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Cognitive and Affective Empathy as Predictors of Proactive and Reactive Aggression

Gina Marie Gordon

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COGNITIVE AND AFFECTIVE EMPATHY AS PREDICTORS OF PROACTIVE AND REACTIVE AGGRESSION

A Dissertation
Submitted to the Executive Doctoral Program in Counselor Education and Supervision
School of Education
Duquesne University
In partial fulfillment of the requirements for the degree of Doctor of Philosophy
By
Gina M. Gordon, M.Ed., LPC, NCC
August 2013
COGNITIVE AND AFFECTIVE EMPATHY AS PREDICTORS OF PROACTIVE AND REACTIVE AGGRESSION

By

Gina M. Gordon
Mercyhurst College, B.A., 2001
Slippery Rock University of Pennsylvania, M.Ed., 2005

Approved June 18, 2013

William J. Casile, Ph.D.
Associate Professor
Department of Counseling, Psychology, and Special Education
(Committee Chair)

Laura M. Crothers, D.Ed.
Associate Professor
Department of Counseling, Psychology, and Special Education
(Committee Member)

Gibbs Kanyongo, Ph.D.
Associate Professor
Department of Foundations and Leadership
(Committee Member)

Jered Kolbert, Ph.D.
Associate Professor
Program Director, ExCES
Director of Counseling, Psychology, and Special Education (Committee Member)

Tammy L. Hughes, Ph.D.
Chair, Department of Counseling, Psychology, and Special Education

Olga M. Welch, Ed.D.
Dean, School of Education
ABSTRACT

COGNITIVE AND AFFECTIVE EMPATHY AS PREDICTORS OF PROACTIVE AND REACTIVE AGGRESSION

By

Gina M. Gordon, M.Ed.

August 2013

Dissertation supervised by Dr. William Casile

This study examined cognitive and affective empathy as predictors of proactive and reactive aggression. This study also explored whether levels of cognitive and affective empathy differed among children who use proactive and reactive aggression. Cognitive and affective empathy were measured by the Basic Empathy Scale (Jolliffe & Farrington, 2006a). The two types of aggression, proactive and reactive, were measured by the Reactive and Proactive Aggression Questionnaire-Child (Raine, 2006). Both instruments are self-report questionnaires that reveal children’s perceptions about empathy and aggression. Sociodemographic information, such as age, grade, and gender were also included in the data. The sample of convenience in this study consisted of 251 fourth and fifth grade children in one southwestern Pennsylvania elementary school. This predictive study used multiple regression, Pearson correlation, and a two-way factor
ANOVA to analyze the data. The results of the study found that cognitive and affective empathy are predictors of reactive aggression. Using a Pearson correlation, a weak, negative relationship between cognitive empathy and reactive aggression was discovered. The two-way ANOVA indicated that levels of cognitive and affective empathy do not differ between children who use proactive and reactive aggression. Implications for practice and recommendations for future research are presented.
DEDICATION

This dissertation is dedicated to my father, James V. Gottuso, for his endless words of wisdom and encouragement.

This is my perfect in a world that isn’t.
ACKNOWLEDGEMENTS

The journey of a thousand miles must begin with a single step.
~Lao Tzu

My journey that has lead me down the winding path of doctoral studies and dissertation writing has been full of people who believed in me, supported me, and ultimately, helped me achieve my personal and professional goals.

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I have much appreciation for my two four-legged furry children, Yuriy and Meesha Lu. Thank you for keeping my lap warm while I typed and, more importantly, thank you for reminding me of the importance of the simple things in life. At times, you were my “distraction” when I needed a small break. Your presence was the calm that I often needed.

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have always inspired me to reach any goal I set forth. It has been a true blessing to have
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_When I stand before God at the end of my life, I would hope that I would not have a
single bit of talent left and could say “I used everything you gave me.”_

~Erma Bombeck
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABSTRACT</td>
<td>iv</td>
</tr>
<tr>
<td>DEDICATION</td>
<td>vi</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>vii</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>xiii</td>
</tr>
<tr>
<td>CHAPTER 1: INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>Empathy and Aggression in Children</td>
<td>6</td>
</tr>
<tr>
<td>Variables Related to Empathy and Aggression</td>
<td>8</td>
</tr>
<tr>
<td>Theoretical Foundation</td>
<td>10</td>
</tr>
<tr>
<td>Statement of the Problem</td>
<td>11</td>
</tr>
<tr>
<td>Purpose of the Study</td>
<td>14</td>
</tr>
<tr>
<td>Significance of the Study</td>
<td>14</td>
</tr>
<tr>
<td>Definitions</td>
<td>16</td>
</tr>
<tr>
<td>Summary</td>
<td>17</td>
</tr>
<tr>
<td>CHAPTER 2: REVIEW OF THE LITERATURE</td>
<td>18</td>
</tr>
<tr>
<td>Empathy</td>
<td>19</td>
</tr>
<tr>
<td>Defining Empathy</td>
<td>19</td>
</tr>
<tr>
<td>Cognitive and Affective (Emotional) Empathy</td>
<td>20</td>
</tr>
<tr>
<td>Aggression</td>
<td>22</td>
</tr>
<tr>
<td>Defining Aggression</td>
<td>22</td>
</tr>
<tr>
<td>Proactive and Reactive Aggression</td>
<td>23</td>
</tr>
<tr>
<td>Bullying vs. Aggression</td>
<td>26</td>
</tr>
</tbody>
</table>
LIST OF TABLES

Table 1. Comparison of Changes in the Basic Empathy Scale ........................................... 44
Table 2. Comparison of Questions in The RPQ and The RPQ-C ........................................... 48
Table 3. Descriptive Analysis of Sample ............................................................................. 66
Table 4. Multiple Regression With Proactive Aggression ..................................................... 68
Table 5. Pearson Correlation with Proactive Aggression ...................................................... 68
Table 6. Multiple Regression With Reactive Aggression ....................................................... 69
Table 7. Pearson Correlation with Reactive Aggression ....................................................... 70
Table 8. Summary of Two-Way ANOVA with Proactive Aggression ................................. 72
Table 9. Summary of Two-Way ANOVA with Reactive Aggression ................................... 72
CHAPTER 1: INTRODUCTION

*There is always one moment in childhood when the door opens and lets the future in.*

~Graham Greene

The *Annual Review of Public Health* for 2007 indicated that an exceptionally high number of youth in the United States is involved in a myriad of violent behaviors, including childhood aggression and more severe youth crime (Williams, Rivera, Neighbours, & Reznik, 2007). According to the National Center for Education Statistics (2012), 85% of public schools recorded at least one incident of violence during the 2009-2010 school year. Additionally, there were 33 school-associated violent deaths in elementary and secondary schools in the United States during that same year. Youth aggression and violence, which have become more prevalent over the past two decades, reflect a widespread problem in schools (Hudley, Graham, & Taylor, 2007; McAdams & Lambie, 2003). Researchers have concluded that childhood aggression may lead to detrimental outcomes for both the aggressors and the victims (Card & Little, 2006; Prinstein, Boergers, & Vernberg, 2001).

Aggression can manifest in children as overt (either physical or verbal), relational, or cyber (Dempsey, Sulkowski, Dempsey, & Storch, 2011). Overt aggression may include a child’s physically or verbally harming another child (Dempsey et al., 2011). A child’s throwing his or her pencil at another child to cause harm is an example of physical overt aggression. Verbal overt aggression is evidenced when a child makes threats or uses words to hurt another child's feelings, such as name-calling or taunting. Relational aggression involves behaviors intended to harm another person within the child's social relationships (Crick & Grotputer, 1995), such as rumor-spreading or excluding another child from participating in a social situation. Some researchers hypothesize that as
children gain more advanced verbal and social-cognitive skills, they may use more types of relational aggression (Crick et al., 1999; Bjorkqvist, 1994). Cyber aggression generally includes harmful actions perpetuated by various modes of electronic devices or technology (Sontag, Clemans, Graber, & Lyndon, 2011), and it can comprise both verbal overt and relational forms of aggression (Dempsey et al., 2011). School counselors, educators, children, and parents observe middle elementary-aged children engage in these forms of aggressive behaviors in school settings, such as in the hallways, restrooms, classrooms, and playground.

In addition to the aforementioned forms of aggression in the school setting, identified functions of aggression have also been observed (Dodge & Coie, 1987; Polman, Orobio de Castro, Thomaes, & Van Aken, 2009). The functions of aggression represent “the motive of the aggressor” (Card & Little, 2006, p. 467) and have been categorized as proactive and reactive aggression (Dodge & Coie, 1987). Proactive aggression refers to actions that are completed purposefully and deliberately with the hope of accomplishing a desired goal, whereas reactive aggression refers to actions in response to perceived hostile offenses (Card & Little, 2006). Schools present an array of opportunities for children to engage in social interactions, and these are a primary venue for various forms of aggression.

Children socialize differently with one another and form friendships consistent with their developmental levels. As children age, their friendships become “more complex, more strongly embedded in a broader social context, and more intimate” (Bagwell & Schmidt, 2011, p. 22). Children in the fourth and fifth grades value friendships differently than do children in preschool and young adults in high school.
Nonetheless, friendships are cherished relationships throughout childhood and adolescence (Bagwell & Schmidt, 2011). Middle elementary-aged children’s involvement in social groups echoes a basic need to be accepted and to belong (Baumeister & Leary, 1995). When children display aggressive behaviors in childhood, they are often rejected by their classmates, and their ability to form those cherished relationships is affected (Bagwell & Schmidt, 2011; Bierman, 2004). Dodge, Coie, and Brakke (1982) discovered that rejected children in fifth grade exhibited more than twice as many aggressive acts toward peers as did non-rejected children. Dodge and Coie (1987) theorized that children who are socially rejected by their peers will more likely respond with proactive or reactive aggression.

Children's participation in social learning is equally as important as their participation in the academic curriculum (Skiba & Peterson, 2003). Preparing children to be life-long learners requires that schools offer a rigorous education that balances successful mastery of academic skills with preparing them to be responsible citizens (Payton et al., 2008). Similar to the way children acquire academic skills in a developmentally appropriate manner, children also acquire social and emotional skills based upon their developmental level. Greenberg et al. (2003) stated, “Initial learning is enhanced over time to address the increasingly complex situations children face regarding academics, social relationships, citizenship, and health” (p. 468). Not only should children leave school with academic proficiencies, but also they must demonstrate adequate social skills, make healthy decisions, and choose ethical and responsible behavior in order to become engaged citizens (Greenberg et al., 2003). Adelman and Taylor (2000) contended that if schools focus only on academic instruction, students will
miss out on an essential facet of their learning. Zins, Bloodworth, Weissberg, and Walberg (2004) further supported that social and emotional development are integral aspects of students’ overall success.

School counselors, educators, and parents often search for the most effective, developmentally appropriate preventive techniques and interventions to increase children’s prosocial behaviors, thus decreasing aggressive behaviors (Eisenberg & Miller, 1987; Miller & Eisenberg, 1988). Prosocial behaviors are voluntary actions that benefit others (Eisenberg & Miller, 1987; Kail, 2010). Eisenberg and Miller found a positive relationship between prosocial behaviors and children’s empathy. Empathy has been described as a comprehensive construct including cognitive traits, which comprise the ability to comprehend that others have emotions, as well as affective traits, which include the ability to share another’s emotions (Hogan, 1969; Mehrabian & Epstein, 1972).

Questions that surface when attempting to provide preventive techniques and interventions for children who use aggression include the following: Do school-aged children understand that they hurt someone’s feelings by using aggression? Are school-aged children able to “put themselves in the other person’s shoes” and imagine how it would feel to have been hurt by aggression? It would behoove counselors, educators, and parents to explore the relationship between empathy and aggression with middle elementary-aged children to determine if a relationship exists between children’s empathy and aggression. Specifically, are middle elementary-aged children who demonstrate more cognitive or affective empathy less likely to use proactive or reactive aggression? Are there differences in empathy among children who use proactive and reactive aggression? Establishing effective preventive techniques and interventions for
augmenting prosocial behavior and preventing aggressive behavior in children’s school environments is vital to their overall academic, personal, and social success (Metzler, Biglan, Rusby, & Sprague, 2001). Comprehensive efforts designed for the prevention of aggression in schools will be more likely to occur, however, only when school personnel become better able to predict incidences of aggressive behavior.

As children progress through the pre-adolescent stage, they begin to encounter more complicated social relationships and peer interactions. Court and Givon (2003) determined that “adolescence is a critical time in the social world” (p. 50). Given this fundamental belief, it seems only natural that preparing children in advance for this “critical time” would mean that school counselors, educators, and parents will embrace a deeper understanding of the relationship between children’s levels of empathy and aggressive behaviors. This deeper understanding will help these key stakeholders strengthen children’s social and emotional development prior to this “critical time” in their lives. Acknowledging a deeper understanding of children’s empathy and aggression in the pre-adolescent stage will enable key stakeholders to positively influence prosocial behaviors prior to this “critical time” in the adolescent world.

This study was grounded in a comprehensive theoretical foundation that highlights the importance of children’s social and emotional development in elementary school. This study examined empathy as a predictor of aggression; specifically, it explored cognitive and affective empathy as predictors of proactive and reactive aggression in middle-elementary, school-aged children in grades 4 and 5. This study also explored high and low levels of cognitive and affective empathy to determine if there are any differences among children who use proactive and reactive aggression.
Empathy and Aggression in Children

Empathy refers to the “reactions of one individual to the observed experiences of another” (Davis, 1983, p. 113). Empathy has been described as a comprehensive construct, including cognitive traits, which refers to the ability to comprehend that others have emotions, as well as affective traits—the ability to share another’s emotions (Hogan, 1969; Mehrabian & Epstein, 1972). Empathy is as critical for interpersonal development as intelligence is for cognitive development (Borke, 1971). The productive social adaptation of children is largely dependent upon their ability to understand and respond to the emotional (or affective) state of other children (Eisenberg & Miller, 1987). Jean Piaget observed that social awareness increases with age, so as children grow older and experience more social situations, they become more aware of the thoughts, feelings, and behaviors of other children (Borke, 1971). Both cognitive and affective empathy are central to understanding the complexity of empathy development in children.

Aggression is explained as a multifaceted social behavior that creates detrimental effects (Bandura, 1973). Two types of aggression identified in the literature are proactive and reactive. Proactive aggression, also referred to as instrumental aggression, is defined as “acts which are motivated by the desire to reach a specific goal” (Miller & Lynam, 2006, p. 1470). Reactive aggression, also referred to as hostile aggression, is defined as “acts committed in negative affective states such as anger or frustration or in response to provocation” (Miller & Lynam, p. 1470). Proactive and reactive aggression show “different social-information processing mechanisms, different outcomes in violence potential and conduct problems, and different developmental histories and concurrent adjustment” (Connor, Steingard, Anderson, & Melloni, 2003, p. 280). The way children
interpret and perceive various social situations will determine if they will respond with aggression (Dodge, Murphy, & Buchsbaum, 1984).

Extant research studies support the belief that the more empathic children are, the less likely they are to use aggression (Feshbach & Feshbach, 1969; Lovett & Sheffield, 2007; Miller & Eisenberg, 1988). Lovett and Sheffield (2007) noted that affective empathy is more likely to deter proactive than reactive aggression. On the contrary, researchers such as Jolliffe and Farrington (2006b), along with Sutton, Smith, and Swettenham (1999), found that cognitive empathy was associated with higher levels of aggression, such as bullying. Mayberry and Espelage (2007) conducted a study with middle-school students that examined associations among empathy, social competence, and reactive and proactive aggression. Mayberry and Espelage revealed that proactive and reactive aggression in middle-school students “differed very little in relation to levels of empathy, self-reported social competence, and expectations” (p. 795). Mayberry and Espelage also reported that middle-school students who scored high levels of both proactive and reactive aggression had the lowest levels of empathy.

Several studies have demonstrated a correlation between empathy and aggression (Feshbach & Feshbach, 1969; Miller & Eisenberg, 1988; Lovett & Sheffield, 2007). In very early studies, Feshbach and Feshbach (1969) discovered a negative relationship between empathy and aggression in male children ages 6 and 7 as opposed to a positive relationship between empathy and aggression in male children ages 4 and 5. This contrasting relationship between the two age groups may reflect children’s different developmental levels and social awareness in terms of aggression and empathy in social situations (Feshbach & Feshbach, 1969). According to these findings, as children develop
and are involved in more complex social interactions, the nature of the relationship between empathy and aggression changes.

Miller and Eisenberg (1988) conducted a meta-analytic review of research on empathy and aggression, and they concluded that empathy is negatively correlated with aggression. In a later meta-analytic review, Lovett and Sheffield (2007) found both positive and negative relationships between empathy and aggression in children. These relationships were dependent upon the age and gender of the participants, as well as the type of instruments used for data collection. For example, Gill and Calkins (2003) used a mother-report rating scale to measure aggression, and a behavioral measure of empathy with 2-year-olds found a positive relationship between empathy and aggression. On the contrary, a negative relationship was discovered when males and females in grades 6 through 9 used self-report measures of empathy and aggression. Given the positive relationship between children’s empathy and prosocial behaviors (Eisenberg & Miller, 1987; Roberts & Strayer, 1996), it is essential to examine children’s levels of empathy to understand children’s aggression more inclusively.

**Variables Related to Empathy and Aggression**

**Gender and age.** Although findings concerning these variables have been inconsistent, gender and age are factors that appear to be related to children’s development of empathy and aggression. In an early study involving young children, Borke (1971) determined that there were no significant differences between males and females in their ability to identify with other people’s feelings. She further hypothesized that this result may stem from socialization and child-rearing practices. A study by Litvack-Miller, McDougall, and Romney (1997) showed females to be more empathic in
general than males, and older children showed more empathic concern than younger children. After conducting a study with 8- and 9-year-old children, Garton and Gringart (2005) concluded that females were more empathic than males in both the affective and cognitive domains.

With respect to gender and age, Mayberry and Espelage (2007) found that males reported significantly more reactive and proactive aggression and less empathy than females. In a study by Connor et al. (2003), there were no differences in proactive and reactive aggression among males and females. Nonetheless, reactive aggression was noticed at a younger age than proactive aggression (Dodge, Lochman, Harnish, Bates, & Pettit, 1997).

**Nature vs. nurture.** The age-old question of the impact of heredity and environment on children’s development is applicable in this study. Does heredity and environment influence children’s ability to be empathic or aggressive? Genetic makeup and numerous environmental factors, such as poverty and home environment, have been examined in relation to social, emotional, and cognitive development in children (Burchinal, Peisner-Feinberg, Bryant, & Clifford, 2000; Knafo & Plomin, 2006). In a study to determine if heritability contributes to proactive and reactive aggression, Baker, Raine, Liu, and Jacobson (2008) found that there “is a significant heritability for both proactive and reactive aggression as early as 9 years of age” (p. 275). Brendgen, Vitaro, Boivin, Dionne, and Perusse (2006) discovered that genetic factors seem to be influential in predicting both proactive and reactive aggression. Knafo, Zahn-Waxler, Van Hulle, Robinson, and Rhee (2008) found that genetics contribute to empathy, specifically to both cognitive and affective empathy.
Fabes et al. (1994) reported that family is a primary agent for socializing children’s emotional responses. Egeland and Sroufe (1981) revealed that when there is little parental involvement, children are more likely to have poor emotional control, leading to more emotional arousal. This situation may interfere with a child’s ability to develop the skills necessary for managing more stressful situations. Vitaro, Brendgen, and Barker (2006) indicated that reactive aggression develops in an “unpredictable environment or with abusive and cold parenting” (p. 15). The same researchers stated that proactive aggression, on the contrary, appears to flourish in “supportive environments that foster the use of aggression as a means to achieve one’s goals” (p. 15). Huesmann, Eron, Lefkowitz, and Walder (1984) found that aggressiveness is perpetuated across generations within families. In sum, genetic factors, along with parents and the home environment, affect children’s levels of empathy and aggression.

