing primarily on the affective nature of empathy, retains the notion that empathy, a trait humans are genetically predisposed to develop, arises from the relationship between the infant and primary caregiver and also adds the theory of classical conditioning (Lennon & Eisenberg, 1987). The infant learns to associate distress in the caregiver with his own upset feelings. This results in an early form of empathy in which the infant learns that another's distress may predict his own feelings of distress (Goldstein & Michaels, 1985; Hoffman, 2000; Thompson, 1987).

Hoffman identified six modes in which empathy is aroused and these follow a developmental progression (Goldstein & Michaels, 1985; Hoffman, 1982, 1984, 1987, 2000; Thompson, 1987). Modes One through Five are theorized to be automatic, with Mode Six as the only active mode. As Modes One through Five develop during infancy and early childhood, they do not apply to the proposed study and will not be discussed in detail. I will instead focus on Mode Six as this mode is the most cognitively advanced, and as a result, usually develops in late childhood and adolescence. Mode Six occurs only when the child/adolescent is cognitively mature enough to engage in role-taking. This process requires proactive responding, rather than automatic behavior as in the five previous modes. Role-taking involves the child/adolescent purposely taking the perspective of another person. In short, he imagines himself as the victim of distress. This evokes associations with memories of him experiencing the same emotion. In this way, the child/adolescent forms a mental representation of himself as the victim. The first mode (the reactive cry) disappears after infancy, but the other five modes still operate during childhood, with Mode Six mostly occurring in adulthood.

Feshbach's theory

The second major theory of empathy stems from the social-cognitive realm and is based on Piaget's theory of development (Thompson, 1987). According to this theory, empathy is only achieved through passing cognitive developmental milestones, such as person permanence, differentiation of thoughts between self and others, and role-taking (Thompson, 1987). This theory has shifted attention away from studying empathy in infants and toddlers, since they lack the cognitive abilities necessary for empathy. Due to this cognitive prerequisite, social-cognitive theorists postulate that true empathy is not usually seen in children until the late preschool years, as this is the typical age when those cognitive mechanisms develop. An influential theory that

falls under this model is that of Feshbach (Barnett, 1987; Goldstein & Michaels, 1985; Thompson, 1987).

Feshbach's model (Barnett, 1987; Cohen & Strayer, 1996; Feshbach, 1975, 1983, 1989; Feshbach & Feshbach, 1969; Feshbach & Roe, 1968; Thompson, 1987) is composed of three components; two of these are cognitive and one is affective. The first cognitive component is the child's ability to identify the emotions of others. This is necessary for empathy and eventually develops as the child matures. The second cognitive component, which also develops over time, is the child's ability to take the perspective and role of the other. The third, affective, component is termed emotional responsiveness. This refers to the child's ability to experience the same emotions that others have. It is important to note that the emotion the child feels must be an exact match of the other person to be considered genuine empathy. Feshbach also considered aggression in her theory of empathy, stating that empathic distress elicited by observing another person in pain should serve to inhibit aggressive behavior, even by the instigator of the aggressive act (Bryant, 1982; Feshbach, 1975, 1983, 1989, 1997; Feshbach, S., 1989; Feshbach & Feshbach, 1969).

Social-Cognitive Theory

Social-cognitive theory of empathy focuses on how children think and feel about social situations. One of its central components is role-taking. Davis (1980) found perspective-taking to be a distinctive component of empathy. George Herbert Mead (Walters, 2002) thought role-taking was the basis of all social interaction and that social perspective-taking may be an important precursor to the development of emotional empathy.

Perspective-taking has received empirical support with its relationship to empathy and its effects on aggression. Girls who participated in a training program to increase their perspective-

taking skills also experienced a significant increase in their empathy skills, so perspective-taking is likely related to empathy (Chalmers & Townsend, 1990).

Empathy and Aggression

Empathy and its relationship to aggression have been widely studied. Overall, empathy appears to have a significant inverse relationship with aggression (Cohen & Strayer, 1996; Eisenberg, 2000; Kaukiainen et al., 1999; Miller & Eisenberg, 1988; Richardson et al., 1994). Also, the notion that empathy is negatively related to deficits in emotion processing has received empirical support (Casey & Schlosser, 1994). A relationship between conduct disorder and empathy has also been demonstrated (Arsenio & Fleiss, 1996; Casey, 1996). Conduct disorder is an externalizing behavior disorder with aggressive behavior as one of its key features (American Psychiatric Association, 2000). Even among juvenile delinquents, differences in aggression and empathy have been demonstrated. Aggressive juvenile offenders showed less empathy than non-aggressive juvenile offenders (Ellis, 1982).

The reverse has been empirically demonstrated, too. Training in empathy may reduce aggression (Buck & Ginsburg, 1997; Feshbach, 1997). Young children whose mothers showed more affect with them and used affective reasons more often to explain situations involving another child's distress were more likely to make reparations for their transgressions against other children, suggesting that they may be more empathic to those children (Zahn-Waxler, Radke-Yarrow, & King, 1979). These children's increased empathy could have led them to make reparations for their aggressive behavior, which may then serve to inhibit this behavior in the future.

Theories of Aggression

Social Cognitive Theory

There are many theories that attempt to explain aggression, but only those most relevant to empathy will be discussed. One such theory of cognitive and moral development that can be applied to aggression is *social cognitive theory*, first proposed by Bandura (1973, 1986, 1992), whose model is based on social learning. Key features of this theory are the development of behavior, competencies, and the regulation of behavior (Tisak, Tisak, & Goldstein, 2006). People do not have to perform acts in order to learn their consequences; they can learn by watching what happens to others (Tedeschi & Felson, 1994). According to Bandura (1973, 1986, 1992), learning through watching others' errors saves time and is a safer way to learn some activities. Children learn through a variety of modes, including observational learning (listening to an adult speak and then imitating those same sounds), exploratory activities (attempting a new skill), and verbal instruction (being told by an adult how to perform a task), (Bandura, 1973, 1986, 1992; Goldstein, 1989; Tisak et al., 2006).

One aspect of social cognitive theory relevant to aggression is moral agency. This is forethought that leads to anticipation of how one will feel about engaging in a certain behavior, which can then either encourage or discourage that particular behavior. There are two parts of moral agency; inhibitive agency and proactive agency. Inhibitive agency is the "ability to refrain from acting in a negative manner towards others" and proactive agency is "the ability to behave prosocially or humanely" (Tisak et al., 2006). Moral agency is mainly applied to prosocial and nonaggressive actions of children (Bandura, 1973, 1986, 1992).

On the contrary, Bandura also discussed ways in which a child is primed to act negatively toward others. Specifically, he posited that negative self-sanctions must be activated in an

individual in order to discourage aggressive behavior (Bandura, 1986; Tisak et al., 2006). An example of a negative self-sanction is anticipatory guilt over committing a moral transgression, which should serve to keep an individual from committing that transgression.

However, these self-sanctions are not always activated. When they are not activated, that process is termed *moral disengagement* (Bandura, 1999; Bandura, Barbaranelli, Caprara, & Pastorelli, 1996). Moral disengagement is a process by which an individual acts in a morally unacceptable way, but does not experience the typical negative self-sanctions for those actions, such as guilt. Moral disengagement, then, is a process that facilitates aggressive behavior by loosening a person's inner self-regulatory mechanisms. Self-evaluations (whether positive or negative) only operate when activated and the same behavior is not always responded to in the same fashion since people use selective control over these self-evaluations (Bandura, 1986, 1999; Bandura et al., 1996). "Self-deterrence is likely to be activated most strongly when the causal connection between reprehensible conduct and its injurious effects is unambiguous" (Bandura, 1986, p.376). Following this line of reasoning, if the negative consequences of an act are not clear, then people are more likely to utilize moral disengagement.

Moral disengagement has been applied in several studies of aggressive behavior. In one such study, children who earned high scores on moral disengagement were more likely to participate in aggressive and/or delinquent activities. These children showed a tendency to be less prosocial, less worried about experiencing guilt, and more likely to focus on revenge (Bandura et al., 1996). Thus, moral disengagement directly and indirectly affects aggressive behavior. Aggressive children were also less likely than their non-aggressive peers to believe that victims do not suffer harm or feel pain after being victimized (Arsenio & Fleiss, 1996; Berkowitz, 1989; Boldizar, Perry, & Perry, 1989; Perry & Perry, 1974; Perry, Perry, &

Rasmussen, 1986; Slaby & Guerra, 1988), giving support to Bandura's notion of moral disengagement.

Moral disengagement, the inactivation of negative self-sanctions, centers on different aspects of an immoral act. Thus, there are several different components of moral disengagement. One such component focuses on the consequences of the immoral act by "*minimizing, ignoring, or misconstruing*" them (Bandura, 1986, p. 376). This component has received empirical support. In these studies, aggressive children were more likely than their non-aggressive peers to believe that aggression will produce positive benefits for the aggressor (Feldman & Dodge, 1987; Hart, Ladd, & Burleson, 1990). It appears then that aggressive children may ignore or misconstrue the consequences of their aggressive behavior.

Aggressive behavior is theorized to follow an evaluation that aggression will carry positive consequences for the aggressor (Dodge, 1993). Bandura thought the anticipation of positive consequences for an aggressive act was one of the main motivators behind aggression (Tedeschi & Felson, 1994). A significant effect of age on the expectations of victimizers' feelings was demonstrated in a study in which younger children (4 and 6 year-olds) were more likely than older children (8 year-olds) to assign positive emotions to victimizers (Arsenio & Kramer, 1992). This study suggests that *minimizing, ignoring, or misconstruing* the negative consequences of an aggressive act may be related to developmental processes.

In other components of moral disengagement, an individual may justify the act as worthy or moral (*moral justification*), as in when an adolescent says he stole food to provide for his starving family. Another technique of moral disengagement is *palliative comparison*, in which the individual compares the act to seemingly worse acts, such as when a child claims that it is not so bad that he hit another child because he could have beat him up. In another component of

moral disengagement, the aggressive act is called by a sanitized name (*euphemistic labeling),* like the people who are killed during war are renamed "casualties of combat".

Other related avenues of moral disengagement include *diffusion of responsibility*, in which many people are involved in the act, so no one person really feels responsible. This is often seen in crowd riots where one person who is caught claims that it is not his fault because other people were also doing the same thing. Another is *displacement of responsibility*, which happens when people feel they were forced to act in an immoral way by societal pressures or by an authority figure. They do not feel true responsibility for their actions then (Bandura, 1986, 1999; Bandura et al., 1996). An example of this is when a poor person says, "I don't get paid enough to feed my family, so I *have* to steal".

There are two other components of moral disengagement, *dehumanization of victims* and *attribution of blame to victims*, which are also of interest to this thesis. Dehumanization, the failure to see another person as being completely human, makes it easier to victimize that person (Bandura, 1986, 1999). This can be conceptualized as a failure of the perpetrator to empathize with the victim since "Sub-humans are presumably insensitive to maltreatment. . ." (Bandura, 1986, p. 382). The opposite effect of dehumanization and empathy has been empirically demonstrated. Empathetic and vicarious emotional reactions were aroused when participants perceived another as human (Bandura, 1992; McHugo, Smith, & Lanzetta, 1982) and the expectation of victim suffering usually dissuades people from aggressing against others (Baron, 1977; Perry & Perry, 1974). The attribution of blame to the victim facilitates moral disengagement, which in turn facilitates aggressive behavior (Bandura, 1999). Attributing blame to the victim can also be explained as a failure to empathize with the suffering of the victim. The attribution of blame can involve people other than the perpetrator and victim. In a study of this

phenomenon, observers blamed victims when they were held partially responsible for their plight (Lerner & Miller, 1978).

Social Information Processing Theory

Another theory that explains aggression is social information-processing theory as described by Crick and Dodge (1994). According to their theory, aggressive youth are less competent in their processing of social information than their non-aggressive peers and the manner by which they process social information makes them more likely to behave aggressively. Children's social information-processing styles may influence their behavior for many years, as early aggressive behavior can predict later externalizing behavior problems (Salzer Burks, Dodge, & Price, 1999).

Aggressive children also tend to interpret ambiguous social situations in a way that attributes hostile intent to others, even when information about another's intentions is unavailable (Berkowitz, 1989; Dodge & Frame, 1982; Dodge & Somberg, 1987; Feshbach, S., 1989; Gouze, 1987; Yoon, Hughes, Cavell, & Thompson, 2000). Aggressive children's hostile attribution bias may be restricted to social situations of conflict involving the self and these children may not exhibit social information-processing deficits when conflict concerns a peer (Dodge & Frame, 1982). It is the process of aggressive children's social-information processing that is qualitatively different from non-aggressive children, not just the end result of this processing (Dodge & Newman, 1981; Dodge & Somberg, 1987; Shechtman, 2003).

There are six steps in the revised model of information processing (Crick & Dodge, 1994). Under this model, it is assumed that children possess biologically determined capabilities along with their personal memories of past social encounters. Stored memories of previous events make up a "database" that includes stored memories, acquired rules, social schemas, and

social knowledge. Both of these structures interact with the present social situation, putting the cycle of social information processing into action. A child's behavior is determined by his or her memory database, biological capabilities, and the processing of social information.

There is considerable empirical support for the social information-processing model (Asarnow & Callan, 1985; Crick & Ladd, 1990; Dodge, Pettit, McClaskey, & Brown, 1986; Lochman, Wayland, & White, 1993; Petit, Dodge, & Brown, 1988; Quiggle, Garber, Panak, & Dodge, 1992; Renshaw & Asher, 1983; Richard & Dodge, 1982; Yoon et al., 2000). One study found that social information-processing patterns were significantly correlated with aggressive behavior (Zelli, Dodge, Laird, Lochman, & Conduct Problems Prevention Research Group, 1999). In this study, children's beliefs about aggression were relatively stable over a period of three years, as the children who approved retaliation in cases of prior provocation tended to maintain this belief three years later. Also, children who endorsed aggressive responses early in the study significantly predicted later deviant social information-processing (Zelli et al., 1999).