**Theoretical Foundation**

This study is predicated on the collective foundation of several theories that attempt to explain the development of children. The work of Jean Piaget, Albert Bandura, and Lawrence Kohlberg (Hoffman, 2000; Kail, 2010; Kohlberg, 1976; Piaget, 1960), were referenced to reinforce the cognitive, social, and emotional development of children. These theorists support the notion that middle elementary-aged children typically develop socially, emotionally, and cognitively at varying rates in grades 4 and 5, at ages 9 through 11. Based upon Piaget’s (1960) stages of cognitive development, middle elementary-aged children are in the concrete operational stage of development at which time children are beginning to strengthen their mental operations, thus being able to acquire higher-level thinking abilities than evident in the preoperational stage (Kail,
In addition to Piaget’s stages of cognitive development, Kohlberg’s (1976) theory of moral development supports this study, with the proposition that children’s moral development begins by their engaging in behavior that is perceived as right versus wrong.

Bandura’s (1973, 1977) social learning theory (Kail, 2010) is also used to understand children’s processing of both cognitive and affective empathy, as well as proactive and reactive aggression. Bandura’s (1977) theory suggested that children’s personal processes are significantly influenced by environmental and behavioral events. Hence, this social learning theory supports the understanding that children’s behaviors, such as displaying aggression and empathy, are affected by their environment.

Other theoretical models have also been used in the current study for a better understanding of the origins of empathy and aggression. The social information processing model (SIP), in particular, serves as a foundation for this study because it provides a more systematic understanding of how children’s interpretation of a social situation affects their reactions (Crick & Dodge, 1994). According to the SIP model, “children’s social behavior is a function of sequential steps of processing…” (Crick & Dodge, 1996, p. 993). The SIP model is relevant to the present study because it reinforces how children’s perceptions of a social situation ultimately affect their behavior, possibly resulting in aggressive behaviors.

**Statement of the Problem**

A persistent challenge in the school setting is to find effective prevention for youth aggression (Hudley et al., 2007; Lovett & Sheffield, 2007; McAdams & Lambie, 2003). There is a pressing need to identify both predictors and effective interventions of proactive and reactive aggressive behaviors in order to respond more efficiently to
children’s needs. Universal interventions that target the entire school are needed, as well as supplemental interventions specifically designed for those children who meet the criteria for secondary and tertiary levels of intervention (Barnett, VanDerHeyden, & Witt, 2007; Froiland, 2011). Students who display aggression and do not respond to the universal interventions of the school may require an alternative plan. This alternative plan could include additional intense forms of intervention aimed at diminishing the aggressive behavior (Bean & Lillenstein, 2012).

Aggression in childhood can lead to decreased prosocial behaviors, thereby further activating social incompetence throughout adolescence and adulthood (Eisenberg, 1989; Farmington, 1991; Mehaffey & Sandberg, 1992). Mehaffey and Sandberg stated that “social competence is considered to be an indicator of positive adult adjustment” (p. 61). A 22-year-long study about aggression was conducted by Huesmann et al. (1984). They found that peer-rated aggression at age 8 significantly predicted self-reported aggression at age 30. Similarly, Kokko and Pulkkinen (2000) discovered how aggressive behaviors observed in children at age 8, in concurrence with parenting styles, may affect their future employment as adults. Prosocial behaviors and child-centered parenting influenced employment in adulthood (Kokko & Pulkkinen, 2000).
Figure 1. The cyclical nature of childhood aggressive behavior.

Children who display proactive and reactive aggression, along with children who are victimized by this type of aggression, may experience detrimental effects. Connor et al. (2003) found that children who display proactive aggression early are more at risk for substance abuse disorders and conduct disorder later. Conversely, Brendgen, Vitaro, Tremblay, and Lavoie (2001) discovered that children who display reactive aggression are more at risk for depression and violence in close, intimate relationships. Data from longitudinal studies concluded that more aggressive children are less popular, less academically-proficient, interact with more media violence, and believe that the violence they observe reflects real life (Huesmann & Eron, 1986). Vernberg, Nelson, Fonogy, and Twenhlow (2011) found that both children aggressors and victims reported more somatic illness and injury complaints to the school nurse.

It would be advantageous to understand the relationship between empathy and aggression and to determine if cognitive or affective empathy can predict proactive or reactive aggression in children in the middle-elementary school years. This information
could be useful to school counselors, educators, and parents interested in the identification and implementation of effective, relevant prevention and interventions for children who display proactive and reactive aggression.

**Purpose of the Study**

The purpose of this study was to determine if empathy was a predictor for aggression in children in middle-elementary school. Specifically, this study examined whether cognitive empathy and affective empathy were predictors of proactive and reactive aggression in children in grades 4 and 5 in a public school setting. Additionally, this study explored whether levels of cognitive and affective empathy differed among children who used proactive and reactive aggression.

This study proposed to answer the following research questions: To what extent does cognitive or affective empathy predict proactive or reactive aggression in children in grades 4 and 5? Do levels of cognitive and affective empathy differ among children who use proactive and reactive aggression?

**Significance of the Study**

Empathy is an underlying factor in the positive growth and development of children (Bryant, 1987). It is possible to increase the level of empathy in youth (Eisenberg, 1989). As evidenced in Borke’s (1971, 1973) studies, children as young as 3 years old were able to display empathic responses. As children grow, their development of empathy is dependent upon their social relationships with others (Kidron & Fleischman, 2006). The results of this study may demonstrate the relation between empathy and aggression, and may provide support for the need to promote preventive
programming in the school curriculum that will focus on decreasing aggression and developing empathy.

The results of this study are also germane to professional counseling and education because they will afford school counselors, educators, and parents with opportunities to predict aggression in children more accurately. These results will directly influence the establishment of more appropriate prevention programs to help minimize children's aggressive behaviors in school. Additionally, these results will help educators better understand how children’s motivations for using aggression differ, thus influencing the ways to design differentiated interventions. Key stakeholders, such as school personnel, school boards of directors, and parents, will further strengthen their collaborative partnership in order to institute diversified prevention programs that will maximize children's overall social and emotional development.

The results of this study are critical to stakeholders involved in children's lives, especially the children themselves. The outcomes of this study will benefit administrators and school board directors because they will be able to scrutinize current policies more closely in terms of consequences for various aggressive behaviors. As noted in the research, it may be more meaningful and productive for children's development if the consequences relate to the specific type of aggression displayed (McAdams & Lambie, 2003; McAdams & Schmidt, 2007). McAdams and Lambie believed that it is an ethical responsibility to acquire the knowledge and skills to respond appropriately to aggressive behaviors. School administrators and directors could revise current policies to ensure that appropriate consequences are used. Additionally, they could examine ways to incorporate more empathy training into the existing curriculum and promote development of both
affective and cognitive empathy. The outcomes of this study will ideally also help school counselors, educators, and parents respond more effectively to children's aggressive behaviors. Finally, the results of this study will positively affect children because they will experience the effects of improved preventive programming aimed at decreasing aggression in the school setting.

**Definitions**

For the purposes of this study, the following definitions apply:

1.) *Cognitive empathy*: “The understanding of another’s experiences and emotional states” (Eslinger, 1998, p. 194). Cognitive empathy is defined as the score on the cognitive empathy subscale of the Basic Empathy Scale (Jolliffe & Farrington, 2006a).

2.) *Affective empathy* (also known as emotional empathy): “A sharing of emotional experiences and states with others” (Eslinger, 1998, p. 194). Affective empathy is defined as the score on the affective empathy subscale of the Basic Empathy Scale (Jolliffe & Farrington, 2006a).

3.) *Proactive aggression*: “Acts which are motivated by the desire to reach a specific goal” (Miller & Lynam, 2006, p. 1470). Proactive aggression is defined as the score on the proactive aggression subscale of the Proactive-Reactive Aggression Questionnaire-Child (Raine, 2006).

4.) *Reactive aggression*: “Acts committed in negative affective states such as anger or frustration or in response to provocation” (Miller & Lynam, 2006, p. 1470). Reactive aggression is defined as the score on the reactive aggression subscale of the Proactive-Reactive Aggression Questionnaire-Child (Raine, 2006).
5.) *Middle Elementary-Aged Children*: Children ages 9-11 in grades 4 and 5.

**Summary**

School counselors, educators, and parents observe children’s aggressive behaviors in the school setting. Aggression, as evidenced by proactive and reactive aggression, can affect children’s prosocial behaviors and friendships. Past research suggests that a relationship exists between aggression and empathy. Examining cognitive and affective empathy in children may help to provide a more comprehensive understanding of empathy development in children. This study reviews the literature on the constructs of empathy, cognitive and affective, and aggression, proactive and reactive. The study investigated whether cognitive and affective empathy may be predictors of proactive and reactive aggression in children in grades 4 and 5. Additionally, this study explored whether differences in levels of cognitive and affective empathy existed in children who used proactive and reactive aggression. Determining whether cognitive or affective empathy were predictors of proactive or reactive aggression may help school counselors, educators, and parents identify developmentally appropriate interventions to help promote positive peer relationships among children.
CHAPTER 2: REVIEW OF THE LITERATURE

Seeing with the eyes of another, listening with the ears of another, and feeling with the heart of another.
~Alfred Adler

Without aggression, it becomes possible to think well, to be curious about differences, and to enjoy each other's company.
~Margaret J. Wheatley

Aggression in children is extensively acknowledged as a critical social problem (Devine, Gilligan, Miczek, Shaikh, & Pfaff, 2004). The study of empathy and aggression in children continues to be researched in order to help school counselors, educators, and parents reach a more sophisticated understanding of children’s interactions with one another. The purpose of this study was to discover if a child’s level of empathy was a predictor of aggression. Specifically, this study examined the relationship between middle elementary-aged children’s cognitive and affective empathy, and proactive and reactive aggression. An additional focus of this research was to determine if there were differences in children’s use of proactive and reactive aggression when comparing high and low levels of cognitive and affective empathy. This study employs the Basic Empathy Scale (BES) (Jolliffe & Farrington, 2006a) to measure children’s perceptions of their cognitive and affective empathy and the Reactive-Proactive Aggression Questionnaire-Child (RPQ-C) (Raine, 2006) to measure children’s perceptions of their proactive and reactive aggression.

This chapter will describe an overview of the relevant literature related to empathy and aggression in children. This literature review provides a framework for a quantitative study that examines empathy and aggression. Specifically, this chapter includes the following sections: empathy, both cognitive and affective; aggression, both
proactive and reactive; differences between the definition of aggression and bullying, empathy and aggression in children, and the theoretical foundation of this study.

**Empathy**

**Defining Empathy**

Cottrell and Dymond (1949) described empathy as a component of all social interactions. Empathy has been defined in cognitive, affective (emotional), and behavioral terms. Empathy refers to the “reactions of one individual to the observed experiences of another” (Davis, 1983, p. 113). Caruso and Mayer (1998) described empathy as an individual’s response to another through empathic listening and feelings for others. Hogan (1969) defined empathy as “the intellectual or imaginative apprehension of another’s condition or state of mind without actually experiencing that person’s feelings” (p. 308). Cohen and Strayer (1996) similarly defined empathy “as the understanding and sharing in another’s emotional state or context” (p. 988). Some empathic behaviors depicted in humans are also shared by animals. Plutchik (1987) summarized various ways animals display empathy, such as the schooling behavior of fish, herding behavior of mammals, and the expressions exchanged between chimpanzees. Animals’ modes of communication demonstrate “empathic signaling of emotional states so that survival-related actions can be taken in concert” (Plutchik, 1987, p. 41).

Davis (1983) discussed both cognitive and emotional facets of empathy, saying that empathy is a “set of constructs, related in that they all concern responsivity to others, but are also clearly discriminable from each other” (p. 113). Generally, empathy has been described as a comprehensive construct encompassing cognitive traits, which include the
ability to comprehend that others have emotions, as well as affective traits, indicating the ability to share another’s emotions (Hogan, 1969; Mehrabian & Epstein, 1972).

**Cognitive and Affective (Emotional) Empathy**

Researchers have categorized empathy as cognitive empathy and affective (emotional) empathy (Davis, 1983; Hogan, 1969; Lovett & Sheffield, 2007; Mehrabian & Epstein, 1972). Cognitive empathy is defined as “the understanding of another’s experiences and emotional states” (Eslinger, p. 194). Staub (1987) further explained cognitive empathy as “a knowing of another’s state or condition or consciousness” (p. 104). Role-taking and perspective-taking are integral components of the cognitive domain (Eslinger, 1998). Recognition of emotion is an additional facet of cognitive empathy (Strayer, 1987). Children’s ability to recognize and understand various nonverbal, verbal, and situational cues affects their level of cognitive empathy (Strayer, 1987). Knafo et al. (2008) stated that children display cognitive empathy by “hypothesis testing and inquisitiveness” (p. 737). Cognitive empathy provides children an opportunity to comprehend stressful situations within other individuals (Knafo et al., 2008).

Eslinger (1998) defined affective (emotional) empathy as “a sharing of emotional experiences and states with others” (p. 194). Staub (1987) noted how affective empathy occurs when one person’s feelings triggers intense emotions in another person. Knafo et al. (2008) stated that affective empathy in children is observed in “their emotional expressions of concern for the victim” (p. 737). Affective empathy is considered a motivator for prosocial behavior (Staub, 1987), and there is an empirical relationship between empathy and prosocial behavior (Eisenberg & Miller, 1987; Feshbach & Feshbach, 1987). Gerdes, Lietz, and Segal (2011) argued that a comprehensive
framework of empathy consists of an affective response, cognitive processing of one’s affective response and the other’s perspective, and the decision to take action in an empathic way.

Despite the challenge of determining the origins for both cognitive and affective empathy (Feshbach, 1997), some longitudinal studies have focused on the emergence of empathic behaviors. Sagi and Hoffman (1976) found infants as young as 2 weeks old who responded to the cries of other infants. Borke (1971) discovered that 3-year-olds were capable of recognizing and differentiating between happy and unhappy responses. This could imply that youngsters are able to experience affective empathy. Singer (2006) suggested that the affective components of empathy develop earlier than the cognitive components of empathy. Feshbach (1997) revealed how empathy in children can be related to their parents’ empathic behaviors.

More recent studies have revealed a neurological component within the structure of the brain that facilitates a more comprehensive understanding of the origins of empathy development (Shamay-Tsoory & Aharon-Peretz, 2007). Shamay-Tsoory and Aharon-Peretz discovered that both cognitive and affective empathy are dependent upon an unharmed prefrontal cortex in the brain. The researchers further purported that one’s affective theory of mind is more likely than one’s cognitive theory of mind to predict one’s empathic abilities.

In previous studies, the construct of empathy has been measured in various ways. One such method is through picture and story assessments (Miller & Eisenberg, 1988). Traced back to the early 1960s, Feshbach and Roe (1968) used this method in The Affective Situations Test for Empathy (TASTE), which gave children the option of
responding to narratives and illustrations representing other children in emotional situations. Another way empathy has been measured in previous studies is through a self-report on questionnaires (Miller & Eisenberg, 1988). Developed in the 1970s, one of the most commonly used questionnaires for older adolescents and adults was the Mehrabian and Epstein Scale (Mehrabian & Epstein, 1972). The Mehrabian and Epstein Scale measured different emotional reactions. Shortly after the inception of the Mehrabian and Epstein Scale, Bryant (1982) created a modified version to use with younger children known as The Bryant Index of Empathy. Additionally, Miller and Eisenberg (1988) discovered how some researchers have used facial/gestural indexes of empathy, as well as experimental inductions of empathy. Furthermore, the recent development of a parent rating scale known as the Griffith Empathy Measure demonstrated adequate reliability and validity (Dadds et al., 2008).

**Aggression**

**Defining Aggression**

Moyer (1976) defined aggression as “overt behavior involving intent to inflict noxious stimulation or to behave destructively toward another organism” (p. 2). Intent was included in Moyer’s definition in order to eliminate the idea that accidental acts may trigger “noxious stimulation.” Determining the intent of an act can be somewhat difficult at times. Similar to the way Plutchik (1987) studied empathic behaviors in animals, Moyer (1976) compared human aggression to aggression observed in animals. Dominant power is inherent within animals just as it is in humans. Thus, it may be difficult to determine if an animal intended to destroy and inflict pain on another organism or if it could be deemed accidental. Although aggression evidenced in animals provides a strong
foundation for understanding aggression in humans, the unique and complex nature of
human beings has created even more varied forms and functions of aggressive behaviors
in humans (Gendreau & Archer, 2005; Polman, Orobio de Castro, Koops, Van Boxtel, &
Merk, 2007).

Bandura (1973) noted the importance of considering both social judgments and
injurious behavior in determining aggressive acts. Individuals’ social judgments would
include how they would respond to a social situation based upon their interpretation,
whereas injurious behavior refers to behaviors conducted in a forceful manner and
caus-ing expressions of pain (Bandura, 1973). Contemporary theorists see aggression as a
multidimensional paradigm (Dodge, 1991; Frick, 1998 as cited in Little, Henrich, Jones,
& Hawley, 2011; Polman et al., 2009). The forms of aggression that are described as the
“whats” of aggression, are categorized as direct (overt), such as physical and verbal, or
indirect, such as relational and social (Polman et al., 2007; Polman et al., 2009; Little et
al., 2011). The functions of aggression known as the “whys” are described as reactive or
proactive aggression (Polman et al., 2007; Little et al., 2011).

Proactive and Reactive Aggression

For decades, researchers have underscored the significance of the two functions of
aggression: proactive and reactive (Dodge & Coie, 1987; Vitaro, Brendgen, & Barker,
2006). Proactive aggression, also referred to as instrumental aggression (Feshbach, 1964),
is defined as “acts which are motivated by the desire to reach a specific goal” (Miller &
Lynam, 2006, p. 1470). Reactive aggression, also referred to as hostile aggression
(Feshbach, 1964), is defined as “acts committed in negative affective states such as anger
or frustration or in response to provocation” (Miller & Lynam, 2006, p. 1470).
Proactive aggression is systematically planned and unprovoked (Marsee & Frick, 2007; Polman et al., 2009). It can be used as a way to gain power, dominate others, or intimidate peers (Marsee & Frick, 2007; Polman et al., 2009; Vitaro, Brendgen, & Barker, 2006). Children who use proactive aggression are also known as “offensive aggressors” and “cold-blooded” aggressors (Vitaro, Brendgen, & Barker, 2006, p. 15). Reactive aggression is a response affiliated with anger to a perceived or real provocation instigated by another individual (Polman et al., 2009). Vitaro, Brendgen, and Barker (2006) described children who use reactive aggression as “defensive,” “hot-blooded,” “impulsive,” and “retaliatory” (p. 15).

McAdams and Schmidt (2007) differentiated between the characteristics of proactive and reactive aggression. The former is deliberate and is used for the aggressor’s personal satisfaction. Additionally, children who use proactive aggression exhibit methodical and intentionally-driven behaviors. Raine et al. (2006) found male adolescents who use proactive aggression to be “psychopathy-prone, seriously violent, and emanating from a poor social background…” (p. 168). An example of proactive aggression could be observed when a child shoves another child out of the way to get to the front of the line (Kail, 2010). Reactive aggression is more impulsive and not systematically planned. According to McAdams and Schmidt (2007), children use reactive aggression as a way to alleviate their own anger, frustration, or stress in a social situation. This type of behavior is driven by emotion, and in most cases, the children who react aggressively demonstrate remorse when it is over (McAdams & Schmidt, 2007). Raine et al. (2006) found male adolescents who use reactive aggression to be “more impulsive, anxious, and having schizophrenia-spectrum characteristics hallmarked by
reality distortion and information-processing abnormalities” (p. 168). An example of reactive aggression could be observed when a child not chosen for the lead role in a play kicks the child who was selected (Kail, 2010).

The Frustration-Aggression Hypothesis supports the premise that aggressive behavior is a hostile angry response to a perceived or real frustration (Dollard, Doob, Miller, Mowrer, & Sears, 1939). Although both frustration and aggression are each defined as independent constructs, this hypothesis assumes a causal relationship between frustration and aggression (Dollard et al., 1939). The Frustration-Aggression Hypothesis implies that goal blocking, a perceived threat, and anger are factors that may contribute to a child’s reactive aggressive response to a social situation (Berkowitz, 1989). Some researchers argue that aggression can be described as both instrumental (proactive) and hostile (reactive) (Bushman & Anderson, 2001). Gendreau and Archer (2005) suggested that all acts of aggression, whether they are preplanned or reactive, are rooted in hostility. Further, the concept of behaviors as intentional and conducted in a harmful, purposeful manner is one that is difficult to prove (Loeber & Hay, 1997).

Dodge (1991) proposed origins for both proactive and reactive aggression. He theorized that proactive aggression emerges out of operant reinforcement. Experiences that enable children to see aggressive acts as positive with successful outcomes will lead children to use proactive aggression more easily and more often. Reactive aggression derives from anger, fear, and impulsivity as reactions to perceived or real threatening stimuli (Dodge, 1991). Traumatic, life-threatening experiences, such as abuse, neglect, and insecure attachment relationships, will lead children to use reactive aggression easily and often. In addition to parenting styles and home environment, Brendgen et al. (2006)
found that genetic factors might have an impact on both proactive and reactive aggression.

In previous research, the construct of aggression has been measured in several ways. Given the various types of aggression identified in the literature (i.e., physical aggression, relational aggression, etc.), numerous modes of assessment are used, depending upon the assessment outcome. Clinical interviews, both structured and semi-structured interviews, have been used to assess aggression in children (Parrott & Giancola, 2007). In addition to interviews, observational techniques have been incorporated into researching the construct of aggression (Parrott & Giancola, 2007; Polman et al., 2007). Self-report questionnaires, parent questionnaires, peer-report questionnaires, and teacher questionnaires have also been used to measure aggression (Fite, Stoppelbein, Greening, & Gaertner, 2009b; Grumm, Hein, & Fingerle, 2011; Huesmann, Eron, Guerra, & Crawshaw, 1994; Marsee and Frick, 2007; Polman et al., 2009).

Bullying vs. Aggression

Is aggression the same as bullying? Such terms as bullying, aggression, disruptive behaviors, and school violence seem to be used interchangeably in the literature and in professional education and counseling. Olweus (1993) defined bullying as a child’s being “exposed, repeatedly and over time, to negative actions on the part of one or more other students...the student who is exposed to the negative actions has difficulty defending him/herself and is somewhat helpless...” (pp. 9–10). Olweus (1993) further described negative actions as those times when a child “intentionally inflicts, or attempts to inflict, injury or discomfort upon another” (p. 9). This description somewhat emulates the
definition of aggressive behavior. Although bullying is an act of aggression (Andershed, Kerr, & Stattin, 2001; Salmivalli & Nieminen, 2002), it is critical to note that not all aggressive acts are bullying behaviors. It is noteworthy to highlight how bullying may include all behaviors depicted as aggressive, both proactive and reactive. However, not all aggressive acts may necessarily be considered bullying.

The “repeated over time” segment of Olweus’ (1993) aforementioned definition is a key factor that differentiates bullying from aggression. Children who exhibit extreme aggression have been associated with bullying (Pelligrini, Bartini, & Brooks, 1999), but it is essential to note that children who use aggression may not repeat those acts over time. For example, if a fourth grade student pushed another fourth grade student in order to be first in line, one could not automatically conclude that this was an act of bullying. After examining the situation more closely, one could argue that this was an example of proactive aggression because the student was unprovoked and used aggression to dominate the line and be first. If this were the first and only time this behavior was identified, then it would be inappropriate to identify the student as someone who bullies.

Another key factor that differentiates bullying from aggression is an imbalance of power. According to Olweus (1993), “...the term bullying is not or should not be used when two students of approximately the same strength (physical or psychological) are fighting...” (p. 10). School counselors, educators, and parents do not have to become engrossed in the technicalities inherent in the definition of bullying, however, to understand the implications aggressive behaviors have on children’s social development.

**Relationship Between Empathy and Aggression**
Although earlier studies about empathy and aggression have included children as young as 3 years old (Borke, 1971; Borke, 1973; Feshbach & Feshbach, 1969) few studies with middle elementary-aged children have examined whether correlations exist between either cognitive or affective empathy, and proactive or reactive aggression. An array of studies has demonstrated a correlation between empathy and aggression (Feshbach & Feshbach, 1969; Lovett & Sheffield, 2007; Miller & Eisenberg, 1988). In very early research, Feshbach and Feshbach (1969) found a negative relationship between empathy and aggression in male children ages 6 and 7. Contrastingly, Feshbach and Feshbach found a positive relationship between empathy and aggression in male children ages 4 and 5. This contrasting relationship between the two age groups seemed to reflect the developmental changes that occurred within the children’s social-cognitive development.

Miller and Eisenberg (1988) conducted a meta-analytic review of various research conducted on empathy and aggression. Depending upon the age, gender, and method of measurement, the researchers sometimes discovered a low to moderate negative correlation between empathy and aggression. In another meta-analytic review, Lovett and Sheffield (2007) found an inconsistent relationship between empathy and aggression in children. Research has also examined the relationship between children’s empathic responses to a specific set of displayed emotions, positive or negative emotions. Zhou et al. (2002) discovered that children who measured high in empathy with negative emotions were more likely to have fewer externalizing behaviors and an increased sense of social competence. Essentially, this study enabled other researchers in the field to consider children’s social behavior and how it is connected to empathizing with other
children’s positive and negative emotions. Another study involving youth, led by de Kemp, Overbeek, de Wied, Engels, and Scholte (2007), concluded that there are negative associations between affective empathy and antisocial behavior. The outcome of this study further supports the premise that youth who display more affective empathy are less likely to engage in aggressive acts.

Empathy has the ability to serve as a protective factor against aggression (Feshbach, 1997; Hastings, Zahn-Waxler, Robinson, Usher, & Bridges, 2000). In particular, empathy may serve as a protective factor for maltreated children (Feshbach, 1997). Gralinski and Feshbach (1991) (as cited in Feshbach, 1997) conducted a study with physically maltreated, middle elementary-aged children and gathered observations of their empathy, self-perceptions, and self-concept. This study revealed that maltreated children with high empathy were less likely to use aggression. Displaying empathic concern for others is more likely to discourage aggressive acts (Hastings et al., 2000). Zahn-Waxler and Radke-Yarrow (1990) found that children as young as 2 years old were able to develop empathic concern for others who seemed afflicted. This empathic concern can generalize into more prosocial actions and less aggressive behaviors throughout childhood.

Empathy has been noted as a critical foundation to children’s overall positive mental health (Bryant, 1987). Children gain the ability to respond empathically as they grow (Dadds et al., 2008). It is advantageous for children to be able to develop empathy progressively. Kidron and Fleischman (2006) suggested that empathy relates to children’s academic gains, as well as to improvements in their social interactions. Feshbach and Feshbach (1987) revealed that empathy in 8 and 9-year-old children predicted reading
and spelling achievement at ages 10 and 11. Empathy development has also been associated with children’s prosocial behaviors (Eisenberg & Miller, 1987). Both cognitive and affective empathy are strong indicators for productive social interactions (Bailey, Henry, & Von Hippel, 2008). Additionally, children who are able to identify emotions have been deemed more socially acceptable by their peers (Fabes et al., 1994). Feshbach and Feshbach (1969) purported that children with empathy are inclined to be sensitive to others’ feelings, more able to understand other children’s perspectives, and more cooperative and less aggressive with other children.

Proactive aggression has been related to delinquency, criminality, and social withdrawal (Little et al., 2003). Reactive aggression has been connected with peer rejection, impulsivity, and the likelihood to perceive hostility in social situations (Little et al., 2003). Both proactive and reactive types of aggression have been associated with suicidal ideations and attempts (Conner, Swogger, & Houston, 2009). Dodge et al. (1997) established that children who used reactive and not proactive aggression exhibited earlier victimization from physical abuse. Dodge and Coie (1987) discovered that reactive aggression is connected with attention difficulties and adjustment concerns with peer relationships. Children who used both reactive and proactive aggression tend to have impairments with their social-processing patterns (Polman et al., 2007). Among other researchers, Dodge and Coie found that children who used only reactive aggression attributed hostile intent to peers more often than others. In contrast, children who used only proactive aggression revealed a processing pattern that anticipated positive outcomes for aggression (Dodge & Coie, 1987).

**Variables Related to Empathy and Aggression**
Gender and age. Both gender and age have been found to be related to cognitive and affective empathy, as well as proactive and reactive aggression. In a study by Connor et al. (2003), no gender differences in proactive and reactive aggression were reported. Little et al. (2003), however, revealed that German and Turkish males in grades 5 through 10 showed more proactive aggression than females, whereas females demonstrated more reactive aggression than males. Mayberry and Espelage (2007) found that males reported significantly more reactive and proactive aggression and less empathy than females. Garton and Gringart (2005) revealed that females had higher levels than males on both cognitive and affective measures of empathy. In Cohen and Strayer (1996), also, affective aspects of empathy were depicted as higher in females. In terms of age, Dodge et al. (1997) stated that reactive aggression is noticed earlier in life than proactive aggression. In a meta-analytic review, however, researchers found there were no differences in correlations between different age groups (Boivin, Dodge, & Coie, 1995; Price & Dodge, 1989).

Nature vs. nurture. Do heredity and environment influence children’s actions, such as displaying empathy and aggression? Considering the nature-versus-nurture debate, it is noteworthy to mention how both heredity and environment contribute to children’s development of empathy and aggression. McCrae and Costa (1988) stated, “The growing body of evidence suggests that the way in which parents raise their children has limited formative impact on their children’s future personality” (p. 432). By way of contrast, after conducting a longitudinal study, Koestner, Franz, and Weinberger (1990) stated, “Although we cannot rule out temperamental and genetic explanations, our results suggest that parenting behaviors in early childhood can have a lasting impact on
the course of personality development” (p. 714). DiLalla (2002) also highlighted the importance of understanding that genetic makeup does not solely or explicitly determine behavior. It behooves researchers to analyze the complex interaction of both parenting styles and genetic makeup to gain a more comprehensive understanding of factors related to children’s social, emotional, and cognitive development.

Heredity and genetic makeup contribute to children’s development of empathy and aggression. Baker et al. (2008) conducted a study to determine if heritability contributes to proactive and reactive aggression. Baker et al. (2008) found that there “is a significant heritability for both proactive and reactive aggression as early as 9 years of age” (p. 1275). Brendgen et al. (2006) discovered that genetic factors seem to be influential on both proactive and reactive aggression. Knafo et al. (2008), in their study of young twins, found that genetics contribute to empathy, specifically to both cognitive and affective empathy. Bezdjian, Tuvblad, Raine, & Baker (2011) found a significantly strong genetic relationship between psychopathic personality traits and proactive aggression. Genetic factors, along with parents and the home environment, affect children’s levels of empathy and aggression.

Home environment and parenting styles foster children’s development of empathy and aggression. Koestner et al. (1990) showed paternal involvement in child care, maternal tolerance of dependent behavior, and maternal inhibition of children’s aggression to be predictors for empathy in adults. In their longitudinal study, these researchers further postulated that children were more inclined to grow as adults who have empathic concern when “both of their parents enjoyed being involved with them…” (p. 714). Zhou et al. (2002) concluded that parents’ ability to express themselves
positively through interactions with their children is related to children’s empathy and social functioning. Feshbach (1987) linked parental attributes, such as parental warmth and sensitivity, to the attachment relationship between children and their parents. Children’s empathy has also been coupled with a secure mother-child attachment (Kestenbaum, Farber, & Sroufe, 1989). In addition to a secure mother-child attachment, Fabes et al. (1994) declared that family is a primary agent for socializing children’s emotional responses.

Family and the home environment help shape children’s social, emotional, and cognitive development. Strayer and Roberts (2004) suggested that parental empathy could be more instrumental in children’s development of empathy than previously thought. Egeland and Sroufe (1981) discovered that when there is little parental involvement, children are more likely to have poor emotional control, leading to more emotional arousal and possibly interfering with children’s ability to develop the skills necessary for managing more stressful situations. Vitaro, Brendgen, and Barker (2006) indicated that reactive aggression develops in an “unpredictable environment or with abusive and cold parenting” (p. 15). The same researchers stated that proactive aggression appears to flourish in “supportive environments that foster the use of aggression as a means to achieve one’s goals” (p. 15). Vitaro, Barker, Biovin, Brendgen, and Tremblay (2006) discovered that harsh parenting styles were more likely to predict both proactive and reactive aggression in children. Specifically, reactive aggression has been associated with childhood abuse (Dodge, et al., 1997). Huesmann et al. (1984) found that aggressiveness is perpetuated across generations within families, further validating the need for professional school counselors, educators, and parents to
collaborate on research-based prevention and intervention to help promote positive peer interactions.

**Theoretical Foundation of the Study**

Theoretical models have further enhanced the understanding of the origins of cognitive and affective empathy, as well as proactive and reactive aggression. This study is based upon several theories that reflect children’s development. Cognitive-developmental and moral theories based upon the work of Piaget and Kohlberg (Hoffman, 2000; Kail, 2010; Kohlberg, 1976; Piaget, 1960) were used as the theoretical underpinnings of this study. The social information processing (SIP) model (Crick & Dodge, 1994) and Bandura’s (1973, 1977) social learning theory (Kail, 2010) were also used to understand children’s processing of both cognitive and affective empathy, as well as proactive and reactive aggression.

**Cognitive-Developmental and Moral Theories**

Cognitive-developmental theorists, notably Jean Piaget and Lawrence Kohlberg (Kail, 2010; Kohlberg, 1976; Piaget, 1960), were referenced in this study to further conceptualize the development of empathy and aggression in middle elementary-aged children. According to Piaget (1960), children in grades 4 and 5, ages 9-11, would be in the concrete operational stage of development. This stage of thinking incorporates more advanced cognitive ability and is more powerful than Piaget’s previous stage of preoperational thinking (Kail, 2010). During this stage, children are gaining more power with mental operations, reversibility, and less egocentrism (Kail, 2010). Since empathy was declared instrumental in human interaction and communication (Borke, 1971), it
makes sense that children in the concrete operational stage of development would have an increased ability to display empathic behaviors, both cognitively and affectively.

Researchers have identified perspective-taking as a critical component to the development of prosocial behaviors (Iannotti, 1978; Kail, 2010). Gerdes et al. (2011) argued that cognitive processing of one’s affective response and the other’s perspective is a significant part to exhibiting empathy. Piaget (1969) used the term *decentration* to mean perspective-taking, or taking the point of view of another. Chaplin and Keller (1974) studied decentration and social interaction with children in grades 3 and 6. The researchers found no difference between decentration and social interaction with children in grade 6. Conversely, Chaplin and Keller discovered that third-grade children who were rated as better social interactors were more able to decenter than third-grade children rated as poor social interactors. Piaget and Inhelder (1956) recommended social interaction as a means to foster the process of decentering, or perspective-taking, in children.

As children grow and gain more experience with peer relationships, they become increasingly aware of others’ thoughts, feelings, and motives (Borke, 1971). Kohlberg described moral reasoning in a similar manner, stating that moral reasoning becomes more advanced as children develop (Kail, 2010). Kohlberg (1976) acknowledged three levels of moral reasoning, each level consisting of two stages. In the earliest stages, moral reasoning is based upon external forces, such as a reward or consequence (Kail, 2010). Kohlberg (1976) argued that children in grades 4 and 5, ages 9–11, would fall into the category of the first level of moral reasoning known as the *preconventional level*. Based on Kohlberg’s levels of moral reasoning, children show empathy because they are told it
is the right thing to do or because they believe someone else will show them similar empathic behaviors. Moreover, children who use aggression in social situations may use it because they have not been told otherwise. Both Piaget and Kohlberg concluded that children obtain moral norms through social construction (Hoffman, 2000). Hoffman (2000) discussed moral internalization as “an active mental process of integrating new and more comprehensive moral ideas into one’s existing moral framework” (p. 130). Moral internalization is best described by considering some of the following questions:

What motivates a person to avoid harming others and to consider their needs, even when their needs conflict with his or her own? When one contemplates acting in an instrumental, self-serving way that one realizes may end up harming someone, does one anticipate feeling empathic distress and guilt? (Hoffman, 2000, pp. 8–9)

As Nucci (2001) stated, “Knowing the good is not always sufficient to motivate someone to do the good. For moral action to take place the individual must also want to do what is moral, rather than engage in actions that lead to other goals” (p. 196). Most children are guided by their moral values; however, children who use aggression, specifically proactive aggression, do not seem to be motivated by those values (Arsenio & Lemerise, 2004). Boldizar, Perry, and Perry (1989) found that children who use aggression attribute more value and significance to the rewarding results of aggression and less value to the negative results than do children who do not use aggression. Arsenio, Adams, and Gold (2009) found that although children who use reactive aggression may misjudge social cues, they seem to hold a moral value that hurting someone on purpose is not fair. In contrast, children who use proactive aggression seem to have distorted moral values
The moral cognitive-developmental theory includes children’s acquisition of perspective-taking skills while integrating new ideas into their own moral structure through peer socialization and interaction (Hoffman, 2000).

**Social Information Processing (SIP) Model**

Because Crick and Dodge (1994) believed that children enter a social situation with biological capabilities and previous experiences, they formulated the SIP theory. This theory is rooted in the assumption that “children’s understanding and interpretation of situations influence their related behaviors” (Lemerise & Arsenio, 2000, p. 108). The SIP model is a description of five sequential steps that are critical for demonstrating appropriate, competent behavior (Crick & Dodge, 1994; Dodge & Coie, 1987). The steps include the following:

1. Encoding of situational cues
2. Representation and interpretation of situational cues
3. Mental exploration for possible responses to the situation
4. Choosing the response
5. Performance of the response.