The six steps of the social information-processing model will be briefly reviewed in this section. Step 1 of the social information-processing cycle is the *encoding of social cues*, during which children attend to certain information in the social situation and then make sense of it. Step 2 in the social information-processing model is the *interpretation of cues*, in which the child makes sense of the social cues that were encoded during the previous step. This leads to Step 3, which is *goal selection and clarification*, during which the child forms a goal or uses an already existing one. After the goal is clarified and selected, the child must decide how to respond to the current situation. This *response access or construction* is represented in Step 4 of the model. During Step 5, the child comes to a *response decision*. This step is characterized by the selection of the response he or she thinks will produce the desired outcome.

Of particular relevance to empathy in Step 5 are *outcome expectancies*. These are how a child evaluates the response he or she chose in terms of future outcomes, such as what he or she believes will happen based on the response chosen. A child may not choose a particular goal if he or she can foresee potential harm that may come as a result of the goal considered. This child has the ability to empathize with a potential victim, and an aggressive or delinquent goal may be abandoned in favor of a more prosocial one.

Deficits in social information-processing patterns and empathy have been empirically demonstrated, suggesting the two are related to each other. In one particular study (Slaby & Guerra, 1988), children identified as antisocial/aggressive, followed by children identified as highly aggressive, were more likely to define a social situation as hostile. Another finding of this study was that the highly aggressive and antisocial/aggressive children generated fewer solutions, facts, and consequences of a social dilemma than did the low aggression group. These findings were consistent with more recent research with juvenile offenders (Tisak, Lewis, & Jankowski, 1997). Thus, these aggressive and/or antisocial children displayed deficits in social information-processing skills. As the aggressive and antisocial/aggressive children generated fewer possible consequences of a potentially aggressive social dilemma, they were less likely to appreciate the possible suffering of victims, suggesting deficits in empathy.

Aggressive children may not be able to predict possible harm to others resulting from goals they have chosen. It is also possible that aggressive children do not appreciate the degree to which victims of aggressive acts suffer, preventing them from forming an outcome expectancy in which they hurt other people. Both of these scenarios reflect a lack of empathic abilities in aggressive youth. Research has suggested that aggressive children are more likely than non-aggressive children to believe that victims of aggressive acts do not suffer (Arsenio & Fleiss,

1996; Berkowitz, 1989; Boldizar et al., 1989; Perry & Perry, 1974; Perry et al., 1986; Slaby & Guerra, 1988), demonstrating a lack of empathy for potential victims.

Social information-processing deficits may be related to similar deficits in empathy skills. Children who are rejected by their peers may be denied the opportunity to learn proper social skills, such as empathy and adaptive social information-processing. This is associated with aggressive behavior by these children. One study found that children who were identified as rejected in the first grade had higher levels of teacher-reported aggression in fifth grade, which was almost twice as high as their non-rejected peers (Dodge et al., 2003). The children's tendency to develop biased patterns of processing social information as a function of peer rejection accounted for a significant portion of this effect. It also appeared that the experience of low social preference by peers significantly affected later processing patterns, even when early processing patterns were taken into account. Furthermore, low social preference scores led to a change in processing patterns over time. Also, the outcome of early rejection appeared to have lead to a change in processing patterns that accounted for significant predictions of aggression scores in the fifth year of the study (fifth grade) (Dodge et al., 2003).

Social Information-Processing Theory & Emotion Processes

Lemerise and Arsenio (2000) have proposed an addition to the Crick and Dodge (1994) model which focuses on the role of emotion. They suggest children's social information-processing is affected by their emotions. Following this reasoning, they hypothesize that aggressive children's deficiencies in social information-processing may be a result of high emotionality and low emotion regulation. In order to adapt the Crick and Dodge (1994) model to their hypothesis, they have formed a new social information-processing model with emotions added at each step. An addition that is of particular relevance to empathy is hypothesized to

occur in step 3, *clarification of goals*. This addition implies that some children may have deficits in detecting others' emotions, making it more likely for those children to choose antisocial goals. These children may lack empathy because they cannot perceive the emotions of other people, causing them to define goals in antisocial ways.

Neutralization Theory

A theory of delinquency in general was described by Sykes and Matza (1957), which they termed *techniques of neutralization*. Although this theory was originally meant to explain delinquency, it can also be applied to aggression. Under this theory, "It is our argument that much delinquency is based on what is essentially an unrecognized extension of defenses to crimes, in the form of justifications for deviance that are seen as valid by the delinquent but not by the legal system or society at large" (Sykes & Matza, 1957, p.666). These techniques of neutralization serve to distort or minimize the amount of blame that can be assigned to an individual for committing a crime. Use of the techniques of neutralization may serve adaptive functions in that the individual feels free from the burden of blame. In fact, use of "immunization processes" (techniques of neutralization) was positively correlated with higher self-esteem in incarcerated adolescents (Greve, Enzmann, & Hosser, 2001). Techniques of neutralization may also protect youth who grew up in violent, inner-city areas from developing depressive symptoms (Ng-Mak, Salzinger, Feldman, & Stueve, 2002).

Sykes and Matza (1957) described five specific techniques of neutralization, which they hypothesized can serve the purpose of loosening society's controls over some people, making criminal behavior more likely for those who use these. Each of these techniques is described in more detail below.

The first technique of neutralization, *denial of responsibility*, is used when the delinquent believes he or she shares no responsibility for the delinquent act; rather, it happened under circumstances beyond his or her control. This is seen when a delinquent claims, "It's not my fault".

In the second technique, *denial of injury*, the delinquent refuses to believe that anyone was directly hurt by the delinquent act. The delinquent may say, "No one got hurt, so what's the big deal"?

Another technique employed by delinquents is *denial of the victim*, in which the existence of a victim is denied because the delinquent views the delinquent act as one of revenge, so the "victim" deserved the punishment. "He had it coming to him, so he's not really a 'victim' and didn't really suffer". Empathic distress in the aggressor can be neutralized if the victim is believed to be responsible for the harm brought to him (Hoffman, 2000).

Delinquents may also rationalize their crimes by saying the people who judge their acts as wrong are often guilty of committing the same acts themselves, which is explained by *condemnation of the condemners*, the fourth technique. "The police say I broke the law, but they're so corrupt, who are they to judge me? They break the law too!"

Delinquents may also conform to a different set of norms that are considered to be of higher priority, and may require law-violating behavior, and thus *appeal to higher loyalties*, the fifth and final technique. "I was just following the orders of my gang."

There is empirical support for Sykes and Matza's (1957) techniques of neutralization theory. A study that attempted to discover reasons for engaging in delinquent behavior as told by the juveniles themselves found support for each technique of neutralization in the theory (Teevan & Dryburgh, 2000). Of five categories of possible delinquent behavior, the participants

endorsed each of the techniques of neutralization as explanations for all of these categories. Fighting was the behavior that received the highest endorsement for the neutralization techniques, especially denial of a victim, appeal to higher loyalties, and denial of responsibility. Also receiving high endorsement was denial of injury, which was most often used to explain truancy, followed by drug and alcohol use. Of all the sociological theories of criminal behavior studied, the techniques of neutralization was the only theory that was found to be applicable to all categories of crime that were examined (Teevan & Dryburgh, 2000).

Techniques of neutralization have also received empirical support in other studies. In one such study, college students who admitted to cheating at least once while in college gave their reasons for doing so. Their answers coincided with four of the five techniques of neutralization. These were denial of responsibility, which was the most common, condemnation of the condemners, appeal to higher loyalties, and denial of injury (McCabe, 1999). In a different study, adolescent offenders' perceptions of fairness were studied (Graham & Halliday, 2000). When deciding punishments for other adolescents in either their in-group (their own neighborhood) or from their out-group (a rival neighborhood), they favored their hypothetical in-group peers by giving them lesser sentences. This in-group favoritism could be seen as evidence of appeal to higher loyalties.

Cognitive Distortion

Another theory related to aggression is that of cognitive distortions, which are inaccurate ways of attending to or conferring meaning on experience (Barriga, Landau, Stinson, Liau, & Gibbs, 2000). They can be thought of as biased processing tendencies and can manifest in internalizing or externalizing manners (Gibbs, Potter, Barriga, & Liau, 1996).

Self-serving cognitive distortions are divided into two main types, which are primary and secondary distortions. The primary cognitive distortion is egocentric bias, which is characterized by self-centered attitudes, thoughts, and beliefs (Gibbs et al., 1996). There are three secondary cognitive distortions. The first concerns causal attributions, such as who is responsible for an act. In using this cognitive distortion, the individual blames others for his own actions. The second self-serving cognitive distortion, minimizing/mislabeling, happens when an individual makes his misdeeds seem harmless, acceptable, or even admirable, or when he refers to others in dehumanizing or degrading ways. The third self-serving cognitive distortion is termed assuming the worst, in which one unnecessarily attributes hostile intent to others, assumes it's impossible to improve his situation, and thinks worst-case scenarios for social situations are unavoidable.

Cognitive distortions, however detrimental they have the potential to be, serve an important function. They can protect an individual's self-concept when he or she deviates from his or her normal behavior pattern (Barriga & Gibbs, 1996; Barriga et al., 2000; Gibbs, Potter, & Goldstein, 1995; Liau, Barriga, & Gibbs, 1998; Palmer, 2003). Committing a deviant or criminal act can make a person feel guilty or ashamed of his behavior, which is in direct conflict with his belief that he is basically a good person. This discrepancy can cause considerable conflict within a person, so cognitive distortions are employed to ease this discomfort. Since cognitive distortions minimize or completely absolve the person of responsibility and blame for a transgression, the person is protected from negative feelings. Although this line of cognitive processing protects a person from a negative self-image, it also serves to disinhibit aggressive behavior, freeing a person to engage in deviant acts without the accompanying negative feelings (Barriga et al., 2000; Gibbs, 1991). However, an individual who employs cognitive distortions

to avoid feeling guilt after a transgression also blocks himself from empathizing with his victim (Gibbs, 1991).

Externalizing behavior problems are associated with self-serving cognitive distortions whereas internalizing behavior problems are correlated with self-debasing cognitive distortions (Barriga et al., 2000). Self-serving cognitive distortions are of particular interest to research on aggression as they appear to be related to externalizing behavior problems, particularly delinquent and antisocial behavior (Barriga & Gibbs, 1996; Barriga et al., 2000; Liau et al., 1998).

This theorized relationship between self-serving cognitive distortions and delinquent and/or antisocial behavior has found empirical support. In a study of incarcerated adolescents and a comparison group, the type of behavior problem was related to a specific type of cognitive distortion, yet there was a high degree of comorbidity between internalizing and externalizing behavior problems. That is, individuals who demonstrated significant behavior problems (whether internalized or externalized) had a tendency to show the other type of behavior problem too. The incarcerated participants scored higher on a measure of self-serving cognitive distortions and also scored higher on a separate measure of behavior problems as compared to the control group, suggesting they had higher levels of cognitive distortions and behavior problems (Barriga et al., 2000).

Overlap in Theories of Aggression

Upon review of each of the theories of aggression described above (social cognitive theory, social information-processing theory, social information-processing and emotion processes, neutralization theory, and cognitive distortions) it is clear that there is considerable overlap among all of these theories, which will be explained in greater detail.

Each theory contains a section that describes certain cognitions that facilitate aggressive behavior. Under each theory, these cognitions are labeled as distorted, dysfunctional, abnormal, and/or maladaptive in some way. For example, in social cognitive theory, an important category of these thinking errors is called *moral disengagement*. Social information-processing theory uses the term *hostile attribution bias* to describe a style of faulty cognitions. The theory of social information-processing and emotion processes also contains *hostile attribution bias*, but combines it with deficits in the processing of others' emotions. Neutralization theory describes five distinct types of cognitive distortions that are all termed *techniques of neutralization*. Finally, cognitive distortion theory names the thoughts that can lead to aggression *self-serving cognitive distortions*.

Regardless of the name that is applied to these cognitions, they serve an important function: to protect the aggressor from feeling guilt or accepting responsibility for acting aggressively and hurting others. Causing harm or pain to another person is usually sufficient to deter someone from acting aggressively because it induces empathic distress in the person who instigated the aggressive act. However, the distorted or maladaptive cognitions employed by aggressive individuals (and normal individuals when acting aggressively) block this normal empathic response, thereby *dis*-inhibiting aggression and allowing the aggressive act to continue.

STUDY

Each of the theories of aggression that I have reviewed for this thesis contains cognitive components. That is, they propose that certain thoughts or patterns of thinking can lead to aggressive behavior. For example, in social cognitive theory, Bandura proposed (1973, 1986, 1992) that the dehumanization and attribution of blame to victims can disinhibit aggression, making it more likely to happen. Crick and Dodge (1994) in their social-information processing model proposed that certain patterns of thinking about social situations can lead children to behave aggressively, as in the hostile attribution bias. Lemerise and Arsenio's (2000) modified model of social information-processing also contains hostile attribution bias, but adds deficits in emotion processing.

Sykes and Matza's (1957) techniques of neutralization theory outlines five specific ways in which people can cognitively justify engaging in aggressive behavior. Cognitive distortion theory (Barriga et al., 2000; Gibbs et al., 1995) outlines a certain category of cognitive distortions that are associated with aggressive behavior: self-serving cognitive distortions. It is theorized that people who think in self-serving ways are more likely to be aggressive than people that do not employ those distortions.

Extensive research has explored differences in how aggressive versus non-aggressive children think, particularly with regard to social situations, giving considerable support to the notion that cognitions significantly affect behavior (Bandura et al., 1996; Berkowitz, 1989; Dodge et al., 1986; Dodge & Coie, 1987; Dodge & Somberg, 1987; Dodge et al., 1984; Feldman & Dodge, 1987; Hart et al., 1990; Slaby & Guerra, 1988).

These same theories also include components of empathy deficits as related to aggression. For example, in social cognitive theory, Bandura (1973, 1986, 1992) postulated that

dehumanization of victims and attributing blame to the victims can disinhibit aggression. This could be thought of as a deficit in empathy regarding victims. One cannot empathize with a person that is seen as less than human neither can he empathize with someone he blames.

Outcome expectancies, as described in social information-processing theory, could indicate a deficit in empathy. Aggressive children are more likely than non-aggressive children to believe that victims do not suffer from aggressive actions, which is a way to deny the victim or to blame the victim (Arsenio & Fleiss, 1996; Berkowitz, 1989; Boldizar et al., 1989; Perry & Perry, 1974; Perry et al., 1986; Slaby & Guerra, 1988). This demonstrates a lack of empathy in that the victim's suffering is not acknowledged. Also, the modified version of social information-processing theory as described by Lemerise and Arsenio (2000) includes deficits in emotion processes that lead to aggressive behavior. Under this model, aggressive children have deficits in their ability to detect others' emotions, leading them to choose antisocial goals more than non-aggressive children.

In neutralization theory, the denial of the victim could be seen as an empathy deficit in that victims are often blamed rather than empathized with when this technique is employed. Cognitive distortion theory can also be related to deficits in empathy. People who use cognitive distortions do so to protect themselves from the guilt they would typically feel after committing an aggressive act against another person. However, the use of self-serving cognitive distortions prevents the experience of guilt, but also prevents empathy for the victim, thus creating a deficit in empathy.

Research has also established a well-documented relationship between deficits in empathy and aggressive behavior (Cohen & Strayer, 1996; Eisenberg, 2000; Gibbs, 1991; Kaukiainen et al., 1999; Miller & Eisenberg, 1988; Richardson et al., 1994) and excesses in

cognitive distortions and aggressive behavior (Arsenio & Fleiss, 1996; Barriga et al., 2000; Berkowitz, 1989; Boldizar et al., 1989; Crick and Dodge, 1994; Gibbs et al., 1995; Perry & Perry, 1974; Perry et al., 1986; Slaby & Guerra, 1988). However, research has not yet moved into the direction of combining the areas of empathy and cognition while studying aggression.

In this study, I aimed to assess the possible relationships among empathy, cognitive distortions, and aggressive behavior. I thought deficits in empathy coupled with cognitive distortions would create a powerful combination that is likely to be associated with aggression. There were four specific aims of the study. The first was to assess whether empathy was a predictor of physical aggression. The second was to determine the ability of cognitive distortions to predict physical aggression. Third, the combined effects of empathy and cognitive distortions on physical aggression were examined. Finally, the effects of age and gender on empathy, cognitive distortions, and physical aggression were analyzed.

Three specific measures were used, each of which will be discussed below. One such measure assessed the level of cognitive distortions in adolescents. Cognitive distortions were one focus of this study because they are present in each of the theories of aggression previously reviewed (Social-Cognitive, Social Information-Processing, Social Information-Processing and Emotion Processes, Neutralization, and Cognitive Distortions). Another measure assessed participants' empathy. Empathy was another focus of this study because each of these same theories of aggression mentioned deficits in empathy as being related to aggressive behavior. The final measure assessed participants' level of engagement in physically aggressive activities.

Measures

How I Think Questionnaire

The How I Think questionnaire (HIT) is a 54-item, self-report questionnaire that measures self-serving cognitive distortions (see Appendix I). The questionnaire items are responded to with a 6-point strongly agree/strongly disagree scale, with 6 being strongly agree and 1 being strongly disagree, and were modeled after symptoms of oppositional-defiant and conduct disorders as described in the *Diagnostic and Statistical Manual*, Fourth Edition (American Psychiatric Association, 1994). These symptoms are stealing, lying, physical aggression, and opposition/defiance (Barriga & Gibbs, 1996). For this thesis, the entire measure will be used. Sample items are listed below.

- "If I really want something, it doesn't matter how I get it."
- "It is okay to tell a lie if someone is dumb enough to fall for it."
- "Everybody lies, it's no big deal."
- "It's no use trying to stay out of fights."

The How I Think Questionnaire (HIT) is appropriate to use for youth aged 14 to 18 because it only requires a fourth-grade reading level. Most adolescents take five to 15 minutes to complete the measure.

In general, the How I Think Questionnaire (HIT) performed well with regard to various psychometric measures. The HIT was found to have high test-retest reliability, $r(135)=.91$, $p<.0001$. Also high was internal consistency, Cronbach's coefficient alpha = .96. HIT subscales (cognitive distortion and behaviors) had alphas ranging from .78 to .90.

The How I Think Questionnaire (HIT) was chosen because it is a measure that specifically focuses on cognitive distortions and aggressive behavior and was designed to assess

the level of self-serving cognitive distortion in antisocial youth (Barriga & Gibbs, 1996). This is of particular relevance to this thesis because the focus of this thesis is on cognitive distortions and their relationship to aggressive behavior.

Although other instruments that measure cognitive distortion exist, the HIT was specifically chosen because it taps into aspects of each of the theories of aggression that were reviewed for this thesis. One aspect of Social-Cognitive theory that the HIT measures is *attribution of blame to victims*, as can been seen in the item "If someone is careless enough to lose a wallet, they deserve to have it stolen". Another aspect of Social-Cognitive theory that is measured by the HIT is *displacement of responsibility*, which is seen in the item "I might as well lie-when I tell the truth, people don't believe me anyway".

The HIT also measures certain components of Social Information-Processing theory and Social Information-Processing and Emotion Processes. One of these components is *hostile attribution bias*, as seen in the item "People are always trying to hassle me". Also measured by the HIT are *outcome expectancies*, particularly anticipating negative outcomes for *not* behaving aggressively, as described in the item "Only a coward would ever walk away from a fight". This item anticipates a negative outcome (being labeled a coward) for *not* engaging in aggressive behavior.

The How I Think Questionnaire (HIT) also measures four of the five *techniques of neutralization* as outlined by Sykes and Matza's (1957) Neutralization Theory. One item that corresponds to *denial of responsibility* is "No matter how hard I try, I can't help getting in trouble". An item that represents *denial of injury* is "Stores make enough money that it's OK to just take things you need". Another item that assesses *denial of the victim* is "If people don't cooperate with me, it's not my fault if someone gets hurt". This could be seen as representing

denial of the victim because the item implies that other people deserve to get hurt because they did not cooperate with the respondent, so they are not actually victims. An example of an item that corresponds to *condemnation of the condemners* is "You might as well steal. People would steal from you if they had the chance". This item corresponds to *condemnation of the condemners* because the item implies that everyone else steals so they do not have the authority to accuse the respondent of stealing.

In addition to the theories mentioned above, the HIT also measures each of the four self-serving cognitive distortions described by Gibbs et al. (1995) in their Cognitive Distortion theory. The HIT was specifically designed to assess adolescents' levels of each of these self-serving cognitive distortions.

Interpersonal Reactivity Index

The Interpersonal Reactivity Index (IRI) is a multidimensional measure of individual differences in empathy (Davis, 1980, 1983), which was based in part on Hoffman's theory of empathy. The IRI is comprised of four subscales of seven items each, with each subscale examining a different aspect of empathy (see Appendix G for the IRI). For this thesis, the IRI's four subscales were collapsed into two subscales, affective and cognitive empathy.

The affective empathy subscale consisted of the Empathic Concern and Personal Distress subscales. The Empathic Concern subscale taps into an individual's feelings of "warmth, compassion, and concern for others" (Davis, 1980, p. 6). The Personal Distress subscale measures personal feelings of anxiety and discomfort after observing another person experience a negative event. An example of an item from each subscale is listed below.

Affective Empathy

- Empathic Concern- “I often have tender, concerned feelings for people less fortunate than me.”
- Personal Distress- “In emergency situations, I feel apprehensive and ill-at-ease.”

The cognitive subscale of the Interpersonal Reactivity Index (IRI) is composed of the Perspective-Taking and Fantasy subscales. The Perspective-Taking subscale contains items designed to “assess spontaneous attempts to adopt the perspectives of other people and see things from their point of view” (Davis, 1980, p. 2). The Fantasy subscale measures an individual's ability to take the perspective of characters in various forms of media, such as plays, movies, or books. A sample item from each subscale is listed below.

Cognitive Empathy

- Perspective-Taking- “I try to look at everybody's side of a disagreement before I make a decision.”
- Fantasy – "When I watch a good movie, I can very easily put myself in the place of a leading character."

The Interpersonal Reactivity Index (IRI) (Davis, 1980, 1983) demonstrated promising psychometric properties after three studies and subsequent revisions. Despite its promising psychometric properties, there are other findings of this empathy index that should be mentioned as they may pose limitations. In preliminary analyses, females received higher scores than males on each of the four subscales; all of these differences were statistically significant (Davis, 1983). However, this finding is common in empathy research (Boldizar et al., 1989; Hoffman, 1977; Lennon & Eisenberg, 1987). The low correlations among each of the four subscales suggests

that knowing an individual's score on one scale may not help predict that same person's score on another scale.

There are several measures of empathy, but the Interpersonal Reactivity Index (IRI) was the measure chosen for this study because it provided a more comprehensive measure of the respondent's empathy. As was discussed earlier, empathy is not a single construct; rather it consists of affective and cognitive components.

Although there are some disadvantages to using self-report measures of empathy, there are also advantages to using such measures, such as the ability to examine interrelations among different constructs (Batson, 1987), which was helpful to this thesis as constructs other than empathy were also examined. Another advantage of self-report measures of empathy is the measurement of an individual's perception of his or her feelings, which some regard as more important than a more objective measure of empathy (Bryant, 1987).

Commit Aggression

Participants also completed the Commit Aggression scale (CA), which is an assessment questionnaire of aggression developed by George (2003). The CA scale contains 28 self-report items (see Appendix H for CA scale), but for this thesis, only the 17 physical aggression items were used. Responses to this scale are based on a five-point Likert scale (1 = never in the past year, 2 = almost never in the past year, 3 = sometimes in the past year, 4 = often in the past year, 5 = all the time). Listed below are examples of CA physical aggression items.

- "Slapped a person."
- "Shot a gun at a person."
- "Hit a person with a club."
- "Beat up a person."

Research Questions & Hypotheses

Aim 1: Can empathy predict physical aggression?

Research Question 1: Will participants' Affective and Cognitive Empathy (Interpersonal Reactivity Index) scores predict their Commit Aggression (CA) scores?

- Participants' Affective and Cognitive IRI scores will significantly predict their CA scores as a well-documented, negative relationship between empathy and aggression has been established (Cohen & Strayer, 1996; Eisenberg, 2000; Kaukiainen et al., 1999; Miller & Eisenberg, 1988; Richardson et al., 1994). Both Affective and Cognitive IRI scores will be significant predictors of CA scores.

Aim 2: Can cognitive distortions predict physical aggression?

Research Question 2: Will participants' How I Think (HIT) scores predict their Commit Aggression (CA) scores?

- Participants' HIT scores will predict their CA scores. A similar effect has been found in previous research, as participants' HIT scores were a significant predictor of externalizing behavior problems, including aggression (Barriga et al., 2000).

Aim 3: What combined effects do empathy and cognitive distortions have on physical aggression?

Research Question 3a: Will the interaction between participants' Affective Empathy (Interpersonal Reactivity Index) and Cognitive Distortion (How I Think Questionnaire) scores predict their Commit Aggression (CA) scores?

- The interaction between participants' Affective Empathy (IRI) and HIT scores will significantly predict their CA scores.

Research Question 3b: Will the interaction between participants' Cognitive Empathy (Interpersonal Reactivity Index) and Cognitive Distortion (How I Think Questionnaire) scores predict their Commit Aggression (CA) scores?

- The interaction between participants' Cognitive Empathy (IRI) and HIT scores will significantly predict their CA scores.

Aim 4: What influence do age and gender have on empathy, cognitive distortions, and physical aggression?

Age

Research Question 4: Will participants' age predict their Affective and Cognitive Empathy (Interpersonal Reactivity Index) scores?

- Older participants will receive higher affective and cognitive IRI scores than younger participants. A study of sex offenders aged 12-19 found a significant effect for age with older participants receiving higher scores (Curwen, 2003). A significant negative relationship between affective and cognitive IRI scores and aggression is expected for this sample of participants (adolescents) as a meta-analysis of studies of empathy and offending found that adolescents had stronger negative correlations between empathy and offending than did adults (Jolliffe & Farrington, 2004).

Research Question 5: Will participants' age predict their How I Think (HIT) scores?

- No significant effects of age for the HIT are expected as previous research with this measure found no significant main effects for age with a participant age range of 13-19 years (Barriga et al., 2000).

Research Question 6: Will participants' age predict their Commit Aggression (CA) scores?

- There are no expected significant differences for age on the CA scale as previous research did not find any significant differences for age on this scale (George, 2003).

Gender

Research Question 7: Will participants' gender predict their Affective Empathy & Cognitive Empathy (Interpersonal Reactivity Index) scores?

- Females will receive higher mean scores than males on the affective and cognitive empathy subscales of the IRI. A similar effect has been demonstrated in a study using the IRI (Davis, 1980) and other studies of empathy (Boldizar et al., 1989; Hoffman, 1977), especially when self-report measures of empathy are used (Lennon & Eisenberg, 1987).

Research Question 8: Will participants' gender predict their How I Think (HIT) scores?

- There will be no significant differences between males' and females' scores on the HIT. This prediction is based on previous research with the HIT in which no effects for gender were found (Barriga et al., 2000).

Research Question 9: Will participants' gender predict their Commit Aggression (CA) scores?

- Males will receive higher CA scores than females. In previous research, gender was found to be a significant predictor of CA scores, with males receiving higher scores than females (George, 2003).

METHOD

Participants

Participants were recruited from high schools in medium-sized Midwestern towns. Two high schools consented to participate in the study; one in a suburban area and one in a rural area. The participants were adolescents whose ages ranged from 16-18 years and both males and females were included in the study. A total of 239 adolescents participated in the study; 102 males and 136 females (1 participant did not give gender). Means and standard deviations were collected for ages of males and females (males M = 17.02 years, SD = 8.56 months; females M = 16.84 years, SD = 9.17 months). All of the participants were either in grade 10, 11, or 12.