Dodge and Coie (1987) stated, “Errors and biases in interpreting threats are hypothesized to account for the inappropriate display of retaliatory aggression” (p. 1147). Some researchers have purported that behavior is directly correlated to one’s mental processing of the social situation and that impairments in social information processing result in higher aggressive behaviors (Dodge et al., 2003). In a study conducted by Crick, Grotpeter, and Bigbee (2002), children identified as aggressive were more likely to interpret neutral behavior in hostile terms. Children who use reactive aggression may
experience more difficulty with interpreting others’ cues, which is step two of the SIP model (Arsenio et al., 2009; Orobio de Castro, Veerman, Koops, Bosch, & Monshouwer, 2002), while children who use proactive aggression may encounter biases during the later stages of the SIP model, such as possessing a preference for instrumental goals rather than relational goals (Dodge et al., 1997; Smithmyer, Hubbard, & Simons, 2000).

With relation to this particular study and the examination of both cognitive and affective empathy, it is helpful to understand how empathy is integrated into the SIP model. As noted by Crick and Dodge (1994), the first step of the SIP model represents the child’s encoding of both internal and external cues. Lemerise and Arsenio (2000) proposed an integrated model of emotion and cognition processes in social information processing. Thus during step 1 of the SIP model, Lemerise and Arsenio suggest that while a child is encoding cues, he or she is recognizing emotion and affective cues from the other child as a way to prepare for an empathic response. Children who display low levels of cognitive and affective empathy may experience a challenge with being able to “encode” a social situation accurately and free from bias.

Social Learning Theory

Albert Bandura’s theory defines social learning as the process of “learning how to relate to other people by observing, interacting, and engaging in social relationships” (Orpinas & Horne, 2006, p. 63). Bandura’s (1977) proposed view of triadic reciprocity outlines the influential relationship between a child’s view of self, the environment, and his or her behavior. According to Zimmerman (1989) “…self-regulated learning is not determined merely by personal processes—these processes are influenced by environmental and behavioral events in a reciprocal fashion” (p. 330). Bandura (1973)
purported that aggressive behavior is observed, learned, and maintained by the environment. Bandura’s social learning theory model suggested that frustration and anger trigger children’s reactive aggression, and positive reinforcement stimulates proactive aggression (Mayberry & Espelage, 2006). Bandura (1977) recognized how children may behave in certain ways to gain self-reward. This is relative to the notion of moral internalization mentioned earlier in this section (Hoffman, 2000). If children are socialized to behave in a moral way and to receive self-rewards, then they will be more inclined to behave this way when they are alone (Hoffman, 2000).

As evidenced in the aforementioned section, cognitive-developmental and moral theories contribute to this study’s examination of children’s empathy as predictors for specific types of proactive and reactive aggression. The SIP model and social learning theory also provide a theoretical framework for the understanding of children’s empathic and aggressive behaviors.

**Summary**

Both empathy and aggression are complex constructs with multifaceted definitions. However, when researchers examine specific types of empathy, such as cognitive and affective empathy, as well as specific types of aggression, such as proactive and reactive aggression, the constructs become more distinct and differentiable. This review of the literature revealed the need for further research to determine if cognitive or affective empathy are predictors of proactive or reactive aggression. With a strong theoretical foundation centered on cognitive and moral developmental theories, as well as social information processing and social learning theory, the results of this study can be useful for school counselors, educators, and parents who are interested in understanding
if a relationship exists between empathy development and a child’s use of proactive and reactive aggression.
CHAPTER 3: METHODOLOGY

Aggression only moves in one direction—it creates more aggression.
~Margaret J. Wheatley

The principal purpose of this study was to determine if children’s self-reported levels of cognitive and affective empathy could predict self-reported levels of proactive and reactive aggression. The secondary purpose of this research was to determine if there were differences in children’s use of proactive and reactive aggression when comparing high and low levels of cognitive and affective empathy. Cognitive and affective empathy were measured by the Basic Empathy Scale (BES; Jolliffe & Farrington, 2006a), and proactive and reactive aggression were measured by the Reactive-Proactive Aggression Questionnaire-Child (RPQ-C; Raine, 2006). A convenience sample of fourth- and fifth-grade children attending a small rural school district in southwestern Pennsylvania was used in this study.

This chapter will describe the quantitative research methods used to complete this study. The chapter includes the following sections: research design, research question and hypotheses, sample, instrumentation, procedure, data analysis, and delimitations.

**Research Design**

This quantitative study attempted to determine whether cognitive and affective empathy were predictors for proactive and reactive aggression, and whether levels of cognitive and affective empathy differed in terms of children’s use of proactive and reactive aggression. The data collected included sociodemographic data (age, grade, and gender) and the participants’ responses to computer-moderated versions of the Basic Empathy Scale (Jolliffe & Farrington, 2006a) and the Reactive-Proactive Aggression Questionnaire-Child (Raine, 2006). For the purposes of this study, the dependent
variable, or the criterion, is aggression, which will be classified as either proactive or reactive. The independent variable, or predictor, is empathy, which is classified as either cognitive or affective empathy. Multiple regression was used to analyze the data to determine the existence of any predictive relationships. A Pearson correlation was used to determine the strength and direction of the relationships between cognitive and affective empathy with proactive and reactive aggression. Additionally, a two-way ANOVA was used to determine if there were any differences in cognitive and affective empathy among children who use proactive and reactive aggression.

**Research Questions and Hypotheses**

The following research questions encompass three hypotheses for this study:

R1: To what extent do cognitive empathy and affective empathy predict proactive and reactive aggression in children in grades 4 and 5, ages 9-11?

H1: Children’s self-reported cognitive empathy and affective empathy are predictive of proactive aggression.

H2: Children’s self-reported cognitive empathy and affective empathy are predictive of reactive aggression.

R2: Do levels of cognitive and affective empathy differ between children who use proactive and reactive aggression?

H1: There are differences in cognitive and affective empathy between children who use proactive aggression and those who use reactive aggression.

**Sample**

The sample for this study was a sample of convenience including 251 children in grades 4 and 5, ages 9-11, from a small, rural school district in southwestern
Pennsylvania. The sample included an equal percentage of male and female children. Fourth-grade children comprised about 51% of the sample, while fifth-grade children comprised about 49% of the sample. Nine-year-olds made up 39% of the sample, 10-year-olds, 53%, and 11-year-olds 8% of the sample, with the mean age being 9.69.

The school district has nearly 2,500 students enrolled in grades pre-kindergarten through 12, and the elementary school that was used in this study has 560 students in grades 3, 4, and 5. Approximately 32% of the children in the elementary school live at or below the poverty level, as indicated by the free and reduced-price lunch program. Of the 560 children in grades 3, 4, and 5, 96% are Caucasian, non Hispanic, while the remaining 4% includes multi-racial, African American, and Asian American students. Approximately 13% of the children in this elementary school are identified with special needs and have an Individualized Education Plan (IEP).

After parental permission and the children’s assent were obtained, 251 students in grades 4 and 5 agreed to participate in the study. According to Stevens (2009), “For social science research, about 15 subjects per predictor are needed for a reliable equation” (p. 71). Following IRB guidelines and specifications, all children who received parental permission and provided assent volunteered to complete an online self-report questionnaire of statements reflecting empathy and aggression.

**Instrumentation**

The Basic Empathy Scale (BES; Jolliffe & Farrington, 2006a) and Reactive-Proactive Aggression Questionnaire-Child (RPQ-C; Raine, 2006) were used in this study (see Appendix A). Both instruments are self-report measurements. According to Garton and Gringart (2005), “The self-report questionnaire is the most favored data collection
tool in research where empathy is studied in relation to some other characteristic of children, such as aggression” (p. 20). After reviewing numerous self-report questionnaires, I selected the two that seemed most relevant and appropriate for the targeted population based upon the reliability, validity, and readability level. In addition, modifications were made to increase the utility of these instruments with middle-elementary aged children. All statements on both instruments were read aloud to students to ensure their understanding and to maintain their attention. Furthermore, one word in the directions and five statements on the BES were slightly altered to ensure developmentally and culturally-appropriate language (see Table 1).

Table 1

*Comparison of Changes in the Basic Empathy Scale*

<table>
<thead>
<tr>
<th>The Original BES</th>
<th>The Modified BES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directions: Please <em>tick</em> one answer for each statement.</td>
<td>Directions: Please <em>check</em> one answer for each statement.</td>
</tr>
<tr>
<td>Statement #1: My friend's <em>emotions</em> don't affect me much.</td>
<td>Statement #1: My friend's <em>feelings</em> don't affect me much.</td>
</tr>
<tr>
<td>Statement #5: I get <em>caught up</em> in other people's feelings easily.</td>
<td>Statement #5: Other people's feelings <em>bother</em> me.</td>
</tr>
<tr>
<td>Statement #10: I can usually <em>work out</em> when my friends are scared.</td>
<td>Statement #10: I usually <em>know</em> when my friends are scared.</td>
</tr>
<tr>
<td>Statement #14: I can usually <em>work out</em> when people are cheerful.</td>
<td>Statement #14: I usually <em>know</em> when people are cheerful.</td>
</tr>
<tr>
<td>Statement #17: I often get <em>swept up</em> in my friend's feelings.</td>
<td>Statement #17: I often get <em>bothered</em> by my friend's feelings.</td>
</tr>
</tbody>
</table>
The BES (Jolliffe & Farrington, 2006a) was originally created with 40 items, measuring affective and cognitive empathy. During the validation process, a factor analysis was conducted, and the instrument was reduced to a 20-item scale. The BES was grounded in the definition of empathy generated by Cohen and Strayer (1996) “as the understanding and sharing in another’s emotional state or context” (p. 988). Jolliffe and Farrington chose this definition because it embraced both constructs of empathy: cognitive and affective (emotional) empathy. The BES has strong psychometric properties. Albiero, Matricardi, Speltri, and Toso (2009) found the BES to have “satisfactory internal consistency for both the scale and its subscales” (p. 402). The BES has an overall reliability of .87 (Jolliffe & Farrington, 2006b). A confirmatory factor analysis proved a “two-dimensional model comprising the two interrelated, but distinct factors of affective empathy and cognitive empathy” (Albiero et al., 2009, p. 401). In relation to this study, the BES proved a reliable instrument for empathy, both overall and with each of its subscales. With a Cronbach’s alpha of .74 for affective empathy, .75 for cognitive empathy, and .81 for total empathy, this instrument demonstrated high reliability. Jolliffe and Farrington (2006a) reported that “factor analysis was used to develop highly internally valid cognitive and affective scales of empathy” (p. 606).

Although the BES has not been used in many published studies, it has been used and validated both nationally and internationally (Albiero et al., 2009; Jolliffe & Farrington, 2006).

The author of the BES provided permission for use of his instrument, requesting at the same time a signed contract of agreement (see Appendix B). The BES uses a Likert-type measure, with children’s responses falling among 1 (strongly disagree), 2
(disagree), 3 (neither agree nor disagree), 4 (agree), and 5 (strongly agree). An example of a statement on the BES is “I can usually work out when my friends are scared.” Nine of the 20 statements are coded *cognitive*, and 11 of the 20 statements are coded *affective*. The BES requires both positive and negative scoring. Twelve of the 20 statements are referenced to be positively scored, and among these 12 statements, six are coded cognitive, whereas the remaining six are coded affective. Eight of the 20 statements are referenced to be negatively scored; among these eight statements, three are coded cognitive, and five are coded affective. The BES scoring key gives the following instructions:

Once the scoring of the eight negative items are [sic] reversed, the nine cognitive items are summed to produce the score on the cognitive empathy scale, and the eleven items are summed to produce the affective empathy score. All items are summed for the total score. (p. 2)

For the purposes of this particular study, calculating the total empathy score is not necessary.

Some of the statements on the BES required slight modifications to ensure children’s understanding. After consultation with committee members (personal communication, November 28, 2011; December 14, 2011), the decision was made to alter some of the words and phrases to better meet the reading vocabulary of children in this study without changing the content of the statement. In the example provided above, the statement was altered to “I usually know when my friends are scared.” One word in the directions and five out of the 20 statements were slightly modified to meet the needs of the children who would be participating in this study. I consulted with an elementary
reading specialist (personal communication, March 22, 2012) who concluded that the meaning of the altered statements parallels the meaning of the original statements. With these slight modifications, the BES has a readability level of 5.5, as indicated by the Flesch-Kincaid Grade Level statistic.

The RPQ-C (Raine, 2006) was selected to measure proactive and reactive aggression in children. I first examined the Reactive-Proactive Aggression Questionnaire (RPQ), and, as with the BES, contacted the author of the RPQ-C to acquire permission to use it. I did receive permission (see Appendix C), but upon examining it, I realized that the statements might not be entirely appropriate for the age group of children in this study. As a result, I contacted the developers of the RPQ to see if there might be an instrument available for children. The developers had designed a version of the RPQ for children, the aforementioned RPQ-C, but to date, no studies had been published to document the reliability and validity. Although the RPQ-C had not been used in any studies, for the purposes of this study, I reviewed the advantages of both the RPQ and the RPQ-C and chose to use the RPQ-C because the semantics of the statements were more developmentally appropriate for the targeted population.

Both the RPQ and the RPQ-C include 23 statements. After reviewing each instrument, I discovered a total of three statements on the RPQ that had been slightly altered on the RPQ-C (see Table 2).
Table 2

Comparison of Questions in The RPQ and The RPQ-C

<table>
<thead>
<tr>
<th>The RPQ</th>
<th>The RPQ-C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question #3: How often have you reacted angrily when provoked by others?</td>
<td>Question #3: How often have you reacted angrily when others annoyed you?</td>
</tr>
<tr>
<td>Question #6: How often have you vandalized something for fun?</td>
<td>Question #6: How often have you damaged or broken things for fun?</td>
</tr>
<tr>
<td>Question #18: How often have you made obscene phone calls for fun?</td>
<td>Question #18: How often have you made prank phone calls for fun?</td>
</tr>
</tbody>
</table>

Given these three differences, I chose to use the RPQ-C with the targeted population. The RPQ-C has a readability level of 4.4, as indicated by the Flesch-Kincaid Grade Level statistic.

Fossati et al. (2009) reported that the RPQ is a “reliable, brief, and easy-to-administer self-report instrument that could be used in nonclinical settings (e.g., schools)…It could also be a useful tool to evaluate the motivational features that lie behind the aggressive acts” (p. 134). The psychometric properties have not yet been determined for the RPQ-C; however, the administration of the RPQ reports high internal consistency, with .86 for proactive regression, .84 for reactive aggression, and .90 for total aggression (Fung, Raine, & Gao, 2009). The proactive-reactive scales on the RPQ yielded coefficient alphas of .74 and .78, respectively (Miller & Lynam, 2006). In relation to this study, the RPQ-C proved a reliable instrument, both with each of its subscales and for total aggression. With a Cronbach’s alpha of .82 for reactive aggression, .63 for proactive aggression, and .84 for total aggression, this instrument
demonstrated moderately high reliability. In the original validity study of the RPQ conducted by Raine et al. (2006), a confirmatory factor analysis demonstrated that all item-total correlations were .40 or greater.

Similar to the RPQ, the RPQ-C includes 23 statements on a Likert-type measure of 0 (never), 1 (sometimes), and 2 (always). No statements needed to be modified or altered to meet the needs of the children in the sample. An example of a statement on the RPQ-C is “How often have you yelled at others when they have annoyed you?” Among the 23 statements included on the RPQ-C, 12 of them are categorized as proactive aggression, whereas the remaining 11 are categorized as reactive aggression. The scores of 0, 1, or 2 for the 12 proactive aggression items are summated for the proactive aggression scale. Similarly, scores of 0, 1, or 2 for the 11 reactive aggression items are summated for the reactive aggression scale. According to the scoring directions listed on the RPQ-C instrument, “Proactive and reactive scale scores are summated to obtain total aggression scores” (p. 1). For the purpose of this study, calculating the total aggression score is not necessary.

Each instrument was retyped into an online survey format using Google Docs. In addition to completing each instrument, students were asked to reveal their grade, age, and gender.

**Procedure**

A request to recruit a sample of fourth and fifth graders from a school district in southwestern Pennsylvania was submitted through the district’s superintendent to the school board. I was notified in writing that the proposed study with children in grades 4 and 5 had been approved (see Appendix D) under the conditions described in the parent
permission form (see Appendix E). These conditions included procedures for the study, safeguarding the rights of children and their parents, as well as confidentiality. Once my dissertation committee had approved the research proposal, I submitted the documents necessary for obtaining approval from Duquesne University’s Institutional Review Board (IRB). Upon approval from Duquesne University’s IRB, I sent parental permission forms to the children’s homes. Once they were completed, signed, and returned to the school, I coordinated a schedule with the building administrator and computer teacher to establish dates and times within a 1-week period to administer the online self-report questionnaire in the fall semester.

Fourth- and fifth-grade homeroom teachers initially announced to the children that, if permitted and interested, they would be able to answer some questions on the computer to help adults better understand their thoughts and feelings about how they interact with their classmates. Homeroom teachers distributed the parental permission forms to the children and explained to the children that if they were interested in participating in this research by answering some questions on the computer, they needed to have their parents’ permission. The homeroom teachers then explained the parental permission form and reviewed it with the children, emphasizing that the permission forms needed to be returned within 1 week. Any children who obtained their parents’ permission, received their parents’ signature on the form, and returned their signed permission form within 1 week would be eligible to participate in the study. If they did not have a signed parent permission form, they would participate in an alternative educational activity. Homeroom teachers were encouraged to inform me of any questions from the children regarding the parental permission form and their participation in this
study. The school district staff responsible for morning announcements, as well as staff who monitor lunch periods, provided daily reminders to the children to have their parents sign and return the permission slip.

After the 1-week deadline, I generated a list of the children whose parents had signed and returned the parental permission form, as well as a list of children whose parents had not done so. Homeroom teachers distributed a second set of parent permission slips to those children who had not returned them as a reminder to the parents that if they were willing to allow their child to participate, they needed to sign and return the permission slip by the end of the following week. Homeroom teachers also reminded the children that if their parents had any specific questions regarding the study, they could contact me at the school. After the 1-week extension to the deadline, I produced a final list of children in fourth and fifth grade who were permitted to participate in the study. A total of 275 signed parent permission forms were collected.

Considering the population intended for the study (children under the age of 18), I needed to receive parental permission and child assent. Children who had obtained parental permission went to the computer lab at a designated time. Of the children who had obtained parental permission, no more than 25 children at a time went to the computer lab during a scheduled computer class to provide assent and complete the online questionnaire. The child assent form (see Appendix E) was posted on the Smart Board, and a school district staff member read aloud the child assent form (as children followed along silently) to ensure understanding. This staff member was the school counselor intern, who did not have daily academic interactions with the children. To lessen any effects of coercion, I was not physically present while the school counselor
intern read aloud the assent form. In the event a question or concern was presented that
the counselor intern needed to reference, I was available for consultation in an adjacent
room. The school counselor intern did not need to consult with me on any questions from
the children.