Percentages of the remaining demographic variables (ethnicity, living arrangement, parents' education level, arrest status) were computed and can be found under Tables 1, 2, 3, and 4. Regarding ethnicity of the participants (Table 1), most were Caucasian (86.61%), followed by Mixed Ethnic (5.44%) and Other Ethnic (3.77%). The other categories for ethnicity (Hispanic/Latino, African American, Asian) were rarely endorsed. The analysis of the living arrangement (Table 2) revealed most participants live with both of their parents (72.8%) and the second-largest percentage of the sample live with their mother only (16.32%). The other living arrangements (foster parents, father only, other, and grandparents) were rarely endorsed. With regard to parents' education level (Table 3), most participants' mothers and fathers completed college (44.77% and 43.93%, respectively). Another large percentage of mothers and fathers achieved only high school diplomas (23.01% and 24.27%, respectively). Analysis of the arrest status (Table 4) revealed most participants reported never having been arrested (89.66%).

Procedures

A letter requesting permission to conduct the study was distributed to local high schools (see Appendix A). Once the schools consented to participate (see Appendix B for school consent form), parent letters and consent forms were given to the students to deliver to their parents (see Appendices C & D, respectively). Students who returned signed parent consent forms were asked as a group if they wanted to participate using the script (See Appendix E). Students who were not given parental consent to participate and those who did not return parental consent forms did not participate.

After listening to a description of the study and being given the option to participate or not, the participants filled out the measures, as they were told that completing the measures indicated their assent to participate. Adolescents who chose not to participate, regardless of parental permission, did not participate in the research. Participants completed a demographic questionnaire, which solicited information about gender, criminal behavior, and age (see Appendix F for demographic form). Some of these demographics were used in the statistical analyses to make predictions. Once participants completed all the questionnaires, they were given a debriefing form (see Appendix J for debriefing form). The order in which the measures were given was randomized.

Measures

1. How I Think Questionnaire (HIT)

Participants were given the How I Think Questionnaire (HIT) to determine their levels of self-serving cognitive distortions (see Appendix I for the HIT). The entire measure was used for this thesis. Sample items from each subscale are listed below.

- "If I really want something, it doesn't matter how I get it."

- "It is okay to tell a lie if someone is dumb enough to fall for it."
- "Everybody lies, it's no big deal."
- "It's no use trying to stay out of fights."

2. Interpersonal Reactivity Index (IRI)

Participants were also be given the Interpersonal Reactivity Index (IRI) to assess their levels of affective and cognitive empathy (see Appendix G for the IRI). The IRI consists of 28 items. For this thesis, the original 4 subscales were collapsed into 2 subscales, also totaling 28 items. These subscales were Affective Empathy and Cognitive Empathy.

Affective Empathy subscale

- "I often have tender, concerned feelings for people less fortunate than me."
- "In emergency situations, I feel apprehensive and ill-at-ease."

Cognitive Empathy subscale

- "I try to look at everybody's side of a disagreement before I make a decision."
- "When I watch a good movie, I can very easily put myself in the place of a leading character."

3. Commit Aggression Scale (CA)

The final assessment measure that participants were given was the Commit Aggression Scale (CA) to determine their levels of physically aggressive behavior (see Appendix H for the CA). For this thesis, only the 17 physical aggression items were used. Responses to this scale are based on a five-point Likert scale (1 = never in the past year, 2 = almost never in the past year, 3 = sometimes in the past year, 4 = often in the past year, 5 = all the time). Sample items from are listed below.

Commit Aggression items

- “Slapped a person.”
- “Shot a gun at a person.”
- “Hit a person with a club.”
- “Beat up a person.”

RESULTS

Preliminary Analyses

In order to assess the internal consistency of the measures, coefficient alphas were computed. The cognitive empathy subscale of the IRI contained 14 items and had an alpha of 0.80. The affective empathy subscale, composed of 14 items as well, had an alpha of 0.70. The CA consisted of 28 items, with an alpha of 0.91. Finally, the HIT contained 54 items and had an alpha of 0.94. These results indicate that the measures were internally consistent, meaning participants tended to give the same ratings to the items on the same measure.

Correlational analyses were also computed for several variables, which can be found under Tables 5 and 6. The correlations among the measures were analyzed separately for each gender. Correlations among the measures were in the predicted direction for all participants. However, there were some differences between the genders. Correlations for males can be found under Table 5. For males, the cognitive and affective empathy subscales of the IRI were significantly positively correlated with each other, $r^2 = 0.47$, $p < 0.0001$, which means that participants tend to score similarly on these two measures. For example, a male who scored high on the cognitive empathy subscale of the IRI would likely also receive a high score on the affective empathy subscale. High scores on both of the subscales of the IRI indicate higher levels of empathy. In addition to cognitive empathy, for males, affective empathy had a significant inverse relationship with the HIT, $r^2 = -0.24$, $p < 0.01$. This result suggests that participants tended to score differently on each of these measures. That is, a male who received a high affective empathy score likely received a low HIT score. This means that for males, high empathy was related to low levels of cognitive distortions. Also for males, cognitive empathy had a significant negative relationship with the HIT, $r^2 = -0.22$, $p < 0.05$, again demonstrating

that a high cognitive empathy score is associated with a low HIT score. The CA was only significantly related to the HIT for males, $r^2 = 0.56$, $p < 0.0001$. Thus, these two measures had a positive relationship to each other, which means that males scored in a similar direction on each of these. High HIT scores indicate high levels of cognitive distortions and high CA scores indicate higher physical aggression. Finally, as already mentioned, the HIT was significantly related to each of the other measures, with a negative relationship with the cognitive and affective IRI subscales and a positive relationship with the CA.

Results of correlational tests for females were similar to males in that the correlations among the measures were in the predicted direction and can be found under Table 6. Like males, the affective and cognitive IRI subscales were significantly, positively correlated with each other, $r^2 = 0.27$, $p < 0.01$, so a female who received a high score on the affective subscale also probably received a high score on the cognitive subscale. As for males, high scores on each of the IRI subscales indicate higher empathy. Unlike males, for females, the cognitive IRI subscale was significantly negatively related to both the CA ($r^2 = -0.22$, $p < 0.01$) and the HIT ($r^2 = -0.30$, $p < 0.0001$), while the affective IRI subscale only had one significant relationship with the cognitive IRI subscale. Thus, a female with a high cognitive IRI score would likely receive low scores on both the CA and HIT, but a female with a high affective IRI score would only be likely to score high on the cognitive IRI subscale. Low CA scores indicate lower levels of physical aggression and low HIT scores indicate low levels of cognitive distortions. The CA scale was significantly related to the HIT ($r^2 = 0.58$, $p < 0.0001$) and to the cognitive IRI subscale, as was already mentioned. Therefore, females who received high CA scores also tended to receive high HIT scores. This means that for females, high levels of physical aggression were associated with

high cognitive distortion levels. Finally, unlike the males, the HIT was only significantly related to the cognitive IRI subscale and to the CA.

Gender differences were further examined as a t-test was computed on the differences between males' and females' scores on each of the measures. Significant differences between the mean scores of the genders were found for the cognitive and affective empathy subscales of the IRI ($t(237) = -3.16, p < .01, t(237) = -3.55, p < .01,$ respectively). As females had a higher mean score on these subscales than males, these results suggest that females have higher empathy than males and there are no significant differences between males and females for physical aggression and cognitive distortions. Mean differences and standard deviations on each of the measures can be found under Table 7.

Data from two participants were excluded from the analyses because they differed significantly from the rest of the participants in ways that appeared to affect the results for the total group. Further examination of these participants revealed their answers on the measures to be inconsistent. All of the analyses mentioned above were computed both with and without these participants' data, which did not significantly alter the results.

Secondary Analyses

Two different types of regression analyses were computed. The first type were single regressions in which age, gender, and an interaction between age and gender were assessed for their ability to predict each of the measures (Table 8). Of these variables, age was the only significant predictor, and this effect held only for the How I Think Questionnaire (HIT), meaning that by knowing one's HIT score, his or her age may be predicted.

The second analysis was a multiple regression, which was conducted on several predictors with the outcome variable as physical aggression (Commit Aggression Scale, CA).

The results of this analysis can be found under Table 9. These predictors were age, gender, cognitive distortion (How I Think Questionnaire, HIT), cognitive empathy (Interpersonal Reactivity Index, IRI), and affective empathy (Interpersonal Reactivity Index, IRI). There were also several interaction variables between gender and HIT, gender and cognitive empathy, gender and affective empathy, and cognitive empathy and affective empathy and HIT. In this analysis, only cognitive distortion (HIT) was found to be a significant predictor of physical aggression (CA). That is, by knowing one's HIT score, his or her CA score may be predicted.

DISCUSSION

The purpose of this thesis was to examine the relationships among empathy, cognitive distortions, and aggressive behavior in adolescents. The study focused on the ability of certain variables to predict physical aggression. Those variables were cognitive empathy, affective empathy, and cognitive distortions, as well as demographic variables such as age and gender. There were four aims of the study and the results of each are described below.

Aim 1: Can empathy predict physical aggression?

A multiple regression analysis revealed no effects for either cognitive or affective empathy in predicting physical aggression. This finding was surprising in that it seemed to contradict previous research on the relationship between empathy and aggression. A well-documented, negative relationship between empathy and aggression has been established (Cohen & Strayer, 1996; Eisenberg, 2000; Kaukiainen et al., 1999; Miller & Eisenberg, 1988; Richardson et al., 1994). An important distinction between the previous studies and the present study is that the past studies used correlational methods to determine the relationship between empathy and aggression while the present study used regression in addition to correlations.

The theories reviewed for this study also suggested that empathy should have been a predictor of physical aggression. In social cognitive theory, deficits in empathy, through dehumanization of victims and attributing blame to the victims makes aggression more likely to occur (Bandura, 1973, 1986, 1992). According to social information-processing theory, aggressive children are less able to empathize with potential victims (Arsenio & Fleiss, 1996; Berkowitz, 1989; Boldizar et al., 1989; Perry & Perry, 1974; Perry et al., 1986; Slaby & Guerra, 1988). Also, in neutralization theory, aggressive behavior is more likely to occur when a deficit in empathy is present, through the denial of injury or the denial of the victim (Sykes & Matza,

1957). The use of cognitive distortions blocks empathy and encourages aggressive behavior (Barriga et al., 2000; Gibbs et al., 1995). Thus, the finding in this study that empathy was not a significant predictor of physical aggression is contrary to both previous research and to theory, suggesting there were limitations in this study that may have produced this result.

One such limitation could be the measure of empathy used, the Interpersonal Reactivity Index (IRI). The IRI is a multidimensional measure of empathy, meaning it assesses different aspects of empathy rather than giving one all-encompassing empathy score. Perhaps splitting the IRI into two subscales produced weaker results rather than using the entire index and it is also possible that using another measure of empathy in which one overall score is given would have produced more powerful results. However, this may not be a problem unique to the IRI as some researchers have noted that better measures of empathy need to be produced as many of the available measures fail to produce the desired results (Joliffe & Farrington, 2004).

Another factor to consider is the measure of physical aggression, the Commit Aggression Scale (CA). The problem is likely not with the scale itself as it had a high coefficient alpha, which suggests the items on the measure all tap into the same variable; rather, the problem may be with the participants' responses on it as most participants did not endorse engaging in much physical aggression. The level of aggression in the participants may have been too low for any differences in empathy to detect.

However, some findings in this thesis were supported by this same literature. The results of correlational tests were all in the predicted direction for both males and females. Thus, cognitive and affective empathy were significantly positively correlated with each other and were both also negatively correlated to the Commit Aggression scale (CA) and the How I Think

Questionnaire (HIT). Similar to the literature reviewed for this thesis, empathy had a negative relationship to both physical aggression and cognitive distortions.

Affective vs. Cognitive Empathy

It was hypothesized that both cognitive and affective empathy would be significant predictors of physical aggression and the results of this thesis did not support either hypothesis. The research literature has produced mixed findings on the differences in affective and cognitive empathy regarding their relationship with aggression. Some studies have found cognitive empathy to have a stronger relationship than affective empathy with some types of aggression, such as offending (Joliffe & Farrington, 2004). However, other studies have found affective empathy to have a stronger inverse relationship with aggression and bullying than cognitive empathy (Joliffe & Farrington, 2006a; Schechtman, 2003).

Aim 2: Can cognitive distortions predict physical aggression?

A multiple regression analysis revealed cognitive distortions, as measured by the How I Think Questionnaire (HIT), to be a significant predictor of physical aggression. In addition to the regression analysis, correlational tests revealed similar effects. The HIT and Commit Aggression Scale (CA) were significantly positively correlated with each other. These findings are supported by previous research in which HIT scores were a significant predictor of externalizing behavior problems, including aggression (Barriga et al., 2000).

These results were expected in that they support previous research and the theories reviewed in this thesis. With regard to the theories, each one contained a component of cognitive distortions that were associated with aggressive behavior. For example, in social cognitive theory, cognitive distortions in the form of dehumanization, and attribution of blame to victims makes aggression more likely to happen (Bandura, 1973, 1986, 1992). The cognitive distortion

present in social information-processing theory, hostile attribution bias, is related to higher levels aggressive behavior (Crick & Dodge, 1994). Sykes and Matza's neutralization theory (1957) specified five different techniques of neutralization (or cognitive distortions) and how those facilitate aggression. Finally, cognitive distortion theory discussed the use self-serving cognitive distortions in aggressive behavior (Barriga et al., 2000; Gibbs et al., 1995).

Aim 3: What combined effects do empathy and cognitive distortions have on physical aggression?

A multiple regression analysis in which both cognitive and affective empathy (IRI) along with cognitive distortions (HIT) was conducted to determine interaction effects among these three variables. This analysis was not significant, thus revealing that there was no interaction among these three variables. This finding is surprising given the theories reviewed for this thesis as each contained both components of empathy and cognitive distortions when explaining aggression. For example, social cognitive theory explained some aggression with the dehumanization of victims and attribution of blame to victims, which contains both empathy and cognitive distortions (Bandura, 1973, 1986, 1992). Social information-processing theory partially explained aggression through hostile attribution bias and outcome expectancies, both of which incorporate empathy and cognitive distortions (Crick & Dodge, 1994). The techniques of neutralization contain both deficits in empathy and the use of cognitive distortions (Sykes & Matza, 1957). Finally, cognitive distortion theory also incorporates empathy into this theory of aggression (Barriga et al., 2000; Gibbs et al., 1995). Given all the support from the theories studied, the hypothesis that empathy combined with cognitive distortions would be a powerful predictor of physical aggression seemed reasonable.

As neither cognitive nor affective empathy were predictors of physical aggression, it is not entirely surprising that the combination of both types of empathy and cognitive distortions were not revealed to be significant predictors of physical aggression. However, the theories reviewed in this thesis would suggest otherwise. It is possible that some of the same limitations for affective and cognitive empathy influenced this result. It is difficult to assess the limitations for this aim as there is no other research on the combination of empathy and cognitive distortions.

Aim 4: What influence do age and gender have on empathy, cognitive distortions, and physical aggression?

Age Differences

One part of this aim of the study was to study age differences on cognitive empathy, affective empathy, cognitive distortion, and physical aggression. The only variable age was able to significantly predict was the measure of cognitive distortion, the How I Think Questionnaire (HIT). This finding is in contrast to the hypothesis that no significant age differences would be found on the HIT, based on previous research (Barriga et al., 2000). The absence of age differences found in this study is also contrary to a previous study with the Interpersonal Reactivity Index (IRI) in which older adolescent participants received higher scores than younger adolescent participants (Curwen, 2003). However, the finding in the current study of no age differences on the Commit Aggression Scale (CA) is consistent with an earlier study (George, 2003). Thus, there is mixed support for the finding in the current study, some of which is supported by past studies and some of which is not.

Contrary to the hypotheses and some previous research, age was not found to be a significant predictor of cognitive empathy, affective empathy, and physical aggression.

According to previous studies with the Interpersonal Reactivity Index (IRI), age should have been a predictor. However, in this thesis, that effect was not found. It is possible that the age range of this thesis was too narrow to detect age differences, as compared to other studies. The participants' ages in this thesis ranged from 16 to 18 years. In a previous study using the IRI where age differences were found, the participants' age range was 12 to 19 years (Curwen, 2003). However, it is difficult to focus on only the age range as a limitation as age differences were found where they were not expected. Significant age differences were found on the How I Think Questionnaire (HIT), which is contrary to a previous study with the HIT (Barriga et al., 2000). Therefore, it is difficult to assess the effect the age range had on this thesis.

Gender differences

The second part of this aim of the study was to examine gender differences on the measures of cognitive and affective empathy, cognitive distortion, and physical aggression. Significant gender differences were found for the cognitive and affective subscales of the empathy measure, the Interpersonal Reactivity Index (IRI). Females scored significantly higher than males on each of these subscales, suggesting they have higher levels of empathy than males. These results are consistent with previous research using the IRI (Davis, 1980) and other studies of empathy (Boldizar et al., 1989; Hoffman, 1977), especially when self-report measures of empathy are used (Lennon & Eisenberg, 1987). Further support for the results in this thesis come from a study in which females scored significantly higher than males on both cognitive and affective empathy (Joliffe & Farrington, 2006b).

In contrast to the gender differences found on the cognitive and affective empathy subscales of the IRI, no such differences were found on the measure of physical aggression (Commit Aggression) or on the measure of cognitive distortion (How I Think Questionnaire).

With regard to the physical aggression scale, the Commit Aggression scale (CA), a one-tailed t-test did not reveal any significant differences between males and females. Consistent with this finding, a regression analysis also did not show gender to be a significant predictor of the CA scale. These findings are not consistent with previous research with the CA. In a previous study with the CA, males received significantly higher scores than females on a particular subscale (George, 2003), suggesting they engage in more of one type of aggression than females. Also in this same study (George, 2003), gender was not found to be a predictor of a different subscale. In this study, all physical aggression items were analyzed together, which may explain the disparity with the George (2003) study.

Similar to the findings of the CA scale, the cognitive distortion measure, the How I Think Questionnaire (HIT), did not show any significant findings for a one-tailed t-test nor was gender found to be a significant predictor of the HIT by a regression analysis. Consistent with this finding, a previous study with the HIT found no gender differences (Barriga et al., 2000).

Limitations

The participant pool is a possible limitation as it was not diverse. Most of the participants listed their race as Caucasian, lived with both parents, and most of their parents had a high school diploma and attended and/or graduated from college. Although these characteristics are typical of the towns sampled, the participant sample is not necessarily representative of adolescents across the country. Also, due to methodological constraints, many of the participants sampled in schools were from specialized classes that older students tend to take. These students could have differed in important ways from the rest of the students at those same schools. Perhaps the students in these classes are more intelligent, take school more seriously, and are more diligent about completing surveys than the students at the same schools

who did not take part in the thesis. Following this line of reasoning, it is also possible that the students sampled in this thesis may think more carefully and are thus more empathic, less aggressive, and demonstrate fewer cognitive distortions than students who do not take such courses.

Future Directions

Future studies will seek to expand upon the current project. The data collected for this thesis will be further analyzed and subscales of each of the measures used will be analyzed in the hopes of discovering effects that were not found in the current study. It would also be helpful to recruit a more diverse participant sample, including expanding the age range. Recruiting students from classes different from the ones used in this thesis would also help to expand the diversity of the participant sample.

REFERENCES

American Psychiatric Association: *Diagnostic and statistical manual of mental disorders,* Fourth Edition. Washington, DC, American Psychiatric Association, 1994.

American Psychiatric Association: *Diagnostic and statistical manual of mental disorders,* Fourth Edition, Text Revision. Washington, DC, American Psychiatric Association, 2000.

Arsenio, W.F. (1988). Children's conceptions of the situational affective consequences of sociomoral events. *Child Development*, *59,* 1611-1622.

Arsenio, W.F. & Fleiss, K. (1996). Typical and behaviourally disruptive children's understanding of the emotional consequences of socio-moral events. *British Journal of Developmental Psychology*, *14,* 173-186.

Arsenio, W.F. & Kramer, R. (1992). Victimizers and their victims: Children's conceptions of the mixed emotional consequences of moral transgressions. *Child Development*, *63,* 915-927.

Arsenio, W.F. & Lemerise, E.A. (2001). Varieties of childhood bullying: Values, emotion processes, and social competence. *Social Development*, *10,* 59-73.

Asarnow, J.R. & Callan, J.W. (1985). Boys with peer adjustment problems: Social cognitive processes. *Journal of Consulting & Clinical Psychology, 53,* 80-87.

Bandura, A. (1973). *Aggression: A social learning analysis*. Englewood Cliffs, New Jersey: Prentice-Hall, Inc.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory.* Prentice-Hall, Inc, Upper Saddle River, NJ.

Bandura, A. (1992). Social cognitive theory of social referencing. In S. Feinman (Ed.), *Social referencing and the social construction of reality in infancy* (pp. 175-208). New York: Plenum.

Bandura, A. (1999). Moral disengagement in the perpetration of inhumanities. *Personality and Social Psychology Review*, *3,* 193-209.

Bandura, A., Barbaranelli, C., Vittorio Caprara, G., & Pastorelli, C. (1996). Mechanisms of moral disengagement in the exercise of moral agency. *Journal of Personality and Social Psychology*, *71,* 364-374.

Barnett, M.A. (1987). Empathy and related responses in children. In N. Eisenberg & J. Strayer (Eds.), *Empathy and its development* (pp. 146-162). Cambridge: Cambridge University Press.

Baron, R.A. (1977). *Human Aggression*. New York: Plenum.

Barriga, A.Q. & Gibbs, J.C. (1996). Measuring cognitive distortion in antisocial youth: development of the "How I Think" Questionnaire. *Aggressive Behavior*, *22,* 333-343.

Barriga, A. Q., Landau, J. R., Stinson, B.L. II, Liau, A.K., & Gibbs, J.C. (2000). Cognitive distortion and problem behaviors in adolescents. *Criminal Justice and Behavior*, *27,* 36-56.

Batson, C.D. (1987). Self-report ratings of empathic emotion. In N. Eisenberg & J. Strayer (Eds.), *Empathy and its development* (pp. 356-360). Cambridge: Cambridge University Press.

Berkowitz, L. (1989). Situational influences on aggression**.** In J. Groebel & R.A. Hinde (Eds.), *Aggression and war: Their biological and social bases* (pp.91-100). Cambridge: Cambridge University Press.

Boldizar, J.P., Perry, D.G., & Perry, L.C. (1989). Outcome values and aggression. *Child Development*, *60,* 571-579.

Bryant, B.K. (1982). An index of empathy for children and adolescents. *Child Development*, *53,* 413-425.

Bryant, B.K. (1987). Critique of comparable questionnaire methods in use to assess empathy in children and adults. In N. Eisenberg & J. Strayer (Eds.), *Empathy and its development* (pp. 361-373). Cambridge: Cambridge University Press.

Buck, R. & Ginsburg, B. (1997). Communicative genes and the evolution of empathy. In Ickes, W. (Ed). *Empathic accuracy* (pp. 17-43). New York: The Guilford Press.

Casey, R.J. (1996). Emotional competence in children with externalizing and internalizing disorders. In M. Lewis & M.W. Sullivan (Eds.), *Emotional development in atypical children* (pp. 161-184). Mahwah, NJ: Lawrence Earlbaum Associates.

Casey, R.J. & Schlosser, S. (1994). Emotional responses to peer praise in children with and without a diagnosed externalizing disorder. *Merill-Palmer Quarterly*, *40,* 60-81.

Chalmers, J.B. & Townsend, M.A.R. (1990). The effects of training in social perspective taking on socially maladjusted girls. *Child Development*, *61,* 178-190.

Cohen, D. and Strayer, J. (1996). Empathy in conduct-disordered and comparison youth. *Developmental Psychology*, *32,* 988-998.

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

Crick, N.R. & Ladd, G.W. (1990). Children's perceptions of the outcomes of social strategies: Do the ends justify being mean? *Developmental Psychology, 26,* 612-620.

Curwen, T. (2003). The importance of offense characteristics, victimization history, hostility, and social desirability in assessing empathy of male adolescent sex offenders. *Sexual Abuse: A Journal of Research and Treatment*, *15,* 347-364.

Davis, M.H. (1980). A multidimensional approach to individual differences in empathy. *JSAS Catalog of Selected Documents in Psychology*, *10,* 85-105.

Davis, M.H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology*, *44,* 113-126.

Davis, M.H. (1996). *Empathy: A social psychological approach.* Boulder, CO: Westview Press.

Davis, M.H., Hull, J.C., Young, R.D., & Warren, G.C. (1987). Emotional reactions to dramatic film stimuli: The influence of cognitive and emotional empathy. *Journal of Personality and Social Psychology*, *52,* 126-133.

Davis, M.H. & Oathout, H.A. (1987). Maintenance of satisfaction in romantic relationships: Empathy and relational competence. *Journal of Personality and Social Psychology*, *53,* 397-410.

Dodge, K.A. (1993). Social-cognitive mechanisms in the development of conduct disorder and depression. *Annual Review of Psychology*, *44,* 559-584.

Dodge, K.A. & Coie, J.D. (1987). Social-information-processing factors in reactive and proactive aggression in children's peer groups. *Journal of Personality & Social Psychology, 53,* 1146-1158.

Dodge, K.A. & Frame, C.L. (1982). Social cognitive biases and deficits in aggressive boys. *Child Development*, *53,* 620-635.

Dodge, K.A., Lansford, J.E., Salzer Burks, V., Bates, J.E., Petit, G.S., Fontaine, R., et al. (2003). Peer rejection and social information-processing factors in the development of aggressive behavior problems in children. *Child Development*, *74,* 374-393.

Dodge, K.A., Murphy, R.R. & Buchsbaum, K. (1984). The assessment of intention-cue detection skills in children: Implications for developmental psychopathology. *Child Development, 55,* 163-173.

Dodge, K.A. & Newman, J.P. (1981). Biased decision-making processes in aggressive boys. *Journal of Abnormal Psychology, 90,* 375-379.

Dodge, K.A., Pettit, G.S., McClaskey, C.L. & Brown, M.M. (1986). Social competence in children. *Monographs of the Society for Research in Child Development, 51,* 1-85.

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

Eagle, M. & Wolitzky, D. (1997). Empathy: A psychoanalytic perspective**.** In A.C. Bohart & L.S. Greenberg (Eds.), *Empathy Reconsidered: New Directions in Psychotherapy* (pp. 217-244). Washington, D.C.: American Psychological Association.

Eisenberg, N. (2000). Emotion, regulation, and moral development. *Annual Review of Psychology*, *51,* 665-697.

Eisenberg, N. & Strayer, J. (1987). Critical issues in the study of empathy. In N. Eisenberg & J. Strayer (Eds.), *Empathy and its development* (pp. 3-16). Cambridge: Cambridge University Press.

Ellis, P.L. (1982). Empathy: A factor in antisocial behavior. *Journal of Abnormal Child Psychology, 10,* 123-133.

Feldman, E. & Dodge, K.A. (1987). Social information processing and sociometric status: Sex, age, and situational effects. *Journal of Abnormal Child Psychology, 15,* 211-227.

Feshbach, N.D. (1975). Empathy in children: Some theoretical and empirical considerations. *The Counseling Psychologist*, *5,* 25-30.

Feshbach, N.D. (1983). Learning to care: A positive approach to child training and discipline. *Journal of Child Clinical Psychology*, *12,* 266-271.

Feshbach, N.D. (1989). Empathy training and prosocial behavior. In J. Groebel & R.A. Hinde (Eds.), *Aggression and war: Their biological and social bases* (pp. 101-111). Cambridge: Cambridge University Press.

Feshbach, N.D. (1997). Empathy: The formative years, implications for clinical practice**.** In A.C. Bohart & L.S. Greenberg (Eds.), *Empathy Reconsidered: New Directions in Psychotherapy* (pp. 33-59). Washington, D.C.: American Psychological Association.