The school counselor intern emphasized the definition of confidentiality to the
students by explaining it as “keeping information private” and assuring them that their
responses would not be recorded along with their name or any other identifying
information so that no one would know how they responded. After reading aloud the
child assent form, all children were asked to go to the school counselor’s website and
click on the link titled BIS Online Questionnaire. Students were asked to click the link
but to wait until all students were ready to continue. Students followed along as the
school counselor intern read the following sentences aloud:

I listened while the child assent form was read aloud, and I understand what I am
being asked to do. I understand that no one will know how I responded to each
statement. I also understand that I can stop answering questions on the survey at
any time for any reason. I understand I can ask Mrs. Gordon any questions while I
am responding to statements on the computer. By clicking the tab, “I agree,” I
agree to volunteer and answer questions online. By clicking the tab, “I disagree,” I
do not want to volunteer and will not answer questions online.

Eighteen children in fourth grade did not give assent to participate in the study and four
children in fifth grade did not give assent to participate. The 22 children who chose to
click “I disagree” returned to their homeroom class where they participated in an
alternative educational activity monitored by their homeroom teacher. The 239 children
(14 children were absent for the initial participation) who chose to click “I agree” remained in their seats while the computer connected them to the online questionnaire. Students were provided the option of placing folders on either side of their computer station to serve as “blockers” if they believed that doing so would make them feel more comfortable with responding to the online statements. Because of the children’s special learning styles, one fifth-grade child and three fourth-grade children had a paraprofessional sitting with them as they responded to the online questionnaire. Having the paraprofessional present enabled these four children to work at a more comfortable pace because the paraprofessional was able to reread the statements and questions.

Six fourth-grade and eight fifth-grade children were absent on the first day their classes went to the computer lab to complete the online questionnaire. Within one week of the first day their classes went to the computer lab, the 14 children were given another opportunity to participate. The procedure outlined in this section was used with these 14 children as well. Twelve out of the 14 children provided assent to participate in the study, which created a total of 251 participants for this study. Two of the fourth-grade children who had received parental permission to participate were absent for an extended period of time. As a result, they did not have the opportunity to participate in the study.

I read aloud all statements and questions in the online questionnaire to ensure understanding. I reviewed the meanings of “strongly agree” versus “strongly disagree.” Although modifications were made to some of the statements and a child version of the questionnaire was used, some children still had difficulty understanding the meanings of several of the words and phrases. For example, on the BES, two statements required an additional explanation: Statement #1, “My friend’s feelings don’t affect me much,” and
Statement #13, “Seeing a person who has been angered has no effect on my feelings.” Likewise, on the RPQ-C, two questions required an additional explanation: Question #25: “How often have you had fights with others to show who was on top?” and Question #35, “How often have you used physical force to get others to do what you want?”

Variables

Cognitive and affective empathy were the independent variables (predictor variables) used in the study. Proactive and reactive aggression were the dependent variables (criterion variables) used in the study. Cognitive and affective empathy were measured by the statements on the Basic Empathy Scale. Proactive aggression and reactive aggression were measured by statements on the Reactive-Proactive Aggression Questionnaire-Child. Grade, age, and gender were additional variables used in the study. The scores from the BES and the RPQ-C are interval scores that were derived from Likert scale rankings of 1-5 (strongly disagree to strongly agree) on the BES and 0-2 (never to always) on the RPQ-C. The children’s grade level was measured on an ordinal scale; age was measured on a ratio scale, and gender was measured on a nominal scale: Grade = 4 or 5; age = 8, 9, 10, 11, or 12; female = 1, male = 2. This raw data was coded numerically in the Statistical Package for the Social Sciences 21.0 (SPSS 21.0) before any of the statistical analyses were conducted.

Data Analysis

Before conducting the main analyses to answer the research questions, I obtained descriptive statistics: specifically, the means, standard deviations, and frequencies. Descriptive statistics were used to report the percentage of male and female children, as well as the percentage of fourth- and fifth-grade children who participated in the study.
Descriptive statistics were also used to report the mean age of the children who participated in the study. Additionally, the data was organized to calculate the frequency distribution to create the high and low levels of cognitive and affective empathy. All tests in this study were conducted at the 0.05 alpha level because this is a commonly used measure in the behavioral sciences (Cohen, Cohen, West, & Aiken, 2003).

The first goal of this research was to determine if cognitive and affective empathy were predictors for proactive and reactive aggression in a sample group of 251 children in grades 4 and 5. The purpose of the self-report instruments that measured cognitive and affective empathy, as well as proactive and reactive aggression, was to show if there was a predictive relationship between empathy and aggression. A Pearson correlation was used to determine the strength and direction of the relationship between empathy and aggression.

A second goal of this research was to determine if there were any differences in empathy among children who use proactive and reactive aggression. Using the SPSS 21.0, the scores on the cognitive empathy subscale and affective empathy subscale were categorized as high and low levels. This approach enabled a more intricate examination of children who self-reported higher levels of cognitive and affective empathy versus children who self-reported lower levels of cognitive and affective empathy, and their respective uses of proactive and reactive aggression. To conduct this part of the study, a two-way ANOVA was used to examine the differences between the two factors (two independent variables), cognitive and affective empathy (Gravetter & Wallnau, 2009).
**Power Analysis**

According to Stevens (2009), “For social science research, about 15 subjects per predictor are needed for a reliable equation” (p. 71). Given the 251 children in this sample, far higher than 15 participants per predictor, the effect size was not compromised. In statistical tests, power is defined as “the probability that the test will correctly reject a false null hypothesis” (Gravetter & Wallnau, 2009, p. 265). Cohen et al. (2003) have explained power analysis as the “probability of rejecting a null hypothesis that is false to a specified degree for a given sample size, Type I error rate, and effect size” (p. 678).

**Research Questions**

**Multiple regression.** One of the statistical procedures used in this study was multiple regression because it sought to investigate the relationship between more than one independent variable (two types of empathy) and more than one dependent variable (two types of aggression). Thus, the goal of the multiple regression analysis was to create the most “accurate estimated values for Y” (Gravetter & Wallnau, 2009, p. 581). In this case, Y represented the dependent variables, proactive and reactive aggression. Once the Y values were determined, the F-ratio was calculated “to determine whether the equation predicts a significant portion of the variance for the Y scores” (Gravetter & Wallnau, 2009, p. 585).

One advantage of the multiple regression technique is that “it allows some scores to compensate for other scores” (Erford, 2013, p. 162). Another useful aspect of multiple regression is that it “examines the incremental as well as total explanatory power of many variables” (Hair, et al., 1987, as cited in Heppner, Wampold, & Kivlighan, 2008, p. 249).
Essentially, multiple regression helps to reduce unexplained variance. The SPSS 21.0 was selected to use for this study because it is equipped to do multiple regression analyses, among others, and because it is well-documented since its inception over two decades ago (Cohen et al., 2003; Stevens, 2009).

Multiple regression was used to test the proposed hypotheses 1 and 2, which are listed as follows:

H1: Children’s self-reported cognitive empathy and affective empathy are predictive of proactive aggression.

H2: Children’s self-reported cognitive empathy and affective empathy are predictive of reactive aggression.

**Test for statistical assumptions.** An analysis was conducted to determine any violations of assumptions for the multiple regression design. According to Green and Salkind (2011, p. 288), the two assumptions for multiple regression are as follows:

1.) The variables are multivariately normally distributed in the population.

2.) The cases represent a random sample from the population, and the scores on variables are independent of other scores on the same variables.

The first assumption, multivariate normal distribution, is satisfied. The variables in this multiple regression study are normally distributed in the population. Stevens (2009) suggested verifying the normality assumption by scrutinizing a histogram. When the first analysis was run with proactive aggression, two outlier scores were observed in the histogram, which initially affected the normality of the distribution of scores. As a result, the two outlier scores were removed from the analyses to create a more normal
distribution. The analysis that was conducted for reactive aggression did not have any identifiable outlier scores. The distribution of scores was normal, as noted by the histogram.

Regarding the second assumption for multiple regression, the sample of fourth- and fifth-grade children in the study was not a random sample. Therefore, that part of the second assumption has been violated. It will be recommended that further research studies analyzing empathy as predictors of aggression target a random sample of children. The second assumption also refers to the independence of scores, which implies that the variables are independent of one another. If independence is violated, it could increase the likelihood of a type I error (Stevens, 2009). The \( p \) values that originate from the F-test will be inaccurate if the independence assumption is violated (Green & Salkind, 2011). Green and Salkind recommend determining if nonlinear relationships exist between each of the predictor variables and criterion variables by examining a scatterplot. Scatterplots for both proactive and reactive aggression were created in SPSS 21.0 and reviewed, and nonlinear relationships do not exist. Therefore, the independence assumption was not violated.

Since each dependent variable was examined separately (two separate dependent variables), two separate analyses were conducted. The subscale scores of the proactive aggression subscale data and the reactive aggression subscale data were transformed to mean scores for purposes of easier interpretation. After the proactive aggression subscale data visually displayed in the histogram and the scatterplot had been reviewed, it was evident that the proactive aggression subscale data had been skewed. To ensure that these outlier scores (subscale scores of 16 and 24) did not affect any of the violations of
assumptions, I deleted these two scores from the study. A review of the reactive aggression subscale data visually displayed in the histogram and the scatterplot showed that the reactive aggression subscale data had not been skewed. Therefore, no reactive aggression subscale scores were deleted from the study.

One aspect of multiple regression analyses requiring awareness is the correlation that may exist between the independent variables. Generally, the more highly correlated the independent variables are, the less likely it is that each independent variable will uniquely explain the dependent variable. In this study, the independent variables, cognitive and affective empathy constructs, have been demonstrated to be “interrelated, but distinct” (Albiero et al., 2008, p. 401). I conducted a Pearson correlation on the two independent variables, cognitive and affective empathy, and it showed that they are not correlated. Although previous studies have found that cognitive and affective empathy are not highly intercorrelated, issues relating to multicollinearity may remain. Multicollinearity increases the variances of the regression coefficients and tends to decrease power in regression, which makes the prediction equation questionable (Stevens, 2009).

**Pearson correlation.** The Pearson correlation coefficient establishes the strength of the linear relationship between two variables (Cronk, 2008). The Pearson correlation “measures the degree and direction of linear relationship between two variables” (Gravetter & Wallnau, 2009, p. 525). As a result, this study also used the Pearson correlation analyses because it helped to determine the strength and direction of the relationships that exist between cognitive and affective empathy, and proactive and
reactive aggression. The Pearson correlation is the most common correlation used in statistical analyses (Gravetter & Wallnau, 2009).

**Two-way ANOVA.** Another statistical procedure used in this study was a two-way ANOVA for investigating the mean differences between the two factors and the dependent variables, proactive and reactive aggression (Gravetter & Wallnau, 2009). With regard to this study, the two independent variables or factors were cognitive and affective empathy. According to Gravetter and Wallnau, the goal of the two-way ANOVA is to “evaluate the mean differences that may be produced by either of these factors independently or by the two factors acting together” (p. 480). Each dependent variable, proactive and reactive aggression, was analyzed with the two factors.

One advantage of the two-way ANOVA technique is that it provides researchers with an opportunity to analyze the combined effect of the independent variables on the dependent variables (Stevens, 2009). Gravetter and Wallnau (2009) stated, “The real advantage of combining two factors within the same study is the ability to examine the unique effects caused by an interaction” (p. 482). In this study, I was able to determine if there are any significant interactions between cognitive and affective empathy, and proactive and reactive aggression. A second advantage of using a two-way ANOVA is “that it can lead to more powerful tests by reducing error variance” (Stevens, 2009, p. 273). Similar to the multiple regression analyses, SPSS 21.0 was used to conduct the two-way ANOVA and interpret the data.

A two-way ANOVA was used to test the proposed hypothesis, which is listed as follows:
H1: There are differences in cognitive and affective empathy between children who use proactive and reactive aggression.

The data were organized to calculate the frequency distribution to create high and low levels of cognitive and affective empathy. Scores derived from the BES were Likert scale rankings of 1-5 (strongly disagree to strongly agree). These scores were totaled for a cognitive empathy subscale and an affective empathy subscale, and they were converted into total mean scores so that they could be interpreted more easily. The total subscale scores for affective empathy were transformed and recoded into different variables. Median scores between 1.18 and 3.36, which constituted “low,” were coded with a 1. Median scores that ranged from 3.45 through 5.00 constituted “high” and were coded with a 2. As with affective empathy, the total subscale scores for cognitive empathy were transformed and recoded into different variables. Median scores between 1.78 and 3.78 represented “low” and were coded with a 1. Median scores that ranged from 3.89 through 5.00 represented “high” and were coded with a 2.

**Test for statistical assumptions.** An analysis was conducted to determine any violations of assumptions for the two-way ANOVA design. According to Green and Salkind (2011, p. 194), the three assumptions for a two-way ANOVA are as follows:

1. The dependent variable is normally distributed.
2. The population variances of the dependent variable are equal.
3. The cases represent a random sample from the population, and the scores on the dependent variable are independent of each other.

The first assumption, normal distribution, is satisfied. Green and Salkind (2011) reported that with moderate larger sample sizes (15 cases per group), a two-way ANOVA
typically produces accurate $p$ values. With a total of 251 participants, this assumption has been adequately addressed. The second assumption, equal population variances, is also satisfied. The Levene’s Test assessed the equality of the variance of the population sample in this study (Green & Salkind, 2011).

Regarding the third assumption for a two-way ANOVA, the sample of fourth- and fifth-grade children in the study was not a random sample. Therefore, that part of the third assumption has been violated, and further research studies that analyze differences in levels of empathy should target a random sample of children. The third assumption also refers to the independence of scores. The independence assumption states that the scores of individual children are independent of each other; therefore, no child who completed the survey was influenced by other children. There was no collaboration among the children as they completed the survey.

**Delimitations**

In statistical research, delimitations are described as “parameters that the researcher chooses to place on the study” (Heppner & Heppner, 2004, p. 48). For purposes of this study, several delimitations need to be addressed. The first is the sample; because it was a sample of convenience, the internal validity of the study is lessened (Heppner et al., 2008). A second delimitation was the use of self-report questionnaires. Such questionnaires are a favorable method for collecting data on children (Garton & Gringart, 2005); however, a disadvantage inherent in self-reports is that they are open to distortions, reflecting a response bias (Heppner et al., 2008). Given that this study involved middle elementary-aged children in a school setting, it is reasonable to assume that some children might choose to answer questions based upon what they think the
adults would perceive as socially acceptable (Lovett & Sheffield, 2007; Pelligrini & Bartini, 2000). The researcher attempted to mitigate this effect by having the school counselor intern read aloud the child assent form, stressing the notion of confidentiality and explaining thoroughly that their answers would not be seen by any adult or student in the building. Finally, it is significant to note that this study did not involve multiple measures, such as observations, peer nominations, teacher reports, or parent reports. Using multiple informants would heighten the reliability of the study while decreasing social desirability and the possibility of any bias (Warden & Mackinnon, 2003). This study involved the use of only two instruments, each instrument measuring different constructs. According to Heppner et al. (2008), “A single scale or instrument will almost always poorly represent a construct” (p. 330).

Summary

This chapter has provided an outline of the researcher’s preparation for conducting the quantitative study involving children in a school setting. The following sections were highlighted to validate how cognitive and affective empathy would be examined as predictors of proactive and reactive aggression: research design, research question and hypotheses, sample, instrumentation, procedure, data analysis, and delimitations.

Two research questions and a total of three hypotheses were presented. The sample selection was discussed along with the procedure for how the participants (children in the school) would complete the questionnaires. The two instruments used in the study, the Basic Empathy Scale and the Reactive-Proactive Aggression Questionnaire-Child, were described. The statistical techniques, multiple regression,
Pearson correlation, and two-way ANOVA, were explained and discussed for purposes of this study. Finally, delimitations concerning multiple regression and ANOVA and its application to this study were also discussed.
CHAPTER 4: RESULTS

Learn from yesterday, live for today, hope for tomorrow. The important thing is not to stop questioning. ~Albert Einstein

The purpose of this study was to determine if cognitive and affective empathy can be predictors of proactive and reactive aggression in middle elementary-aged children. The study also compared children who use proactive aggression and those who use reactive aggression to determine if their levels of cognitive and affective empathy differed.

This chapter presents the results, as well as a summary of the statistical analyses. The findings are presented in narrative and tabular form.

Descriptive Analysis of Sample

The extant data sample represents 249 fourth and fifth grade children who participated in the study (251 children participated, but two sets of scores were removed as outlier scores). The participants completed the BIS Online Questionnaire, which included statements from the Basic Empathy Scale and the Reactive-Proactive Aggression Questionnaire-Child. The sample comprises 128 fourth-grade children and 121 fifth-grade children, of whom 98 were 9-year-olds, 131 were 10-year-olds, and 20 were 11-year-olds. There were 125 female and 124 male children who responded to the online questionnaire (see Table 3).
Table 3

Descriptive Analysis of Sample

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>4th</td>
<td>128</td>
<td>51.4</td>
</tr>
<tr>
<td>5th</td>
<td>121</td>
<td>48.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>98</td>
<td>39.4</td>
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<tr>
<td>10</td>
<td>131</td>
<td>52.6</td>
</tr>
<tr>
<td>11</td>
<td>20</td>
<td>8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>125</td>
<td>50.2</td>
</tr>
<tr>
<td>Male</td>
<td>124</td>
<td>49.8</td>
</tr>
</tbody>
</table>

Research Questions and Hypotheses

Two research questions and three hypotheses were proposed for examination in this study. The primary purpose of this research was to determine if cognitive and affective empathy were predictors of proactive and reactive aggression in middle elementary-aged children. The secondary focus of this research was to determine if there were differences in children’s use of proactive and reactive aggression when compared to their self-reports of high and low levels of cognitive and affective empathy. The first
research question and two hypotheses were analyzed using multiple regression and the Pearson correlation, while the second research question and one hypothesis were analyzed using a two-way ANOVA. SPSS 21.0 was used to analyze the results. All analyses in this study used a p < .05 level of significance.

**Research Question 1: Multiple Regression and Pearson Correlation**

Research Question #1: To what extent do cognitive empathy and affective empathy predict proactive and reactive aggression in children in grades 4 and 5, ages 9-11?

Two hypotheses were explored to establish the outcome of the first research question. Each hypothesis is stated below, followed by an explanation of the results.

H1: Children’s self-reported cognitive empathy and affective empathy are predictive of proactive aggression.

Multiple regression was used to determine if cognitive and affective empathy were predictors of proactive aggression. The results, $F(2, 246) = 2.704, p > .05, R^2$ of .014, indicate that cognitive and affective empathy were not significant predictors of proactive aggression (see Table 4).

A Pearson correlation was used to determine if a correlation existed between cognitive and affective empathy, and proactive aggression. If a correlation were to exist, I wanted to determine the strength and direction of the relationship. First, I examined cognitive empathy and proactive aggression, $r(247) = -.127, p < .05$. The results indicated a weak negative relationship between cognitive empathy and proactive aggression. Next, an examination of affective empathy and proactive aggression revealed no significant
relationship between affective empathy and proactive aggression, $r(247) = -0.121, p > .05$ (see Table 5).