Feshbach, N.D. & Feshbach, S. (1969). The relationship between empathy and aggression in two age groups. *Developmental Psychology*, *1,* 102-107.

Feshbach, N.D. & Roe, K. (1968). Empathy in six- and seven-year-olds. *Child Development*, *39,* 133-145.

Feshbach, S. (1989). The bases and development of individual aggression. In J. Groebel & R.A. Hinde (Eds.), *Aggression and war: Their biological and social bases* (pp. 78-90). Cambridge: Cambridge University Press.

George, M. (2003). Aggression and today's youth: A developmental investigation of physical and relational aggression occurring at school (Doctoral Dissertation, Bowling Green State University, 2002). *Dissertation Abstracts International, 64,* 2957.

Gibbs, J.C. (1991). Sociomoral developmental delay and cognitive distortion: Implications for treatment of antisocial youth. In W.M. Kurtines & J.L. Gewirtz, *Handbook of Moral Behavior and Development, Vol. 3: Application* (pp. 95-110). Hillsdale, New Jersey: Lawrence Earlbaum Associates, Inc.

Gibbs, J.C.; Potter, G.B.; Barriga, A.Q.; Liau, A.K. (1996). Developing the helping skills and prosocial motivation of aggressive adolescents in peer group programs. *Aggression and Violent Behavior*, *1,* 283-305.

Gibbs, J.C., Potter, G.B., & Goldstein, A.P. (1995). *The EQUIP program: Teaching youth to think and act responsibly through a peer-helping approach.* Champaign, IL: Research Press.

Goldstein, A,P. (1989). Aggression reduction: Some vital steps**.** In J. Groebel & R.A. Hinde, (Eds.), *Aggression and war: Their biological and social bases* (pp. 112-134). Cambridge: Cambridge University Press.

Goldstein, A.P. & Michaels, G.Y. (1985). *Empathy: Development, training, and consequences.* Hillsdale, N.J. : L. Erlbaum Associates.

Gouze, K.R. (1987). Attention and social problem solving as correlates of aggression in preschool males. *Journal of Abnormal Child Psychology, 15,* 181-197.

Graham, S. & Halliday, C. (2000). The social cognitive (attributional) perspective on culpability in adolescent offenders. In T. Grisso & R.G. Schwartz (Eds.), *Youth on trial* (pp. 345-369). Chicago, IL: University of Chicago Press.

Greve, W., Enzmann, D., & Hosser, D. (2001). The stabilization of self-esteem among incarcerated adolescents: Accomodative and immunizing processes. *International Journal of Offender Therapy and Comparative Criminology*, *45,* 749-768.

Hart, C.H., Ladd, G.W., & Burleson**,** B.R. (1990). Children's expectations of the outcomes of social strategies: Relations with sociometric status and maternal disciplinary styles. *Child Development*, *61,* 127-137.

Hoffman, M.L. (1977). Sex differences in empathy and related behavior. *Psychological Bulletin*, *84,* 712-722.

Hoffman, M.L. (1982). Affect and moral development. *New Directions for Child Development: Emotional Development*, *16,* 83-103.

Hoffman, M.L. (1984). Interaction of affect and cognition in empathy. In C.E. Izard, J. Kagan, & R.B. Zajonc (Eds.) *Emotions, Cognition, & Behavior* (pp. 103-131). Cambridge, Cambridge University Press.

Hoffman, M.L. (1987). The contribution of empathy to justice and moral behavior. In N. Eisenberg & J. Strayer (Eds.), *Empathy and its development* (pp. 47-80). Cambridge: Cambridge University Press.

Hoffman, M. L. (2000). *Empathy and Moral Development.* Cambridge: Cambridge University Press.

Jolliffe, D. & Farrington, D.P. (2004). Empathy and offending: A systematic review and meta-analysis. *Aggression and Violent Behavior*, *9,* 441-476.

Jolliffe, D. & Farrington, D.P. (2006a). Development and validation of the Basic Empathy Scale. *Journal of Adolescence*, *29,* 589-611.

Jolliffe, D. & Farrington, D.P. (2006b). Examining the relationship between low empathy and bullying. *Aggressive Behavior*, *32,* 540-550.

Kaukiainen, A., Björkqvist, K., Lagerspertz, K., Ősterman, K., Salmivalli, C., Rothberg, S., et al. (1999). The relationships between social intelligence, empathy, and three types of aggression. *Aggressive Behavior*, *25,* 81-89.

Lemerise, E.A., & Arsenio, W.F. (2000). An integrated model of emotion processes and cognition in social information processing. *Child Development*, *71,* 107-118.

Lennon, R. & Eisenberg, N. (1987). Gender and age differences in empathy and sympathy. In N. Eisenberg & J. Strayer (Eds.), *Empathy and its development* (pp. 195-217). Cambridge: Cambridge University Press.

Lerner, M.J. & Miller, D.T. (1978). Just world research and the attribution process: Looking back and ahead. *Psychological Bulletin*, *85,* 1030-1051.

Liau, A.K., Barriga, A.Q. & Gibbs, J.C. (1998). Relations between self-serving cognitive distortions and overt vs. covert antisocial behavior in adolescents. *Aggressive Behavior*, *24,* 335-346.

Lochman, J.E., Wayland, K.K. & White, K.J. (1993). Social goals: Relationship to adolescent adjustment and to social problem solving. *Journal of Abnormal Child Psychology, 21,* 135-151.

McCabe, D.L. (1999). The influence of situational ethics on cheating among college students. In S.H. Traub & C.B. Little (Eds.), *Theories of Deviance* (pp. 292-302). Itasca, Ill.: F.E. Peacock Publishers.

McHugo, G.J., Smith, C.A., & Lanzetta, J.T. (1982). The structure of self-reports of emotional responses to film segments. *Motivation and Emotion*, *6,* 365-385.

Mehrabian, A. & Epstein, N. (1972). A measure of emotional empathy. *Journal of Personality*, *40,* 525-543.

Miller, P.A. & Eisenberg, N. (1988). The relation of empathy to aggressive and externalizing/antisocial behavior. *Psychological Bulletin*, *103,* 324-344.

Ng-Mak, D.S., Salzinger, S., Feldman, R., & Stueve, A. (2002). Normalization of violence among inner-city youth: A formulation for research. *American Journal of Orthopsychiatry*, *72,* 92-101.

Palmer, E. J. (2003). *Offending behaviour: Moral reasoning, criminal conduct, and the rehabilitation of offenders.* Portland: Willan Publishing.

Perry, D.G. & Perry, L.C. (1974). Denial of suffering in the victim as a stimulus to violence in aggressive boys. *Child Development*, *45,* 55-62.

Perry, D.G, Perry, L.C., & Rasmussen, P. (1986). Cognitive social learning mediators of aggression. *Child Development*, *57,* 700-711.

Pettit, G.S., Dodge, K.A., & Brown, M.M. (1988). Early family experience, social problem solving patterns, and children's social competence. *Child Development, 59,* 107-120.

Quiggle, N.L., Garber, J., Panak, W.F., & Dodge, K.A. (1992). Social information processing in aggressive and depressed children. *Child Development, 63,* 1305-1320.

Renshaw, P.D. & Asher, S.R. (1983). Children's goals and strategies for social interaction. *Merrill-Palmer Quarterly, 29,* 353-374.

Richard, B.A., & Dodge, K.A. (1982). Social maladjustment and problem solving in school-aged children. *Journal of Consulting & Clinical Psychology, 50,* 226-233.

Richardson, D.R., Hammock, G.S., Smith, S.M., Gardner, W., & Signo, M. (1994). Empathy as a cognitive inhibitor of interpersonal aggression. *Aggressive Behavior*, *20,* 275-289.

Rogers, C.R. (1975). Empathic: An unappreciated way of being. *The Counseling Psychologist*, *5,* 2-10.

Salzer Burks, V., Dodge, K.A., & Price, J.M. (1999). Internal representational models of peers: Implications for the development of problematic behavior. *Developmental Psychology*, *35,* 802-810.

Shechtman, Z. (2003). Cognitive and affective empathy in aggressive boys: Implications for counseling. *International Journal for the Advancement of Counselling*, *24,* 211-222.

Slaby, R.G. & Guerra, N.G. (1988). Cognitive mediators of aggression in adolescent offenders. *Developmental Psychology*, *24,* 580-588.

Stotland, E., Matthews, K.E. Jr., Sherman, S.E., Hansson, R.O., & Richardson, B.Z. (1978). *Empathy, Fantasy, and Helping*. Beverly Hills: Sage Publications.

Strayer, J. (1987). Affective and cognitive perspectives on empathy. In N. Eisenberg & J. Strayer (Eds.), *Empathy and its development* (pp. 218-244). Cambridge: Cambridge University Press.

Sykes, G.M., & Matza, D. (1957). Techniques of neutralization: A theory of delinquency. *American Sociological Review*, *22,* 664-670.

Tedeschi, J.T. & Felson, R.B. (1994). *Violence, aggression, and coercive actions.* Washington, D.C.: American Psychological Association.

Teevan, J.J. & Dryburgh, H.B. (2000). First person accounts and sociological explanations of delinquency. *Canadian Review of Sociology and Anthropology*, *37,* 77-93.

Thompson, R.A. (1987). Empathy and emotional understanding: The early development of empathy. In N. Eisenberg & J. Strayer (Eds.), *Empathy and its development* (pp. 119-145). Cambridge: Cambridge University Press.

Tisak, M.S., Tisak, J., & Goldstein, S. (2006). Aggression, delinquency, and morality: A social-cognitive perspective. In M. Killen & J.G. Smetana (Eds.), *Handbook of moral development.* Mahwah, N.J.: Earlbaum.

Tisak, M.S., Lewis, T., & Jankowski, A.M. (1997). Expectations and prescriptions for responding to peer aggression: The adolescent offenders' perspective. *Aggressive Behavior*, *23,* 146-160.

Walters, G.D. (2002). *Criminal belief systems: An integrated-interactive theory of lifestyles.* Westport, CT: Praeger.

Yoon, J.S., Hughes, J.N., Cavell, T.A., & Thompson, B. (2000). Social cognitive differences between aggressive-rejected and aggressive-nonrejected children. *Journal of School Psychology*, *38,* 551-570.

Zahn-Waxler, C., Radke-Yarrow, M., & King, R.A. (1979). Child rearing and children's prosocial initiations toward victims of distress. *Child Development*, *50,* 319-330.

Zelli, A., Dodge, K.A., Laird, R.D., Lochman, J.E., & Conduct Problems Prevention Research Group (1999). The distinction between beliefs legitimizing aggression and deviant processing of social cues: Testing measurement validity and the hypothesis that biased processing mediates the effects of beliefs on aggression. *Journal of Personality and Social Psychology*, 77, 150-166.

APPENDIX A
School Letter

Dear School Official,

I am a gradate student in Clinical Psychology at Bowling Green State University and am currently working on a research project involving high school students. I work under the direction of Dr. Marie S. Tisak, who serves as the Program Head for the Developmental Psychology program at BGSU. I am interested in students' thoughts about different types of social situations.

Specifically, I will be asking students to answer questions about how they feel when others get hurt, what they think about certain activities such as lying, stealing, and hurting another person's feelings, and their thoughts on aggressive behavior. I will also ask them if they have ever engaged in any of these behaviors and how often. Past research has looked at each category of social situations separately, but not together. My study is different because I will be asking for the students' thoughts about all of these types of situations and this will help me understand how high school students think and feel about many types of social situations. The participation of high school students will aid me in this study and will also benefit the psychological research field as well by discovering more about how teenagers think about certain situations.

Upon your permission, I will distribute information letters and parental consent forms to the students to take home to their parents. This will be accomplished in the manner that the school administration prefers. Parents should sign and give the parental consent form to their child to return to school if they allow their child to participate in the study. If parents do not wish their child to participate, they should indicate so on the parental consent form and give it to their child to return to the school. Their child will not be asked to participate in the study. Students who do not return any parental consent form will not be asked to participate in the study. The project will then be described to the students whose parents completed parental consent forms indicating they give consent. If these students wish to participate, they will then complete the questionnaires, which will take approximately 20-30 minutes. Students who return parental consent forms, regardless of their parents' decision, will be entered into a raffle to win gift certificates valued up to $10. If a student does not return the parental consent form, he or she will not be entered into the raffle. The raffle prizes will be announced and distributed according to your school's procedures.

The students will be asked if they have engaged in potentially illegal behavior. However, to ensure the privacy of the students, they will not be asked for their names, so they will not be linked to their answers. Also, students will be seated with an empty chair between each student to further ensure privacy and their answers will be kept private once they are turned in.

Participation is completely voluntary, but is greatly appreciated. The students can choose to stop participation at any time during the study and for any reason, without incurring any penalty.

All students' answers and comments will be kept confidential. My interest is not in any particular student's thinking, but in high school students' thinking as a group. To ensure confidentiality, all answers will be marked with an ID number only. This ID number will be

used in analyzing or reporting results of this study, rather than the individual's name or other identifying information. Any identifying information will be destroyed at the completion of the study. When the project is completed, a report will be sent to you.

Please indicate on the enclosed school official's consent form your decision regarding your school's participation. If at any time you have questions concerning any part of this research, please feel free to contact me at (419) 372-4304 or you may contact Dr. Marie S. Tisak at (419) 372-2273. You may also contact the Chair of Human Subjects Review Board at Bowling Green State University, (419) 372-7716, (hsrb@bgsu.edu), if any problems or concerns arise during the course of this study. Thank you very much for your time and consideration.

Sincerely,

Angela M. Capuano, B.A.
Graduate Student
(419) 372-4304
angelmc@bgsu.edu

Dr. Marie S. Tisak, Ph.D.
Professor of Psychology
Program Head, Developmental Psychology
(419) 372-2273
mtisak@bgsu.edu

APPENDIX B

School Official's Consent Form

I, _____, agree to allow _____ School to participate in this research on high school students' thoughts about social situations, including what they think about engaging in certain behaviors, how they would feel about witnessing another person get hurt, and aggressive behaviors. Pending parental permission, students in this study will be asked about these topics. The researcher will answer any questions I may have about this project.

Signature of School Official _____ Date _____

Title _____

APPENDIX C
Parent Letter

Dear Parent or Guardian,

I am a gradate student in Clinical Psychology at Bowling Green State University and am currently working on a project involving high school students. I work under the direction of Dr. Marie S. Tisak, who serves as the Program Head for the Developmental Psychology program at BGSU. I am interested in students' thoughts about different types of social situations.

Specifically, I will be asking students to answer questions about how they feel when others get hurt, what they think about certain activities such as lying, stealing, and hurting another person's feelings, and their thoughts on aggressive behavior. I will also ask them if they have ever engaged in any of these behaviors and how often. Past research has looked at each category of social situations separately, but not together. My study is different because I will be asking for the students' thoughts about all of these types of situations and this will help me understand how high school students think and feel about many types of social situations. The participation of high school students will aid me in this study and will also benefit the psychological research field as well by discovering more about how teenagers think about certain situations.

I am asking your permission for your son or daughter to participate in this study. The students will answer questionnaires that will take approximately 20-30 minutes. Your child will be asked if he or she has engaged in potentially illegal behavior. However, to ensure the privacy of your child, he or she will not be asked for his or her name, so your child's identity will not be linked to his or her answers. Also, students will be seated with an empty chair between each student to further ensure privacy and their answers will be kept private once they are turned in.

Participation is completely voluntary, but is greatly appreciated. Please return the enclosed parental consent form indicating your decision regarding your child's participation in this study. If you do not wish your child to participate, please also return the parental consent form indicating your decision. If you decide to allow your child to participate, the study will be described to your child and he or she will be asked to participate in the study. If your child chooses to participate, he or she will then complete the questionnaires. If your child chooses not to participate, he or she will work independently on schoolwork. Your child can choose to stop participation at any time and for any reason, without incurring any penalty. Students who return parental consent forms, regardless of their parents' decision, will be entered into a raffle to win gift certificates valued up to $10. If a student does not return the parental consent form, he or she will not be entered into the raffle. The raffle prizes will be announced and distributed according to the school's procedures.

Your child's participation and answers will remain confidential. My interest is not in any particular student's answers, but in understanding high school students' thoughts as a group. To ensure confidentiality, all answer sheets will be marked with an ID number only. This ID number will be used in analyzing or reporting the results of this study, rather than the individual's name or other identifying information. Your child will not be asked his or her name during the study, so his or her participation will remain confidential. When the project is completed, a report of all the results will be sent to your child's school where it will be made available to you upon request.

I hope that you will give permission for your child to participate in this study. However, be assured that regardless of your decision, this will not have any impact on your or your child's relationship to the school in any way. Please indicate on the next page your decision regarding your child's participation. Please give the attached pages to your child so that he or she can return them to school, regardless of your decision. If at any time you have questions concerning any part of this research, please feel free to contact me at (419) 372-4304 or you may contact Dr. Marie S. Tisak at (419) 372-2273. You may also contact the Chair of Human Subjects Review Board at Bowling Green State University, (419) 372- 7716, (hsrb@bgsu.edu), if any problems or concerns arise during the course of this study. Thank you very much for you time and consideration.

Sincerely,

Angela Capuano, B.A.
Graduate Student
(419)-372-4304
angelmc@bgsu.edu

Dr. Marie S. Tisak, Ph.D.
Professor of Psychology
Program Head, Developmental Psychology
(419) 372-2273
mtisak@bgsu.edu

APPENDIX D

Parental Consent Form
Study on High School Students' Thoughts about Social Situations

Please complete this form indicating your decision either way. Then, give it to your child so he or she can return it to school.

I have read the attached letter. At this time, (please check one)

_____ I ***do*** give permission for my child to participate

_____ I do ***not*** give permission for my child to participate

in this study on high school students' thoughts about social situations.

Regardless of whether you give permission for your child to participate or not, please fill out the following information below:

Child's name (please print) _____

Child's school _____

Child's age _____

Signature of parent or guardian _____

Your relationship to this child _____

Today's date _____

Please note that if your child returns this form to the school, regardless of your decision, he or she will be entered in a raffle to win prizes (gift certificates) valued up to $10. If your child does not return this form, he or she will not be entered in the raffle.

APPENDIX E

Script

Hi. My name is Angela Capuano and I am a student at Bowling Green State University. I am here today to see whether you are interested in helping me with a research project that I am working on. I would like to know what you think about different situations that you might experience. I am going to ask other students your age these same questions to see what students your age think. Your help will let me know more about how students your age think about different types of situations. This will help me in my research project and will also benefit other people who work with students your age. I hope to learn more about how students your age think so that I can learn how to better help them.

If you decide you would like to help me, there are a few questionnaires you will fill out. It should take you about 20-30 minutes to complete all of the questionnaires I have for you. Once you are done with the questionnaires, bring them up to the front of the room and place them face-down in the boxes. After you turn in your papers, I will not ask you to do anything else. Do not put your name on any of your papers.

If you complete and turn in these questionnaires, that means that you agree to participate in this project. If you do not wish to participate in this project, then do not fill anything out.

I will not share any of your answers with anyone else. You do not have to tell me your name, so your answers will be kept private.

If you decide not to participate in the project, you will stay in this room and work quietly and alone on your schoolwork.

You don't have to help me if you don't want to. There will be no penalty to you if you decide not to participate. So, your grades or relationship with the school will not change if you decide to participate or not. If you decide to participate, you can change your mind and stop at any time you want to. That will be okay with me.

If you have any questions, please raise your hand and I will come to you to answer your question.

APPENDIX F

Participant Demographic Form

ID# _____

The following information will help me understand the background of the students and families who have participated in this study. Please answer these questions as completely as possible.

1. Please circle your gender. Male Female

2. Your birthdate (Month/Day/Year) _____/_____/_____

3. Your grade_____

4. Please circle which of the following that best describes your ethnic background:

African American/ Black	Asian	White	Hispanic/ Latino	Mixed/ Ethnic	Other

6. At home which adults do you live with? (check one)

_____ Both parents _____ Grandparents only

_____ Mother only _____ Foster parents

_____ Father only

_____ Other (please specify who you live with) _____

7. Please check which of the following best describes the level of education your parent(s) or guardian has completed.

Mother	**Father**
_____ Some high school	_____ Some high school
_____ High school graduate	_____ High school graduate
_____ Some college	_____ Some college
_____ College Graduate	_____ College graduate
_____ Advanced Degree	_____ Advanced Degree

Other _____	**Other _____**
_____ Some high school	_____ Some high school
_____ High school graduate	_____ High school graduate
_____ Some college	_____ Some college
_____ College Graduate	_____ College Graduate
_____ Advanced Degree	_____ Advanced Degree

APPENDIX G

INTERPERSONAL REACTIVITY INDEX

PAGE 1 ID # _____

The following statements inquire about your thoughts and feelings in a variety of situations. For each item, indicate how well it describes you by choosing the appropriate letter on the scale at the top of the page: A, B, C, D, or E. When you have decided on your answer, fill in the letter in the appropriate column. **READ EACH ITEM CAREFULLY BEFORE RESPONDING.** Answer as honestly as you can. Thank you.

ANSWER SCALE:

A	**B**	**C**	**D**	**E**
DOES NOT DESCRIBE ME WELL				*DESCRIBES ME VERY WELL*

Question	**Answer (A, B, C, D, E)**	(Leave blank)
1. I daydream and fantasize, with some regularity, about things that might happen to me.		
2. I often have tender, concerned feelings for people less fortunate than me.		
3. I sometimes find it difficult to see things from the "other guy's" point of view.		
4. Sometimes I don't feel very sorry for other people when they are having problems.		
5. I really get involved with the feelings of the characters in a novel.		
6. In emergency situations, I feel apprehensive and ill-at-ease.		
7. I am usually objective when I watch a movie or play, and I don't often get completely caught up in it.		
8. I try to look at everybody's side of a disagreement before I make a decision.		
9. When I see someone being taken advantage of, I feel kind of protective towards them.		
10. I sometimes feel helpless when I am in the middle of a very emotional situation.		
11. I sometimes try to understand my friends better by imagining how things look from their perspective.		
12. Becoming extremely involved in a good book or movie is somewhat rare for me.		
13. When I see someone get hurt, I tend to remain calm.		
14. Other people's misfortunes do not usually disturb me a great deal.		

APPENDIX G

INTERPERSONAL REACTIVITY INDEX

PAGE 2 ID # _____

The following statements inquire about your thoughts and feelings in a variety of situations. For each item, indicate how well it describes you by choosing the appropriate letter on the scale at the top of the page: A, B, C, D, or E. When you have decided on your answer, fill in the letter in the appropriate column. **READ EACH ITEM CAREFULLY BEFORE RESPONDING.** Answer as honestly as you can. Thank you.

ANSWER SCALE:

A	**B**	**C**	**D**	**E**
DOES NOT DESCRIBE ME WELL				*DESCRIBES ME VERY WELL*

Question	**Answer (A, B, C, D, E)**	(Leave blank)
15. If I'm sure I'm right about something, I don't waste much time listening to other people's arguments.		
16. After seeing a play or movie, I have felt as though I were one of the characters.		
17. Being in a tense emotional situation scares me.		
18. When I see someone being treated unfairly, I sometimes don't feel very much pity for them.		
19. I am usually pretty effective in dealing with emergencies.		
20. I am often quite touched by things that I see happen.		
21. I believe that there are two sides to every question and try to look at them both.		
22. I would describe myself as a pretty soft-hearted person.		
23. When I watch a good movie, I can very easily put myself in the place of a leading character.		
24. I tend to lose control during emergencies.		
25. When I'm upset at someone, I usually try to "put myself in his shoes" for a while.		
26. When I am reading an interesting story or novel, I imagine how I would feel if the events in the story were happening to me.		
27. When I see someone who badly needs help in an emergency, I go to pieces.		
28. Before criticizing somebody, I try to imagine how I would feel if I were in their place.		

APPENDIX H

COMMIT AGGRESSION INVENTORY

ID#_____

Below is a list of some things student may have done in the past year. For each statement, we would like to know how often in the past year ***YOU*** **HAVE DONE** any of the following things. **Please answer only of things that you have done.** Remember your name is not on this survey, so your identity cannot be revealed.

Answer this question first: Have you ever been arrested? (Circle one) Yes No

1= never in the past year
2= almost never in the past year
3= sometimes in the past year
4= often in the past year
5= all the time

Question	**Answer (1-5)**
1. Started a fire on purpose.	
2. Hurt a person by swearing at a person.	
3. Carried a club as a weapon.	
4. Planted a bomb.	
5. Hit a person with a pipe.	
6. Exploded a bomb.	
7. Stabbed a person with a knife.	
8. Hurt a person by yelling at a person.	
9. Shot a gun at a person.	
10. Hurt a person by laughing at a person.	
11. Slapped a person.	
12. Hurt a person by making fun of a person's physical appearance.	
13. Hit a person with a club.	
14. Hurt a person by telling embarrassing stories about a person.	
15. Hurt a person by making fun of something a person did.	
16. Hurt a person by no longer talking to a person.	
17. Hurt a person by calling a person names.	
18. Beat up a person.	
19. Carried a pipe as a weapon.	
20. Hurt a person by keeping other people from hanging out with a person.	
21. Carried a gun.	
22. Hurt a person by giving a person mean looks.	
23. Choked a person.	
24. Carried a knife.	
25. Shot a gun into a crowd.	
26. Carried a broken bottle as a weapon.	
27. Kicked a person.	
28. Hit a person with a broken bottle.	

APPENDIX I

HOW I THINK QUESTIONNAIRE

A copy of this questionnaire is attached.

How I Think (HIT) Questionnaire

ID# [redacted]

[redacted] Administered by _____

Please don't turn this page until it's time to begin.

Each statement in this questionnaire may describe how you think about things in life. Read each statement carefully, then ask yourself, "Is it fair to say that this statement describes my thinking during the last 6 months?" Your answers will be kept private.

Mark your answers on the sheet. Don't say them out loud.

Any questions?

OK, turn the page and begin.