Table 4

_Multiple Regression With Proactive Aggression_

| Model Summary<sup>b</sup> | | |
|---|---|---|---|---|---|---|---|---|---|
| R | R | Adjusted | Std. Error | Change Statistics | | | |
| Square | R Square | of the | R Square | F | df1 | df2 | Sig. F |
| | | Estimate | Change | Change | | | |
| .147<sup>a</sup> | .022 | .014 | .17338 | .022 | 2.704 | 2 | 246 | .069 |

a. Predictors: (Constant), CE1, AE1
b. Dependent Variable: PA1

Table 5

_Pearson Correlation with Proactive Aggression_

<table>
<thead>
<tr>
<th>Correlations</th>
<th>Cognitive Empathy</th>
<th>Proactive Aggression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson</td>
<td>1</td>
<td>-.127&lt;sup&gt;*&lt;/sup&gt;</td>
</tr>
<tr>
<td>Cog Emp Correlation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.046</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>249</td>
<td>249</td>
</tr>
<tr>
<td>Pearson</td>
<td>-.127&lt;sup&gt;*&lt;/sup&gt;</td>
<td>1</td>
</tr>
<tr>
<td>Pro Agg Correlation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.046</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>249</td>
<td>249</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level (2-tailed).

<table>
<thead>
<tr>
<th>Correlations</th>
<th>Proactive Aggression</th>
<th>Affective Empathy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pro Agg Pearson Correlation</td>
<td>1</td>
<td>-.121</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.056</td>
</tr>
</tbody>
</table>
H2: Children’s self-reported cognitive empathy and affective empathy are predictive of reactive aggression.

Multiple regression was used to determine if cognitive and affective empathy are predictors of reactive aggression, $F(2, 246) = 3.215, p < .05, R^2$ of .018. Therefore, cognitive and affective empathy were found to be significant predictors of reactive aggression. Based upon the adjusted R square value, approximately 1.8% of the variance in reactive aggression is accounted for by cognitive and affective empathy (see Table 6).

A Pearson correlation was conducted to determine if a correlation existed between cognitive and affective empathy and reactive aggression. Similar to the previous findings where cognitive empathy was negatively correlated to proactive aggression, there was also a weak negative relationship between cognitive empathy and reactive aggression, $r(247) = -.139, p < .05$, and between affective empathy and reactive aggression, $r(247) = -.130, p < .05$ (see Table 7).

Table 6

*Multiple Regression With Reactive Aggression*

<table>
<thead>
<tr>
<th>Model Summary $^b$</th>
</tr>
</thead>
<tbody>
<tr>
<td>R Square</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>.160$^a$</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), CE1, AE1
b. Dependent Variable: RA1
Table 7

*Pearson Correlation with Reactive Aggression*

<table>
<thead>
<tr>
<th></th>
<th>Reactive Aggression</th>
<th>Cognitive Empathy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson</td>
<td>1</td>
<td>-.139*</td>
</tr>
<tr>
<td>Reac</td>
<td>Correlation</td>
<td></td>
</tr>
<tr>
<td>Agg</td>
<td>Sig. (2-tailed)</td>
<td>.028</td>
</tr>
<tr>
<td>N</td>
<td>249</td>
<td>249</td>
</tr>
<tr>
<td>Pearson</td>
<td>-.139*</td>
<td>1</td>
</tr>
<tr>
<td>Cogn</td>
<td>Correlation</td>
<td></td>
</tr>
<tr>
<td>Emp</td>
<td>Sig. (2-tailed)</td>
<td>.028</td>
</tr>
<tr>
<td>N</td>
<td>249</td>
<td>249</td>
</tr>
</tbody>
</table>

*. Correlation is significant at the 0.05 level (2-tailed).

<table>
<thead>
<tr>
<th></th>
<th>Affective Empathy</th>
<th>Reactive Aggression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson</td>
<td>1</td>
<td>-.130*</td>
</tr>
<tr>
<td>Aff</td>
<td>Correlation</td>
<td></td>
</tr>
<tr>
<td>Emp</td>
<td>Sig. (2-tailed)</td>
<td>.040</td>
</tr>
<tr>
<td>N</td>
<td>249</td>
<td>249</td>
</tr>
<tr>
<td>Pearson</td>
<td>-.130*</td>
<td>1</td>
</tr>
<tr>
<td>Reac</td>
<td>Correlation</td>
<td></td>
</tr>
<tr>
<td>Agg</td>
<td>Sig. (2-tailed)</td>
<td>.040</td>
</tr>
<tr>
<td>N</td>
<td>249</td>
<td>249</td>
</tr>
</tbody>
</table>

*. Correlation is significant at the 0.05 level (2-tailed).
Research Question 2: Two Way ANOVA

A two-way ANOVA was used to analyze the second research question and one hypothesis of this study. As in the first research question, the analyses in this study used a $p < .05$ level of significance.

Research Question #2: Do levels of cognitive and affective empathy differ between children who use proactive and reactive aggression? One hypothesis was explored to address the outcome of the second research question.

H1: There are differences in cognitive and affective empathy between children who use proactive and those who use reactive aggression.

The main effect for affective empathy and proactive aggression as indicated by the results, $F(1, 245) = 1.099, p > .05$, was not significant. The main effect for cognitive empathy and proactive aggression was also not significant with $F(1, 245) = 0.377, p > .05$. There was no interaction effect (interaction between cognitive and affective empathy on proactive aggression). The observed power of the interaction between cognitive and affective empathy and proactive aggression was .128, which suggests weak power.

The main effect for affective empathy and reactive aggression as indicated by the results, $F(1, 245) = 1.814, p > .05$, was not significant. The main effect for cognitive empathy and reactive aggression was not significant, with results of $F(1, 245) = 2.485, p > .05$. There was no interaction effect. The observed power of the interaction of cognitive and affective empathy and reactive aggression was .071, which also suggests weak power (see Tables 8 and 9).
Table 8

Summary of Two-Way ANOVA with Proactive Aggression

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Observed Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affective empathy</td>
<td>0.034</td>
<td>1</td>
<td>0.034</td>
<td>1.099</td>
<td>0.295</td>
<td>0.181</td>
</tr>
<tr>
<td>Cognitive empathy</td>
<td>0.011</td>
<td>1</td>
<td>0.011</td>
<td>0.377</td>
<td>0.54</td>
<td>0.094</td>
</tr>
<tr>
<td>Aff Emp * Cog Emp</td>
<td>0.02</td>
<td>1</td>
<td>0.02</td>
<td>0.664</td>
<td>0.416</td>
<td>0.128</td>
</tr>
</tbody>
</table>

Note: p < 0.05

Table 9

Summary of Two-Way ANOVA with Reactive Aggression

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Observed Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affective empathy</td>
<td>0.267</td>
<td>1</td>
<td>0.267</td>
<td>1.814</td>
<td>0.179</td>
<td>0.269</td>
</tr>
<tr>
<td>Cognitive empathy</td>
<td>0.365</td>
<td>1</td>
<td>0.365</td>
<td>2.485</td>
<td>0.116</td>
<td>0.349</td>
</tr>
<tr>
<td>Aff Emp * Cog Emp</td>
<td>0.027</td>
<td>1</td>
<td>0.027</td>
<td>0.18</td>
<td>0.672</td>
<td>0.071</td>
</tr>
</tbody>
</table>

Note: p < 0.05

Summary

The results of the multiple regression suggested that cognitive and affective empathy were significant predictors of reactive aggression but not of proactive aggression. The Pearson correlation suggested that there was not a significant relationship between affective empathy and proactive aggression. There was, however, a weak negative relationship between cognitive empathy and proactive aggression. Similarly, the Pearson correlation suggested a weak, negative relationship between affective empathy
and reactive aggression, as well as between cognitive empathy and reactive aggression. The two-way ANOVA indicated there were no differences in levels of cognitive and affective empathy between children who self-reported high and low levels of proactive and reactive aggression.
CHAPTER 5: DISCUSSION

We cannot always build the future for our youth, but we can build the youth for our future. ~Franklin D. Roosevelt

This chapter offers a discussion of the results of this study and develops conclusions drawn from the data analysis. Provided also is a discussion of some of the limitations related to the sample and the methodology used in the study, as well as implications for practice and recommendations for future research.

Summary of the Study

The primary focus of this research was to determine if cognitive and affective empathy were predictors of proactive and reactive aggression in middle elementary-aged children. An additional focus of this research was to determine if there were differences in children’s use of proactive and reactive aggression when compared to their self-reports of high and low levels of cognitive and affective empathy.

The implications for practice and recommendations for future research are based on the results obtained from the statistical analyses of the data obtained from the participants who responded to an online self-report questionnaire. The age and developmental maturity of the participants, the low statistical power, as well as the use of online self-reports presented the greatest challenges to generalizing the results of this study to the larger population.

Major Findings

Research Question #1

To what extent do cognitive empathy and affective empathy predict proactive and reactive aggression in children in grades 4 and 5, ages 9–11?
Whereas cognitive and affective empathy were not significant predictors of proactive aggression, they were found to be significant predictors of reactive aggression. These results indicated that measures of empathy in middle elementary-aged children may not aid in predicting whether they would be proactively aggressive but may be helpful in identifying children who are reactively aggressive. This result would imply that children’s ability to understand that other children have feelings and to experience others’ feelings is predictive of children’s use of reactive aggression, which is rooted in perceived hostility and frustration (Dollard, Doob, Miller, Mowrer, & Sears, 1939; Berkowitz, 1989). Although significance was found with reactive aggression, the variance was extremely low.

The results of this study revealed no significant relationship between affective empathy and proactive aggression, implying that the level of affective empathy may not affect proactive aggression. Cognitive empathy, on the other hand, was discovered to have a weak, negative relationship with proactive aggression. This would imply that the more cognitive empathy children have, the less likely they would be to engage in proactive aggression. Since the relationship between cognitive empathy and proactive aggression was weak, this analysis needs to be viewed with caution when considering implications for practice. It is possible that for middle elementary-aged children, cognitive empathy may not help to predict children’s use of proactive aggression. However, since some relationship appears to exist between the two constructs, it may be important to consider children’s cognitive empathy as relative to their use of proactive aggression. It is also essential to conduct further research to examine this relationship in
order to determine its relevance for practical interventions with middle elementary-aged children.

The relationships between both cognitive and affective empathy and reactive aggression were found to be similar to the relationship between cognitive empathy and proactive aggression. A weak, negative relationship was discovered between cognitive and affective empathy and reactive aggression. This would imply that the more cognitive and affective empathy children have, the less likely they are to engage in reactive aggression. As stated earlier, given the weak relationship, in addition to the low variance in the predictive study with cognitive and affective empathy and reactive aggression, these results should also be used carefully.

**Discussion.** Consistent with the findings in this current study, many past research studies have reported negative relationships between empathy and aggression (Miller & Eisenberg, 1988; De Kemp, Overbeek, de Wied, Engels, & Scholte, 2007). Depending upon age, gender, and method of measurement, Miller and Eisenberg (1988) discovered a low to moderate negative correlation between empathy and aggression. The literature is inconsistent concerning the relationship between proactive aggression and cognitive empathy. Some studies (Dautenhahn & Woods, 2003; Sutton et al., 1999; Caravita, Di Blasio, & Salmivalli, 2009) have found a positive association between cognitive empathy and proactive aggression, while Mayberry and Espelage (2007) found a negative association between proactive aggression and cognitive empathy. De Kemp, Overbeek, de Wied, Engels, and Scholte (2007) found negative associations between affective empathy and antisocial behavior, the latter having been previously linked with children who use proactive aggression. For example, Fite et al. (2009a) found that proactive
aggression was related to antisocial behavior and callous unemotional traits. However, with regard to the present study, affective empathy was not correlated with proactive aggression.

Previous studies have reported that a negative relationship between aggression and empathy does not develop until later in childhood (MacQuiddy et al., 1987; Zahn-Waxler, Cole, Welsh, & Fox, 1995). Hastings et al. (2000) suggested that the negative relationship between aggression and empathy does not begin to appear in children until about age 6. The average age of the participants in this study was 9.69, which implies that the children who participated in the current study should be able to demonstrate this negative relationship. Based on the results of this correlation study, middle elementary-aged children who displayed more empathy were less likely to engage in aggressive acts.

The results of the present study suggest a weak, negative association between cognitive and affective empathy and reactive aggression, which seems to relate to findings in previous literature (Crick & Dodge, 1994; Yeo, Ang, Loh, & Fu, 2011). The present study implies that the less cognitive and affective empathy children have, the more likely they are to use reactive aggression toward others. Reactive aggression has been connected with peer rejection, impulsivity, and the likelihood of perceiving hostility in social situations (Little et al., 2003). If children are able to understand that other children have feelings (high cognitive empathy) and are able to “feel for them” (high affective empathy), then it makes sense that these children might use less reactive aggression and experience less peer rejection. Crick and Dodge’s (1994) SIP model lends support to these current findings. Their model suggests that individuals who withhold hostile attributions engage in more aggressive behaviors. As it relates to the findings of
this study, if children are not able to adopt the perspective of others (i.e., if they have low cognitive empathy), they may create inaccurate attributions about other children’s behaviors and engage in reactive aggression (Yeo, Ang, Loh, & Fu, 2011).

The results of the present study also suggest a weak, negative association between cognitive empathy and proactive aggression. These findings imply that the less cognitive empathy children have, the more likely they are to use proactive aggression toward others. Proactive aggression is described as “goal oriented, calculated aggression motivated by external reward” (Fite & Vitulano, 2011, p. 11). Proactive aggression has been related to delinquency, criminality, and social withdrawal (Little et al., 2003). If children are not able to understand that other children have feelings (low cognitive empathy), it would appear that these children may experience less social acceptance because they exhibit more proactive aggression. This negative association between cognitive empathy and proactive aggression supports findings by Roberts and Strayer (1996), who found that children with good skills in understanding others’ emotions and thoughts (high cognitive empathy) tend to be more prosocial and thus less aggressive. The findings of the present study indicate that children who display high cognitive empathy may use less proactive aggression.

The negative relationship between cognitive empathy and proactive aggression found in the present study was somewhat surprising because it would seem that children with high levels of cognitive empathy might be more inclined to use proactive aggression (Dautenhahn & Woods, 2003, Sutton et al., 1999; Caravita, Di Blasio, & Salmivalli, 2009). This hypothesis has been supported by a previous study, which demonstrated that those with high levels of cognitive empathy are more easily able to manipulate others and
to be calculating (Dautenhahn & Woods, 2003). Dautenhahn and Woods further argued that those with higher levels of cognitive empathy who engage in bullying behaviors (those who use aggression) are good at reading the minds of others, which lends itself to being able to manipulate others more easily while, at the same time, understanding the consequences of their actions. Caravita, Di Blasio, and Salmivalli (2009) discovered that both females and males with higher levels of cognitive empathy engaged in traditional bullying more than those who did not have high levels of cognitive empathy. Similarly, Sutton et al. (1999) revealed a positive relationship between cognitive empathy and bullying, thereby implying that those who bully have a superior “theory of mind skills” and are able to understand others’ emotions (Andreou, 2004).

Dadds et al. (2009) stated, “For children high in psychopathic traits, cognitive aspects of empathy may show a developmental lag because of deficits in the underlying affective motivation” (p. 603). Given the strong association with proactive aggressors and psychopathic traits (Raine et al., 2006), children who use proactive aggression may show lower levels of cognitive empathy because they lack the ability to share in others’ emotions. Barnett and Thompson (1985) conducted a study with fourth and fifth-grade children, and their findings suggested that a child who is acutely insightful about the feelings of others may tend to act in a manipulative way unless that insightfulness is mitigated with emotional sensitivity and compassion. Hoffman (1975) and Eslinger (1998) found that certain cognitive abilities, such as role-taking, may be vital if an empathic response is to occur; however, Barnett and Thompson (1985) discovered that the affective component of empathy may be an even more significant factor in eliciting an empathic response.
However, the present study revealed no relationship between affective empathy and proactive aggression. Based on the extant literature, affective empathy may serve as a mediator for cognitive empathy and children’s use of proactive aggression. The present study did not explore the possibility of mediating variables, but given this study’s findings, as well as those of Barnett and Thompson (1985), it may be beneficial to explore further the possible role affective empathy may play in children’s cognitive empathy and use of proactive aggression.

In this study, cognitive and affective empathy were predictors of reactive aggression, but they were not found to be predictors of proactive aggression. This may arise from the fact that when using self-report questionnaires, children may be less likely to indicate the use of proactive aggression for fear of what adults may think of their responses (Lovett & Sheffield, 2007; Pelligrini & Bartini, 2000). They may be more forthcoming about their use of reactive aggression, as some children may not perceive reactive aggression as inappropriate, but rather as a way to “stick up” for themselves. Children may also be less likely to indicate their use of proactive aggression because they do not perceive their behaviors as negative or inappropriate. Children who use aggression tend to report high levels of self-esteem (Salmivalli, Kaukianinen, Kaistaniem, & Lagerspetz, 1999), which could be an indicator of an inflated view of their superiority (Baumeister, Smart, & Boden, 1996). It may also be that some children who use aggression do not perceive their actions as inappropriate. Proactive aggressors tend to have higher levels of cognitive development (Dautenhahn & Woods, 2003; Caravita, Di Blasio, & Salmivalli, 2009), and although Hastings et al. (2000) suggested that the negative relationship between aggression and empathy appears around the age of 6, it is
It is possible that additional developmental factors relevant for the children in this study may have interfered with the results, as some children of this age may not yet have developed sophisticated cognitive abilities (Belacchi & Farina, 2012). Cognitive empathy develops with age as a more intentional component of empathy (Hodges & Wegner, 1997). In a study by Dadds et al. (2008) involving children and adolescents, the results suggested that cognitive empathy, as rated by parents, increased with age, but affective empathy did not. This study showed that cognitive and affective empathy were predictors of reactive aggression, but they were not predictors of proactive aggression.

While cognitive and affective empathy may not have resulted in predictors for both proactive and reactive aggression in this study, other studies (Belacchi & Farina, 2012; Kokkinos & Kipritsi, 2012) have demonstrated these constructs as predictors. Belacchi and Farina (2012) found that the affective component of empathy may predict prosocial behaviors. Given the outcome of the present study, Belacchi and Farina’s findings reiterate the significance of affective empathy and its role in children’s prosocial and reactively aggressive behaviors. Kokkinos and Kipritsi (2012) also discovered how low cognitive empathy predicts bullying, which has been defined as a form of aggression (Andershed, Kerr, & Stattin, 2001; Griffin & Gross, 2004; Salmivalli and Nieminen, 2002). Given the outcome of the present study, Kokkinos and Kipritsi’s findings have emphasized how cognitive empathy may play a role in children’s use of aggressive behaviors, particularly in their reactively-aggressive behaviors.

Research Question #2
Do levels of cognitive and affective empathy differ between children who use proactive and reactive aggression?

The study compared children who reported using proactive aggression with those who use reactive aggression to determine if their levels of cognitive and affective empathy differed. In this sample, there were no differences in the levels of cognitive and affective empathy between children who use proactive versus those who use reactive aggression. Therefore, based on these results, there were no differences in cognitive and affective empathy among children who use proactive and reactive aggression.

**Discussion.** Minimal research in the literature focuses specifically on determining whether the levels of cognitive and affective empathy differ between children who use proactive and reactive aggression. Since several studies have reported negative correlations between empathy and aggression (Feshbach & Feshbach, 1969; MacQuiddy et al., 1987; Miller & Eisenberg, 1988; Zahn-Waxler et al., 1995), it was reasonable to hypothesize that there would be differences in children’s levels of empathy and use of aggression. The use of proactive and reactive aggression between children with high levels of cognitive and affective empathy, and children with low levels of cognitive and affective empathy was hypothesized to be significantly different. However, with this targeted population of 9–11-year-old children who used a self-report questionnaire, there was no significant difference. One reason for the lack of significance may be the inconsistent relationships between empathy and aggression as explained in the literature. Some researchers (Feshbach & Fesbach, 1969; Caravita, DiBlasio, & Salmivalli, 2009; Sutton et al., 1999) have found positive associations between empathy and aggression, which could have influenced the results of this present study. The current study’s
findings are similar to those from a study conducted with adolescents by Mayberry and Espelage (2007); they found that proactively and reactively aggressive adolescents did not differ in emotional (affective) empathy or cognitive empathy. Based on the findings of Mayberry and Espelage and the present study, further research is needed to examine if levels of empathy differ among youth who use aggression.

**Limitations of the Study**

The current study has several limitations that should be considered when generalizing these findings. One limitation of this study is that the lack of statistical power interferes with identifying the potential presence of statistically significant differences. Another limitation is the research design: it does not allow us to infer causation because correlational statistics have little causal explanatory power. The present study does not employ an experimental design, nor is the sample random but rather a convenience sample of children 9 to 11 years old from a small, rural school in southwestern Pennsylvania.

Threats to both internal and external validity need to be considered when reporting the results of this study. Internal validity is the “confidence one can have in inferring a causal relationship among variables while simultaneously eliminating rival hypotheses” (Heppner et al., 2008, p. 90). In correlational research, internal validity means that changes in the value of the criterion variable are exclusively related to changes in the value of the predictor variable. Thus, one threat to the internal validity of this study is the selection of the sample of participants, which was a sample of convenience. Purposefully selecting a more varied sample would help lessen any chance that the results were based on this sample’s characteristics (Heppner et al., 2008).
Another threat to the internal validity is history, which “refers to an event that transpires during the time when the treatment is administered and may affect the observations” (Heppner et al., 2008, p. 93). Although this study did not involve any treatments, the online questionnaire was administered to children over a 2-week duration. During this time, the children who completed the questionnaire early could have discussed the questionnaire with children who were scheduled to complete it later. Some event (e.g., an interaction with a classmate that led a child to use aggression and to elicit disciplinary action from the principal) could also have occurred during the 2-week time that affected the way children responded to the statements on the online questionnaire.

There were also threats to external validity, which refers to the generalizability of the results of a study (Heppner et al., 2008)—that is, how well the results of this study can be generalized beyond the sample used. The present study used a restricted sample of convenience, employing only children in fourth and fifth grade from one school district who had parental permission and provided assent. Based upon the descriptive statistics of the school where the children attend (see Chapter 3 for more details), the participants reflect a constricted sample, which may not represent the population well.

Another limitation of this study results from the method of data collection. The children in the study responded to two self-report questionnaires. Using self-report questionnaires is a desirable method for collecting data on children (Garton & Gringart, 2005). However, a disadvantage inherent in self-reports is that they are open to distortions, reflecting a response bias (Heppner et al., 2008). Although some of the statements were modified (see Chapter 3 for more details) to better meet the developmental levels of the sample, the language and concepts used in the two
instruments may have been complicated for some of the children to understand. In addition, the instrument response requirements may have been confusing for some participants. Although children were reminded how to respond to the statements before they began the online questionnaire, some children would have benefitted from either responding to true/false statements or yes/no/sometimes statements. The RPQ-C has not been documented in previous studies, but other researchers have found the RPQ (upon which the RPQ-C is based) and the BES to be helpful in their studies (Cima, et al., 2013; Yeo, Ang, Loh, & Fu, 2011). Using only self-report data collection with children of 9 to 11 years of age may not have been an effective way to measure proactive and reactive aggression as well as cognitive and affective empathy. It might have been more useful to include multiple forms of data, reflecting the observations and input of teachers, parents, caregivers, and peers.

The use of technology also presented some challenges, which may have influenced some of the ways children responded to the online questionnaire. Having to rely on the Internet to access the Google doc survey, for example, posed some difficulties. In one instance, three children’s computers “froze” near the end of the questionnaire. The children waited approximately five minutes before the computer functioned properly. This “wait time” could have affected their feelings regarding the statements and how they answered. In addition, as the school counselor intern read aloud the assent form, two children’s computer screens malfunctioned. Although extra computers were available for the children to complete the assent form, these two children chose not to provide assent to the study and returned to their homerooms.
Fourth and fifth grade children were intentionally used in this study because of their chronological ages and their developmental levels. Additionally, this age group was targeted because not much previous research has been aimed at exploring this specific group. It was evident that the majority of the fourth grade children had more difficulty understanding the statements included in the self-report questionnaires. Overall, the fourth-grade children asked more questions about the meaning of words and phrases than did the fifth-grade children. Additionally, the fourth graders asked for the statements to be repeated more frequently than the fifth graders did. It may be that the fourth graders, in particular, and perhaps even some of the fifth graders, had not acquired the level of self-awareness necessary to respond to some of the statements on the questionnaire. The fourth-grade children also appeared more fatigued as they continued to respond to the online statements. Four of the children had paraprofessionals with them to assist them with understanding the statements on the questionnaire, as well as to help them stay focused and on-task. Thus, the paraprofessionals’ assistance might also have hindered the way some children responded to the statements. All of these data collection situations had the potential to threaten the validity of these results.

Implications for Practice

The results of this study provide implications for practice of professional counseling and education. These results will contribute to professional counselors’ and educators’ work as they consider opportunities to create differentiated interventions for children in elementary school. Universal interventions that target the entire school, as well as supplemental interventions specifically designed for those children who meet the
criteria for secondary and tertiary levels of intervention, can be informed from a careful examination of these findings (Barnett, VanDerHeyden, & Witt, 2007; Froiland, 2011).

Topcu and Erdur-Baker (2012) found that being less empathic than others puts a child at risk for engaging in bullying, which is a form of aggression (Andershed, Kerr, & Stattin, 2001; Griffin & Gross, 2004; Salmivalli & Nieminen, 2002). Low cognitive empathy was found to be a predictor of bullying (Kokkinos & Kipritsi, 2012), while high affective empathy was found to be a predictor of prosocial behavior (Belacchi & Farina, 2012). The affective component of empathy may play a critical role in eliciting an empathic response (Barnett & Thompson, 1995). Consequently, researchers have suggested emphasizing the affective component of empathy with school interventions in order to promote children’s prosocial behaviors. Given this study’s findings that cognitive and affective empathy are significant predictors of reactive aggression, it may be advantageous to incorporate universal interventions that promote empathy with the intention of reducing aggressive behaviors in elementary school.

Universal interventions could include school-wide programming that promotes empathy development and positive peer interaction. To date, no established school programs have been developed to specifically target cognitive and affective empathy and proactive and reactive aggression; however, some examples of school-wide programming relating to other matters have demonstrated positive effects. The Olweus Bullying Prevention Program (Limber, 2010), The Second Step Violence Prevention Program (Taub, 2001; Holsen, Smith, & Frey, 2008), and Promoting Alternative Thinking Strategies (PATHS) (Kelly, Longbottom, Potts, & Williamson, 2004) are three distinguished programs.
The Olweus Bullying Prevention Program is a comprehensive intervention aimed at reducing bullying (a form of aggression) while improving peer relationships. Limber (2010) found positive effects of the program on children’s involvement in bullying and antisocial behaviors. Given the negative relationship between antisocial behavior and affective empathy (De Kemp, Overbeek, de Wied, Engels, & Scholte, 2007), as well as the link between antisocial behavior and proactive aggression (Fite, Stoppelbein, & Greening, 2009a), the Olweus Bullying Prevention Program may help to systematically lessen the use of proactive aggression while increasing children’s affective empathy.

The Second Step Violence Prevention Program makes an effort to improve children’s social competence by developing skills in the areas of perspective taking, social problem solving, impulse control, and anger management (Taub, 2001). Holsen, Smith, and Frey (2008) found the Second Step program to have significant positive effects on fifth-grade children’s social competence. Increasing children’s perspective-taking skills could lead to higher levels of cognitive and affective empathy. Researchers have identified perspective-taking as a critical component to the development of prosocial behaviors (Ianotti, 1978; Kail, 2010). Gerdes et al. (2011) argued that cognitive processing of one’s affective response and the other’s perspective is a significant part to exhibiting empathy. Given that perspective-taking skills are integral components of the cognitive domain (Eslinger, 1998), the Second Step program may help to increase children’s cognitive empathy while decreasing proactive aggression. This would support the current study’s findings that cognitive empathy is negatively related to proactive aggression. Additionally, knowing that social competence is considered to be an indicator of positive adult adjustment (Mehaffey & Sandberg, 1992), the Second Step
program may help prevent youth from experiencing the cyclical nature of childhood aggressive behavior (See Figure 1).

The PATHS curriculum focuses on readiness and self-control, feelings and relationships, and problem-solving (Kelly et al., 2004). This curriculum has proven to have a positive effect on children’s emotional understanding (affective empathy), interpersonal skills, and behavior (Kelly et al., 2004). Reactive aggression has been linked with peer rejection and impulsivity (Little et al., 2003). With a focus on developing self-control, the PATHS curriculum could significantly help reduce children’s use of reactive aggression, and given the results of this study, that could also help to increase children’s use of cognitive and affective empathy.

In addition to universal interventions, small group counseling can be designed to meet the needs of children who require secondary and tertiary levels of intervention. It would behoove school counselors to work collectively with teachers to design an assessment tool that teachers could use to evaluate children’s empathy and aggression. This instrument could be useful in the early identification of children who may require secondary and tertiary levels of intervention. Stewart and McKay (1995) proposed group counseling as an effective method for teaching socially acceptable behaviors to children who display aggression and violence. Depending on the needs of the children, the small group counseling intervention may focus on improving self-regulation skills, which may be an essential facet of treatment (White, Jarrett, & Ollendick, 2013). Given that Vitaro, Brendgen, and Barker (2006, p. 15) described children who use reactive aggression as “defensive,” “hot-blooded,” “impulsive,” and “retaliatory,” such skills may be especially beneficial for children who use reactive aggression. With the results of this study, which
has demonstrated a relationship between reactive aggression and both cognitive and affective empathy, if self-regulation skills can help reduce reactive aggression, children may then develop more empathy over time. In addition to self-regulation skills, those involving perception, understanding, and regulation of emotions have been found to prevent the negative transactions that perpetuate the bullying process (Kerig, 2007). Additionally, incorporating the SIP model into small group counseling could help children to construct more accurate interpretations of social situations (Crick & Dodge, 1994), which could, in turn, minimize the likelihood of their reacting to social situations with their peers in a hostile manner. Given the positive relationship between children’s empathy and prosocial behaviors (Eisenberg & Miller, 1987; Roberts & Strayer, 1996), children who have more empathy may demonstrate more prosocial behaviors.

Another intervention could focus on increasing children’s opportunities to participate in physical activities. Fite and Vitulano (2011) found a negative correlation with physical activity and proactive aggression. They discovered that children who participated in more physical activities were associated with lower levels of proactive aggression. Specifically, these researchers suggested that proactively aggressive children may benefit from participating in physical activities, such as organized sport activities and/or aerobic or fitness programs in the school. Given that the present study found a negative relationship between cognitive empathy and proactive aggression, perhaps the physical education teacher or health teacher could collaborate with the school counselor to find innovative ways to infuse opportunities into the fitness program that would enable children to develop more cognitive empathy.
The findings of the current study could also be used to inform school districts’ decision-making processes regarding the development and implementation of disciplinary action and consequences for children who display aggression. Administrators typically adhere to specific procedures and protocols outlined in the discipline policy approved by the school board. These policies might include a referral to the office to meet with the principal, referral to meet with the school counselor, parent meeting, loss of privilege (i.e. loss of recess, loss of sitting with peers at lunch), removal from class (in-school suspension), and removal from school (out-of-school suspension). School district administrators may refer children to participation in small-group counseling with the school counselor, which could be a secondary or tertiary level of intervention. If it has not been approved by the school board, referring children for school counselor support, such as small group counseling, could be considered a consequence in the disciplinary code. Additionally, removing recess or any other type of physical activity may not be in the best interest of some children who use proactive aggression. While removing recess may be a consequence that seems to motivate some children to behave in more prosocial ways, school district administrators may want to review this consequence to ensure it is appropriate for each child. School counselors are in a unique position to share their expertise and to work closely with administrators to establish more effective consequences. The inclusion of disciplinary consequences should consider the findings of this study.

**Recommendations for Future Research**

This study provides direction for future exploration and research. To strengthen the design of the current study, multiple informants could be employed as a way to
increase the reliability of the study while lessening the possibility of bias (Warden & Mackinnon, 2003). Teachers’ observations and evaluations, parent or caregivers’ observations, as well as peer reports would be useful data to include and compare with the participants’ self-reports. Including the children’s self-reports with their caregivers’ perspectives would present a more comprehensive and rich description of the children’s behaviors (Bezdjian, 2011).

Using a more representative sample of fifth grade children, perhaps from other schools that represent more diverse cultural and geographic factors, would be a practical consideration. Whereas this study used children in one public school setting, including children from private school settings and other alternative educational placements might provide different perspectives on the relationship between empathy and aggression. Additionally, examining the interaction of demographic characteristics—such as race, gender, socioeconomic status, and different age or grade levels—in empathy’s ability to predict proactive and reactive aggression in children would be valuable for future studies.

Research has demonstrated that a significant number of children display only reactive aggression, but most children who display high rates of proactive aggression also display high rates of reactive aggression (Brown, Atkins, Osborne, & Milnamow, 1996; Dodge & Coie, 1987; Frick et al., 2003; Munoz, Frick, Kimonis, & Aucoin, 2008; Pitts, 1997). This study did not explore children who use both reactive and proactive aggression, but future studies may want to examine another subtype of aggression referred to as proactive/reactive aggression (Mayberry & Espelage, 2007) and determine its relationship with cognitive and affective empathy. Conducting such a study would enable researchers to scrutinize closely the motivations and functions that underlie
children’s use of both types of aggression, not just one or the other, and determine if levels of empathy differ with children who use both proactive and reactive aggression.

This study examined children’s levels of high and low cognitive empathy, and high and low affective empathy to determine if there were any differences with their use of aggression. An additional consideration for strengthening the current study would be to compare more categorical groups, such as comparing children with high levels of cognitive and low levels of affective empathy to determine if there are any differences in their use of proactive and reactive aggression. Comparing groups such as these could help facilitate a deeper understanding of the complex relationship between children’s empathy and aggression.

Similar to a study by Yeo, Ang, Loh, and Fu (2011), future studies could investigate the role of empathy with subgroups of aggressive behavior, such as physical, verbal, cyber, and relational aggression as they are displayed in acts of proactive and reactive aggression. Cyber aggression generally includes harmful actions perpetuated by various modes of electronic devices or technology (Sontag, Clemans, Graber, & Lyndon, 2011). As children continue to gain more access to a myriad of technological devices, cyber aggression presents a mounting and real concern. The increased use of cyber aggression means that youth now have to worry about being victimized 24 hours a day, 7 days a week, through social-media networking sites, texting, and email (Topcu & Erdur-Baker, 2012).

Another factor that may interact with a child’s development of empathy is his or her experiences of being a victim of aggression (Kokkinos & Kipritsi, 2012). Whereas this study examined children’s use of reactive and proactive aggression and its
association with cognitive and affective empathy, future studies may also want to explore children’s victimization in relation to reactive and proactive aggression. Few studies have examined this, but Malti, Perren, and Buchmann (2009) suggested that increases in victimization relate to decreases in empathy, which given the results of this study, may predict a potential increase in aggression. Thus, empathy, especially affective empathy (Kokkinos & Kipritsi, 2012) may be a critical component in children’s victimization experiences (Malti et al., 2010). Future studies could investigate the role of cognitive and affective empathy within children who are victimized by reactive and proactive aggressors to determine if their experiences increased their use of aggression.

Summary

This chapter presented a discussion of the basic findings and interpretations of the present study’s results. This chapter has also provided limitations to the present study and implications for future practice and research.

The school environment should be a safe and peaceful place where instruction and learning occur. Evidence suggests that a positive school climate contributes to children’s psychological health and academic success (Orpinas & Horne, 2006; Roeser & Eccles, 1998). In light of this study’s findings, it would behoove school counselors, educators, parents, and mental health professionals to continue their collaboration in order to implement the most comprehensive, developmentally appropriate preventive techniques and interventions for elementary children. Providing opportunities for children to strengthen their empathic and prosocial behaviors while offering them interventions to decrease aggressive behaviors should be a continuing focal point in education. As strongly supported by The American School Counselor Association (2012), school
counselors are instrumental in advocating, leading, and collaborating with other key stakeholders to make systemic change within the school environment. Within the framework of the American School Counselor National Model, school counselors will continue to influence the establishment of appropriate prevention programs to help minimize children's aggressive behaviors in school and strengthen children’s empathy toward others.
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*Psychological Assessment, 21*(1), 131–135. doi: 10.1037/a0014743


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Appendix A

The Basic Empathy Scale
The following are characteristics that may or may not apply to you. Please check one answer for each statement to indicate how much you agree or disagree with each statement. Please answer as honestly as you can.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree nor Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. My friend’s feelings don’t affect me much.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>2. After being with a friend who is sad about something, I usually feel sad.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>3. I can understand my friend’s happiness when she/he does well at something.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>4. I get frightened when I watch characters in a good scary movie.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>5. Other people’s feelings bother me.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>6. I find it hard to know when my friends are frightened.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>7. I don’t become sad when I see other people crying.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>8. Other people’s feelings don’t bother me at all.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>9. When someone is feeling ‘down’ I can usually understand how they feel.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>10. I usually know when my friends are scared.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
11. I often become sad when watching sad things on TV or in films.