Research Press
2612 North Mattis Avenue
Champaign, IL 61822
www.researchpress.com
(800) 519-2707

1. People should try to work on their problems.

AGREE STRONGLY	AGREE	AGREE SLIGHTLY	DISAGREE SLIGHTLY	DISAGREE	DISAGREE STRONGLY

2. I can't help losing my temper a lot.

AGREE STRONGLY	AGREE	AGREE SLIGHTLY	DISAGREE SLIGHTLY	DISAGREE	DISAGREE STRONGLY

3. Sometimes you have to lie to get what you want.

AGREE STRONGLY	AGREE	AGREE SLIGHTLY	DISAGREE SLIGHTLY	DISAGREE	DISAGREE STRONGLY

4. Sometimes I get bored.

AGREE STRONGLY	AGREE	AGREE SLIGHTLY	DISAGREE SLIGHTLY	DISAGREE	DISAGREE STRONGLY

5. People need to be roughed up once in a while.

AGREE STRONGLY	AGREE	AGREE SLIGHTLY	DISAGREE SLIGHTLY	DISAGREE	DISAGREE STRONGLY

6. If I made a mistake, it's because I got mixed up with the wrong crowd.

AGREE STRONGLY	AGREE	AGREE SLIGHTLY	DISAGREE SLIGHTLY	DISAGREE	DISAGREE STRONGLY

7. If I see something I like, I take it.

AGREE STRONGLY	AGREE	AGREE SLIGHTLY	DISAGREE SLIGHTLY	DISAGREE	DISAGREE STRONGLY

8. You can't trust people because they will always lie to you.

AGREE STRONGLY	AGREE	AGREE SLIGHTLY	DISAGREE SLIGHTLY	DISAGREE	DISAGREE STRONGLY

9. I am generous with my friends.

AGREE STRONGLY	AGREE	AGREE SLIGHTLY	DISAGREE SLIGHTLY	DISAGREE	DISAGREE STRONGLY

10. When I get mad, I don't care who gets hurt.

AGREE STRONGLY	AGREE	AGREE SLIGHTLY	DISAGREE SLIGHTLY	DISAGREE	DISAGREE STRONGLY

11. If someone leaves a car unlocked, they are asking to have it stolen.

AGREE STRONGLY	AGREE	AGREE SLIGHTLY	DISAGREE SLIGHTLY	DISAGREE	DISAGREE STRONGLY

12. You have to get even with people who don't show you respect.

AGREE STRONGLY | AGREE | AGREE SLIGHTLY | DISAGREE SLIGHTLY | DISAGREE | DISAGREE STRONGLY

13. Sometimes I gossip about other people.

AGREE STRONGLY | AGREE | AGREE SLIGHTLY | DISAGREE SLIGHTLY | DISAGREE | DISAGREE STRONGLY

14. Everybody lies, it's no big deal.

AGREE STRONGLY | AGREE | AGREE SLIGHTLY | DISAGREE SLIGHTLY | DISAGREE | DISAGREE STRONGLY

15. It's no use trying to stay out of fights.

AGREE STRONGLY | AGREE | AGREE SLIGHTLY | DISAGREE SLIGHTLY | DISAGREE | DISAGREE STRONGLY

16. Everyone has the right to be happy.

AGREE STRONGLY | AGREE | AGREE SLIGHTLY | DISAGREE SLIGHTLY | DISAGREE | DISAGREE STRONGLY

17. If you know you can get away with it, only a fool wouldn't steal.

AGREE STRONGLY | AGREE | AGREE SLIGHTLY | DISAGREE SLIGHTLY | DISAGREE | DISAGREE STRONGLY

18. No matter how hard I try, I can't help getting in trouble.

AGREE STRONGLY | AGREE | AGREE SLIGHTLY | DISAGREE SLIGHTLY | DISAGREE | DISAGREE STRONGLY

19. Only a coward would ever walk away from a fight.

AGREE STRONGLY | AGREE | AGREE SLIGHTLY | DISAGREE SLIGHTLY | DISAGREE | DISAGREE STRONGLY

20. I have sometimes said something bad about a friend.

AGREE STRONGLY | AGREE | AGREE SLIGHTLY | DISAGREE SLIGHTLY | DISAGREE | DISAGREE STRONGLY

21. It's OK to tell a lie if someone is dumb enough to fall for it.

AGREE STRONGLY | AGREE | AGREE SLIGHTLY | DISAGREE SLIGHTLY | DISAGREE | DISAGREE STRONGLY

22. If I really want something, it doesn't matter how I get it.

AGREE STRONGLY | AGREE | AGREE SLIGHTLY | DISAGREE SLIGHTLY | DISAGREE | DISAGREE STRONGLY

23. If you don't push people around, you will always get picked on.

AGREE STRONGLY	AGREE	AGREE SLIGHTLY	DISAGREE SLIGHTLY	DISAGREE	DISAGREE STRONGLY

24. Friends should be honest with each other.

AGREE STRONGLY	AGREE	AGREE SLIGHTLY	DISAGREE SLIGHTLY	DISAGREE	DISAGREE STRONGLY

25. If a store or home owner gets robbed, it's really their fault for not having better security.

AGREE STRONGLY	AGREE	AGREE SLIGHTLY	DISAGREE SLIGHTLY	DISAGREE	DISAGREE STRONGLY

26. People force you to lie if they ask too many questions.

AGREE STRONGLY	AGREE	AGREE SLIGHTLY	DISAGREE SLIGHTLY	DISAGREE	DISAGREE STRONGLY

27. I have tried to get even with someone.

AGREE STRONGLY	AGREE	AGREE SLIGHTLY	DISAGREE SLIGHTLY	DISAGREE	DISAGREE STRONGLY

28. You should get what you need, even if it means someone has to get hurt.

AGREE STRONGLY	AGREE	AGREE SLIGHTLY	DISAGREE SLIGHTLY	DISAGREE	DISAGREE STRONGLY

29. People are always trying to hassle me.

AGREE STRONGLY	AGREE	AGREE SLIGHTLY	DISAGREE SLIGHTLY	DISAGREE	DISAGREE STRONGLY

30. Stores make enough money that it's OK to just take things you need.

AGREE STRONGLY	AGREE	AGREE SLIGHTLY	DISAGREE SLIGHTLY	DISAGREE	DISAGREE STRONGLY

31. In the past, I have lied to get myself out of trouble.

AGREE STRONGLY	AGREE	AGREE SLIGHTLY	DISAGREE SLIGHTLY	DISAGREE	DISAGREE STRONGLY

32. You should hurt people first, before they hurt you.

AGREE STRONGLY	AGREE	AGREE SLIGHTLY	DISAGREE SLIGHTLY	DISAGREE	DISAGREE STRONGLY

33. A lie doesn't really matter if you don't know that person.

AGREE STRONGLY	AGREE	AGREE SLIGHTLY	DISAGREE SLIGHTLY	DISAGREE	DISAGREE STRONGLY

34. It's important to think of other people's feelings.

AGREE STRONGLY	AGREE	AGREE SLIGHTLY	DISAGREE SLIGHTLY	DISAGREE	DISAGREE STRONGLY

35. You might as well steal. If *you* don't take it, somebody *else* will.

AGREE STRONGLY	AGREE	AGREE SLIGHTLY	DISAGREE SLIGHTLY	DISAGREE	DISAGREE STRONGLY

36. People are always trying to start fights with me.

AGREE STRONGLY	AGREE	AGREE SLIGHTLY	DISAGREE SLIGHTLY	DISAGREE	DISAGREE STRONGLY

37. Rules are mostly meant for *other* people.

AGREE STRONGLY	AGREE	AGREE SLIGHTLY	DISAGREE SLIGHTLY	DISAGREE	DISAGREE STRONGLY

38. I have covered up things that I have done.

AGREE STRONGLY	AGREE	AGREE SLIGHTLY	DISAGREE SLIGHTLY	DISAGREE	DISAGREE STRONGLY

39. If someone is careless enough to lose a wallet, they deserve to have it stolen.

AGREE STRONGLY	AGREE	AGREE SLIGHTLY	DISAGREE SLIGHTLY	DISAGREE	DISAGREE STRONGLY

40. Everybody breaks the law, it's no big deal.

AGREE STRONGLY	AGREE	AGREE SLIGHTLY	DISAGREE SLIGHTLY	DISAGREE	DISAGREE STRONGLY

41. When friends need you, you should be there for them.

AGREE STRONGLY	AGREE	AGREE SLIGHTLY	DISAGREE SLIGHTLY	DISAGREE	DISAGREE STRONGLY

42. Getting what you need is the only important thing.

AGREE STRONGLY	AGREE	AGREE SLIGHTLY	DISAGREE SLIGHTLY	DISAGREE	DISAGREE STRONGLY

43. You might as well steal. People would steal from you if they had the chance.

AGREE STRONGLY	AGREE	AGREE SLIGHTLY	DISAGREE SLIGHTLY	DISAGREE	DISAGREE STRONGLY

44. If people don't cooperate with me, it's not my fault if someone gets hurt.

AGREE STRONGLY	AGREE	AGREE SLIGHTLY	DISAGREE SLIGHTLY	DISAGREE	DISAGREE STRONGLY

45. I have done bad things that I haven't told people about.

AGREE STRONGLY | AGREE | AGREE SLIGHTLY | DISAGREE SLIGHTLY | DISAGREE | DISAGREE STRONGLY

46. When I lose my temper, it's because people try to make me mad.

AGREE STRONGLY | AGREE | AGREE SLIGHTLY | DISAGREE SLIGHTLY | DISAGREE | DISAGREE STRONGLY

47. Taking a car doesn't really hurt anyone if nothing happens to the car and the owner gets it back.

AGREE STRONGLY | AGREE | AGREE SLIGHTLY | DISAGREE SLIGHTLY | DISAGREE | DISAGREE STRONGLY

48. Everybody needs help once in a while.

AGREE STRONGLY | AGREE | AGREE SLIGHTLY | DISAGREE SLIGHTLY | DISAGREE | DISAGREE STRONGLY

49. I might as well lie—when I tell the truth, people don't believe me anyway.

AGREE STRONGLY | AGREE | AGREE SLIGHTLY | DISAGREE SLIGHTLY | DISAGREE | DISAGREE STRONGLY

50. Sometimes you have to hurt someone if you have a problem with them.

AGREE STRONGLY | AGREE | AGREE SLIGHTLY | DISAGREE SLIGHTLY | DISAGREE | DISAGREE STRONGLY

51. I have taken things without asking.

AGREE STRONGLY | AGREE | AGREE SLIGHTLY | DISAGREE SLIGHTLY | DISAGREE | DISAGREE STRONGLY

52. If I lied to someone, that's my business.

AGREE STRONGLY | AGREE | AGREE SLIGHTLY | DISAGREE SLIGHTLY | DISAGREE | DISAGREE STRONGLY

53. Everybody steals—you might as well get your share.

AGREE STRONGLY | AGREE | AGREE SLIGHTLY | DISAGREE SLIGHTLY | DISAGREE | DISAGREE STRONGLY

54. If I really want to do something, I don't care if it's legal or not.

AGREE STRONGLY | AGREE | AGREE SLIGHTLY | DISAGREE SLIGHTLY | DISAGREE | DISAGREE STRONGLY

APPENDIX J

Debriefing Form

Thank you for participating in this research project. Your help is greatly appreciated. In this study, I wanted to know how students like you think about social situations, like when others get hurt. I also wanted to know what students like you think about certain activities such as lying, stealing, and hurting another person's feelings.

I will use your answers along with the answers of everyone else who participated in this study, so your answers will be part of the group. I will not give your name to anyone and your name is not attached to any of your answers.

Your participation in this study is complete, so I will not ask you to do anything else.

If you would like to contact me, you may call me at (419) 372-4304. You may also contact my advisor for this project, Dr. Marie S. Tisak at (419) 372-2773.

Thank you again for your help with this project.

Sincerely,

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Table 1

Percentage of Total Sample for Ethnicity

	Percentage
African American	1.26
Asian	0.42
Caucasian	86.61
Hispanic/Latino	2.51
Mixed Ethnic	5.44
Other	3.77

Table 2

Percentage of Total Sample for Living Arrangement

	Percentage
Both parents	72.80
Mother only	16.32
Father only	3.35
Other	2.93
Grandparents	0.42
Foster parents	4.18

Table 3

Percentage of Total Sample for Parents' Education Level

	Some High school	High school Graduate	Some College	College Graduate	Advanced Degree
	Percent	Percent	Percent	Percent	Percent
Mother	3.35	23.01	22.18	44.77	6.69
Father	4.60	24.27	16.74	43.93	7.95
Other Parent 1	0.42	1.26	0.84	0.42	0
Other Parent 2	0	0.42	0	1.26	0

Table 4

Percentage of Total Sample for Arrest Status

	Percentage
Never been arrested	89.66
Been arrested at least 1 time	10.34

Table 5

Correlations Among Measures for Males

	Cognitive Empathy	Affective Empathy	Commit Aggression	How I Think Questionnaire
Cognitive Empathy	1.00	0.47****	-0.06	-0.22*
Affective Empathy	0.47****	1.00	-0.17	-0.24**
Commit Aggression	-0.03	-0.17	1.00	0.56****
How I Think Questionnaire	-0.22*	-0.24**	0.56****	1.00

Note: * = p < .05, ** = p < .01, *** = p < .001, **** = p <.0001

Table 6

Correlations Among Measures for Females

	Cognitive Empathy	Affective Empathy	Commit Aggression	How I Think Questionnaire
Cognitive Empathy	1.00	0.27**	-0.22**	-0.30****
Affective Empathy	0.27**	1.00	-0.08	-0.13
Commit Aggression	-0.22**	-0.08	1.00	0.58****
How I Think Questionnaire	-0.30****	-0.13	0.58****	1.00

Note: * = p < .05, ** = p < .01, *** = p < .001, **** = p <.0001

Table 7

Mean and Standard Deviation of each Measure by Gender

	Male		Female	
	Mean	SD	Mean	SD
Cognitive empathy	2.044	0.675	2.323	0.600
Affective empathy	1.937	0.478	2.318	0.449
Commit Aggression	1.633	0.441	1.473	0.440
How I Think Q.	3.089	0.551	2.848	0.586

IRI (cognitive and affective empathy scale) answers range from 0 = does not describe me well to 4 = describes me very well. Higher scores indicate higher empathy

Commit Aggression scores range from 1= never in the last year to 5 = all the time. Higher scores indicate more participation in aggressive activities

How I Think Questionnaire scores range from 1 = disagree strongly to 6 = agree strongly. Higher scores indicate greater cognitive distortion

Table 8

Single Regression Analyses

Outcome Variables Cognitive Empathy, Affective Empathy, Commit Aggression, & How I Think Questionnaire

	Parameter Estimate	Standard Error	t Value	p Value
Cognitive Empathy				
Age	-0.002	0.006	-0.36	0.721
Gender	-1.408	1.939	-0.73	0.469
Affective Empathy				
Age	-0.006	0.004	-1.37	0.171
Gender	-2.006	1.407	-1.43	0.155
Commit Aggression				
Age	-0.006	0.004	-1.39	0.165
Gender	0.861	1.328	0.65	0.517
How I Think Questionnaire				
Age	-0.014	0.005	-2.62	0.009
Gender	-0.837	1.718	-0.49	0.626

Table 9

Multiple Regression Analysis

Outcome Variable Physical Aggression

	Parameter Estimate	Standard Error	t Value	p Value
Variables				
Cognitive Empathy	-0.031	0.058	-0.54	0.589
Affective Empathy	0.003	0.077	0.04	0.968
How I Think Questionnaire	0.352	0.06	5.90	<.0001
Gender	-0.435	0.41	-1.06	0.29
Interaction Variables				
Cognitive Empathy x Gender	0.111	0.084	1.33	0.183
Affective Empathy x Gender	-0.095	0.117	-0.81	0.418
How I Think Q. x Gender	0.162	0.088	1.85	0.066
Cog. & Aff. Empathy x How I Think Q.	-0.014	0.019	-0.73	0.466