12. I can often understand how people are feeling even before they tell me.

13. Seeing a person who has been angered has no effect on my feelings.

14. I usually know when people are cheerful.

15. I tend to feel scared when I am with friends who are afraid.

16. I can usually realize quickly when a friend is angry.

17. I often get bothered by my friend’s feelings.

18. My friend’s unhappiness doesn’t make me feel anything.

19. I am not usually aware of my friend’s feelings

20. I have trouble figuring out when my friends are happy.
Basic Empathy Scale Scoring Key

The cognitive and affective items are as follows:

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Affective/ Cognitive</th>
<th>Neg/Positive Scoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Affective</td>
<td>Neg</td>
</tr>
<tr>
<td>2</td>
<td>Affective</td>
<td>Pos</td>
</tr>
<tr>
<td>3</td>
<td>Cognitive</td>
<td>Pos</td>
</tr>
<tr>
<td>4</td>
<td>Affective</td>
<td>Pos</td>
</tr>
<tr>
<td>5</td>
<td>Affective</td>
<td>Pos</td>
</tr>
<tr>
<td>6</td>
<td>Cognitive</td>
<td>Neg</td>
</tr>
<tr>
<td>7</td>
<td>Affective</td>
<td>Neg</td>
</tr>
<tr>
<td>8</td>
<td>Affective</td>
<td>Neg</td>
</tr>
<tr>
<td>9</td>
<td>Cognitive</td>
<td>Pos</td>
</tr>
<tr>
<td>10</td>
<td>Cognitive</td>
<td>Pos</td>
</tr>
<tr>
<td>11</td>
<td>Affective</td>
<td>Pos</td>
</tr>
<tr>
<td>12</td>
<td>Cognitive</td>
<td>Pos</td>
</tr>
<tr>
<td>13</td>
<td>Affective</td>
<td>Neg</td>
</tr>
<tr>
<td>14</td>
<td>Cognitive</td>
<td>Pos</td>
</tr>
<tr>
<td>15</td>
<td>Affective</td>
<td>Pos</td>
</tr>
<tr>
<td>16</td>
<td>Cognitive</td>
<td>Pos</td>
</tr>
<tr>
<td>17</td>
<td>Affective</td>
<td>Pos</td>
</tr>
<tr>
<td>18</td>
<td>Affective</td>
<td>Neg</td>
</tr>
<tr>
<td>19</td>
<td>Cognitive</td>
<td>Neg</td>
</tr>
<tr>
<td>20</td>
<td>Cognitive</td>
<td>Neg</td>
</tr>
</tbody>
</table>

The items were scored on a five-point Likert Scale as follows.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree nor Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Once the scoring of the eight negative items are reversed, the nine cognitive items are summed to produce the score on the cognitive empathy scale and the eleven items are summed to produce the affective empathy score. All items are summed for the total score.

(c) Darrick Jolliffe
Reactive - Proactive Aggression Questionnaire – Child (RPQ - C)

Scoring
Scores (0, 1 or 2) for proactive aggression items (2, 4, 6, 9, 10, 12, 15, 17, 18, 20, 21, 23) and reactive items (1, 3, 5, 7, 8, 11, 13, 14, 16, 19, 22) are summated to form proactive and reactive scales. Proactive and reactive scale scores are summated to obtain total aggression scores.

Instructions to subject
There are times when most of us feel angry, or have done things we should not have done. Rate each of the items below by putting a circle around either 0 (never), 1 (sometimes), or 2 (often). Don't spend a lot of time thinking about the items - just give your first response. Make sure you answer all the items.

0 = NEVER
1 = SOMETIMES
2 = OFTEN

How often have you ....

1. Yelled at others when they have annoyed you 0 1 2
2. Had fights with others to show who was on top 0 1 2
3. Reacted angrily when others annoy me 0 1 2
4. Taken things from other kids 0 1 2
5. Gotten angry when frustrated 0 1 2
6. Damaged or broken things for fun 0 1 2
7. Had temper tantrums 0 1 2
8. Damaged things because you felt mad 0 1 2
9. Had a gang fight to be cool 0 1 2
10. Hurt others to win a game 0 1 2
11. Become angry or mad when you don't get your way 0 1 2
12. Used physical force to get others to do what you want 0 1 2
13. Gotten angry or mad when you lost a game 0 1 2
14. Gotten angry when others threatened you 0 1 2
15. Used force to obtain money or things from others 0 1 2
16. Felt better after hitting or yelling at someone 0 1 2
17. Threatened and bullied someone 0 1 2
18. Made prank phone calls for fun 0 1 2
19. Hit others to defend yourself 0 1 2
20. Gotten others to gang up on someone else 0 1 2
21. Carried a weapon to use in a fight 0 1 2
22. Gotten angry or mad or hit others when teased 0 1 2
23. Yelled at others so they would do things for you 0 1 2
Appendix B

Basic Empathy Scale©

Dr. Darrick Jolliffe
Institute of Criminology
University of Cambridge
Cambridge, United Kingdom
CB3 9DT

Email: dj211@cam.ac.uk
Phone: +44 1223 335 360

I agree:

1. The Basic Empathy Scale will be used for research purposes only unless otherwise agreed with Dr. Darrick Jolliffe.

2. The Basic Empathy Scale will be kept completely confidential. I will not distribute the Basic Empathy Scale in any way.

3. I will provide a copy of all material written by myself pertaining to the Basic Empathy Scale to Dr. Darrick Jolliffe for comment before submission.

4. I will provide a labeled electronic copy of all data collected using the Basic Empathy Scale to contribute to the future validation of the scale. If my data is ever used for validation and subsequently published I will be rightfully acknowledged.

Signed: _________________________  Date: _________________________

Print Name: _________________________
Address: _________________________
Post Code: _________________________
Email: _________________________
Phone: _________________________

Copyright 2005 by Dr. Darrick Jolliffe.
Appendix C

*(Correspondence with Dr. Raine, developer of The RPQ-C, by email.)*

araine@sas.upenn.edu

Sent Items
Saturday, July 30, 2011 1:08 PM

Good afternoon!
Thank you, Dr. Fossati, for your quick response and your assistance with connecting me to Professor Raine.

Professor Raine:
Hello. My name is Gina Gordon, and I am a doctoral student at Duquesne University in Pittsburgh, Pennsylvania. I am currently in the process of selecting a dissertation topic. I am highly interested in conducting a study around the topics of reactive/proactive aggression. I was interested in reviewing the questionnaire that you developed (The Reactive-Proactive Aggression Questionnaire).

Would you mind sending me a copy to review? If I chose to use the questionnaire in my own study, would I have your permission to do so?

Thank you, in advance, for your assistance.

Respectfully,
Gina Gordon

Sunday, July 31, 2011 4:48 AM

To:
M
Gina Gordon
Cc:
M
Fossati Andrea [fossati.andrea@hsr.it]
Attachments:
RPQ published.doc (22 KB)[Open in Browser]

You replied on 11/12/2011 6:45 AM.
you can certainly use it - see attached. good luck in your research!
Adrian.

Attachments:
RPQ Child.doc (22 KB)[Open in Browser]
Saturday, November 12, 2011 7:16 AM

You replied on 11/28/2011 9:31 PM.
here is the child version - we have used it with 9-year-olds AR.

Gina Gordon

In response to the message from Adrian Raine, 7/31/2011
To: M
Sent Items
Saturday, November 12, 2011 6:45 AM

Hello Dr. Raine,
Thank you, again, for sending me your scale. I had a question regarding the scale--I am planning to measure reactive and proactive aggression of children ages 8-10. Has your scale been used specifically with this age group? If so, are you aware of any special modifications made to the scale to ensure its developmental appropriateness?

If your scale has not been used specifically with this age group, are you familiar with any other reactive/proactive aggression scales that have been used with children ages 8-10?

Thank you, again! Your help is greatly appreciated.

Sincerely,
Gina Gordon
Appendix D

Duquesne University
Department of Counseling, Psychology, and Special Education
600 Forbes Avenue
Pittsburgh, PA

December 15, 2011

Dear Dr. Miller:

As you know, I am pursuing my doctorate in Counselor Education and Supervision at Duquesne University. I have designed a dissertation study that aims to answer the following research question: To what extent does affective and cognitive empathy predict proactive and reactive aggression in children ages 9-11?

I am writing to request permission to survey fourth and fifth grade children in our district through the use of two online assessment tools. One assessment tool will measure empathy, while the other assessment tool will measure aggression. Please see examples of each assessment tool attached. (The Basic Empathy Scale and The Reactive-Proactive Aggression Questionnaire-Child). The statements included on the assessment tools will be retyped into an online survey format (i.e., Google Docs) for easier accessibility.

Attached is a copy of the parent permission form, that once approved, I would like to send to the parents of all fourth and fifth grade children. Once parent permission is documented and collected, the children with permission will be asked to respond anonymously to the statements on the two assessment instruments during a scheduled computer class. The statements will be read aloud to all children to increase the validity and reliability of their responses. Children whose parents do not permit them to complete the online assessments will participate in an alternative computer-based activity provided by the computer teacher. Children will complete the online assessments either in the spring or fall of 2012.

I will need to have this proposed study approved by my dissertation committee and the Duquesne University Institutional Review Board. In order to request their approval, I will need to provide a letter from you that the Blackhawk School District has given me permission to conduct this survey research.

Thank you for reviewing this request for research to be conducted at Blackhawk Intermediate School. If you have any other questions, please contact me at 724-843-5050 or at gordong@duq.edu or at gordong@bsd.k12.pa.us. I look forward to hearing back from you.

Respectfully,
Gina M. Gordon
Professional School Counselor, Blackhawk Intermediate School
Doctoral Candidate, Duquesne University
February 13, 2012

Gina Gordon
202 W. Northview Ave
New Castle, PA 15105

Dear Gina,

At a meeting of the Blackhawk Board of School Directors on February 9, 2012, you were approved to survey 4th and 5th grade students, with parental permission, as part of your dissertation study addressing the impact of empathy traits on aggression.

Sincerely,

Jerry Wessel
Board Secretary

PC: Personnel file
Payroll

EQUAL OPPORTUNITY EMPLOYER
Appendix E

Dear Parents/Guardians of 4th and 5th Grade Students,

Hello! As your child’s school counselor, I have been working toward my Ph.D in Counselor Education and Supervision at Duquesne University. In doing so, I have completed all of the necessary coursework, and I am ready to conduct my research study. My research interest is in studying empathy and aggression in children ages 9-11. Empathy is best described as one’s response to others’ feelings and thoughts. Aggression is best described as a form of behavior that affects others negatively. I hope to contribute to the development of strategies that educators and parents can use to help increase empathy and decrease aggression in children.

As a result, I am writing this letter to seek your permission for your child to complete two online assessment tools. One assessment tool, The Basic Empathy Scale, will measure empathy, while the other assessment tool, The Reactive-Proactive Aggression Questionnaire-Child, will measure aggression. The Blackhawk School District Board of School Directors has approved the use of both assessment tools.

Please see the attached Parent Permission Form for more details. If you have any questions or concerns please feel free to contact me at 724-843-5050 or at gordong@bsd.k12.pa.us.

Respectfully,
Gina M. Gordon
School Counselor, Blackhawk Intermediate School
Doctoral Candidate, Duquesne University
DUQUESNE UNIVERSITY
600 FORBES AVENUE  ♦  PITTSBURGH, PA 15282

PARENT PERMISSION TO PARTICIPATE IN A RESEARCH STUDY

TITLE: Cognitive and Affective Empathy as Predictors of Proactive and Reactive Aggression

INVESTIGATOR: William J. Casile, Ph.D.
Duquesne University
110-B Canevin Hall
Counseling, Psychology, and Special Education
600 Forbes Avenue
Pittsburgh, PA 15828

Telephone Number: 412-396-6112
Email: casile@duq.edu

STUDENT INVESTIGATOR: Gina M. Gordon, M.Ed, NCC
Professional School Counselor
Doctoral Candidate, Counselor Education and Supervision

Telephone Number: 724-843-5050
Email: gordong@duq.edu

SOURCE OF SUPPORT: This study is being conducted as partial fulfillment of the requirements for the doctoral degree in Counselor Education and Supervision (ExCES) at Duquesne University.

PURPOSE: The purpose of this study is to explore empathy in relation to aggression.

Your child is being asked to participate in a research project that examines the relationship between empathy and aggression. This research study includes two online surveys consisting of a total of 43 statements. If you choose to allow your child to participate in this research study, and your child has provided his or her assent to participate, he or she will complete the online surveys during computer class. Each statement will be read aloud to your child to ensure accuracy and understanding. If you choose not to allow your child to participate in the study, he or she will have another educational activity to complete in his or her homeroom class. This is the only request that will be asked of your child.

RISKS AND BENEFITS: There would be no risks greater than those encountered in everyday life. While your child might not benefit directly, your child’s participation in this research may provide a better understanding of how to incorporate empathy training in schools and additional

Revised: October, 2009
interventions educators and families could use to decrease aggressive behaviors.

COMPENSATION:

There is no monetary compensation for your child's participation in this study. However, children who have decided to participate, have received signed parent permission, and have provided assent are eligible for a raffle drawing for a $50.00 gift card to Toys 'R Us. Upon completion of the online questionnaire, each child will have the opportunity to write his or her name on a raffle ticket. After all of the online surveys have been completed, each child's raffle ticket will be placed in a raffle drawing. All fourth grade children's tickets will be in one drawing and all fifth grade children's tickets will be in another drawing. Two raffle tickets per grade level will be randomly drawn, and a total of four students will win a Toys 'R Us gift card.

Participation in the project will require no monetary cost to you or your child.

CONFIDENTIALITY:

All efforts to maintain confidentiality will be taken. Your child's personal identity, thoughts, and opinions will never be revealed to anyone who reads this research. Your child will complete two online surveys and respond to 43 statements. The online survey format does not have the capability to identify your child or your child's responses to the survey. The surveys will not ask your child to include any identifying information (i.e., name, student ID number, etc.). Your child will only be asked to identify his or her age, gender, and grade level. No identity will be made in the data analysis. All signed parent permission forms will be stored in a locked filing cabinet in the student investigator’s office, and an electronic record of the survey responses will be stored on the student investigator’s password-protected computer. Both the permission forms and the survey responses will be destroyed after five years of completion of this study. Any analysis conducted on a computer will be saved on a password-locked computer. Your child’s responses will only appear in statistical data summaries. De-identified data from this study may be used in future validation studies of the Basic Empathy Scale.

RIGHT TO WITHDRAW:

Your child is under no obligation to participate in this study. Your child is free to withdraw assent to participate prior to or during completion of the online questionnaire without being penalized by Blackhawk Intermediate School or the researchers at Duquesne University. You, as the parent, are also free to withdraw your child's participation until the online questionnaire has been completed without being penalized by Blackhawk Intermediate School or the researchers at Duquesne University. Should your child choose to withdraw from participation during the completion of the online questionnaire, your child’s responses in the incomplete
survey will be deleted and will not be used in the data analysis. Once the questionnaire is completed, your child's data will not be able to be withdrawn from the study because the student investigator will not be able to match your child's survey responses with your child.

**SUMMARY OF RESULTS:**

A summary of the results of this research will be supplied to you, at no cost, upon request.

**VOLUNTARY CONSENT:**

I have read the above statements and understand what is being requested of my child. I also understand that my child's participation is voluntary and that he or she is free to withdraw his or her assent prior to or during the completion of the online questionnaire. During the completion of the online questionnaire, I understand that my child can choose to withdraw from participation, at any time, for any reason. Should this occur, I understand that my child's responses in the incomplete survey will be deleted. On these terms, I certify that I am willing to allow my child to participate in this research project.

I understand that should I have any further questions about my child's participation in this study, I may call any of the following:

- Mrs. Gina Gordon, Blackhawk Intermediate School Counselor, Doctoral Candidate 724-843-5050
- Dr. William Casile, Doctoral Committee Chair/Advisor 412-396-6112, or
- Dr. Joseph Kush, Chair of the Duquesne University Institutional Review Board, at 412-396-6326

Please print and sign your name below if you choose to allow your child to participate in the study.

<table>
<thead>
<tr>
<th>Parent/Guardian's Name (Print)</th>
<th>Parent/Guardian's Name (Signature)</th>
<th>Date</th>
</tr>
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<tbody>
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<th>Researcher's Name (Print)</th>
<th>Researcher’s Name (Signature)</th>
<th>Date</th>
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*Revised: October, 2009*
Volunteer Assent to Participate in Research

Why Are We Doing This Activity?:
This study is trying to discover more about how children act with other children and how, sometimes, children hurt other children. This is called aggression. This study is also trying to learn more about how well children are able to understand how someone else feels. This is called empathy. You are invited to participate in this study, which requires you to think about and answer statements that have to do with how you feel, think, and act toward others.

What Am I Being Asked To Do?:
You are being asked to participate in a research project that will help adults better understand how children, feel, think, and act toward one another. Since you are younger than 18 years of age, your parent(s) must give permission for you to participate in this research study. Your parents have already given their permission, but you still have the right to agree or disagree to participate in this study. When a child your age agrees to give permission to participate in a study it is called assent. This research study includes two online surveys consisting of a total of 43 statements. If you choose to participate, then you will complete the online surveys during computer class. Each statement will be read aloud to you to make sure you understand each question. If you choose not to participate in the study, you will have another educational activity to complete in your homeroom class. Right now, the only thing being asked of you is if you would like to participate in this study.

Revised: October, 2009
How Does This Help And Is There Any Way I Could Get Hurt?:

Your chances of getting hurt by participating in this study would be no different than your chances of getting hurt in your regular computer class. While you might not benefit directly, your participation in this research may help teachers, principals, and parents find better ways to teach children how to get along and respect one another.

Will I Get Paid?:

You will not receive any money for participating in this study. However, students who have volunteered to participate, have received signed parent permission, and have given their own permission, are eligible for a raffle drawing for a $50.00 Toys 'R Us gift card. Upon completion of the online questionnaire, you will have the opportunity to write your name on a raffle ticket. After all of the online surveys have been completed, each child's raffle ticket will be placed in a raffle drawing. All fourth grade children's tickets will be in one drawing and all fifth grade children's tickets will be in another drawing. Two raffle tickets per grade level will be randomly drawn and a total of four students will win a Toys 'R Us gift card.

Also, you do not have to pay anything to participate.

Will People Know What I Said?:

Your personal identity, thoughts, and opinions will never be revealed to anyone who reads this research. No one will ever be able to tell how you responded to the questions. The surveys will not ask you to include any identifying information (i.e., name, student ID number, etc.). You will only be asked to give your age, grade, and whether you are a boy or a girl. All signed parent permission forms will be stored in a locked filing cabinet in Mrs. Gordon's office, and an electronic record of the survey responses will be stored on Mrs. Gordon's password-protected computer. Both the permission forms and survey responses will be destroyed after five years of completion of this study. Any information typed on a computer will be saved on a password-locked computer. The information that you
share will only be revealed in future research through
math formulas, which group together everyone’s responses.

**Can I Stop If I Want To?:** You are under no obligation to participate in this study. You are free to stop participating at any time without being punished by Blackhawk Intermediate School or the researchers at Duquesne University. Your parent is also free to stop you from participating in this study up until the online questionnaire has been completed without being punished by Blackhawk Intermediate School or the researchers at Duquesne University. Even if you agree at first, you can change your mind and stop at any time and no one will treat you any differently. If you change your mind while answering questions on the questionnaire and you choose not to finish it, Mrs. Gordon will not use any information that you have shared. Your answers will be removed from the study. However, once you answer all of the questions on the questionnaire, your answers are not able to be removed because Mrs. Gordon will not be able to match your answers with you.

**Can I Know What You Found Out?:** A summary of the results of this research will be shared with you, at no cost, if you ask me.

**Willingness To Help:** I listened while the child assent form was read aloud, and I understand what I am being asked to do. I understand that no one will know how I responded to each statement. I also understand that I can stop answering questions on the survey at any time for any reason. I understand I can ask Mrs. Gordon any questions while I am responding to statements on the computer.

By clicking the tab, "I agree", I will agree to volunteer and answer the questions online. By clicking the tab, "I disagree", I do not want to volunteer and will not answer questions online.

```
I agree. → Online questionnaire

I disagree. → "Thank you. Please return to your homeroom class at this time."
```