

Empathy and Aggression:
A Study of the Interplay Between Empathy and Aggression in Preschoolers

by

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A Study

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Dedication

In Gratitude

To
Professor Michael Berg,
who guided this project from beginning to end.

To
Andrew Scrimgeour
Dorothy Scrimgeour
Drew Scrimgeour
who believed in me and inspired me.

Abstract

This study investigated correlations between empathy and relational and physical aggression in preschoolers. With the assistance of the Elisabeth W. Amen Nursery School and its two main classroom teachers, the researcher observed 30 preschool students. The 14 girls and 16 boys were between the ages of three-and-a-half and five, were predominantly White, and were from middle to upper class families. Empathy was measured by other-report by way of a teacher questionnaire. Aggression was measured by direct observation and was based on the definitions in a previous study by Crick, Casas, and Mosher (1997). The hypothesis was partially confirmed in that the more empathic participants were less physically aggressive in comparison to the less empathic participants. The less empathic participants were significantly associated with high rates of physical aggression. These findings underline the importance of the development of empathy and prosocial behavior and their ability to inhibit aggressive acts towards others in preschool children.

The ability to understand emotions, accurately express feelings, comprehend others' situations and act appropriately are all key factors in establishing healthy relationships. How children react to the emotions of their peers during childhood in part determines how they will interact in their relationships later on in life. Empathy plays a crucial role in the development of prosocial behavior (Cole & Cole, 2001; Carlo & Edwards, 2005; Killen & Smetana, 2006; Minde, 1992; Strayer & Roberts, 2004), which in turn helps inhibit aggression towards others (Bohart & Greenberg, 1997; Carlo & Edwards, 2005; Zhou, Valiente & Eisenberg, 2003). If more children were encouraged to explore their feelings and in turn, to understand the feelings of their peers, then violence in American schools could be reduced.

Between July 1, 2004 and June 30, 2005, there were 48 school-associated deaths in elementary and secondary schools in the United States. Another shocking statistic reports that the percentage of American public schools that experienced one or more violent incidents increased from 71 to 81 percent between the 1999-2000 and 2003-2004 school years (Center for the Prevention of School Violence, 2006). Why do young adolescents have so much anger and aggression and proceed to execute their negative feelings in such horrifying fashion?

School violence, and in particular, schools shootings, have become a nationwide concern. The news is splattered with reports of school shootings, and Columbine High School has become the symbol for this growing phenomenon. If empathy facilitates positive psychological development and healthy relationships, as well as restrains aggression, then what happens if the development of empathy is suboptimal? If children

learn to empathize from an early age, then conceivably they might not become overtly aggressive or angry adolescents or adults.

Aggression in Young Children

Researchers have studied aggression in children for decades. Even though definitions of aggression vary, the majority of researchers agree that it is harmful to the victim. Past research has primarily focused on physical aggression in young children; however, more recently several studies have begun looking specifically at non-physical forms of aggression, such as facial expressions, body posture, or social exclusion (Coie & Dodge, 1998; McEvoy, Estrem, Rodriguez & Olson, 2003).

In one study on aggression in children, McEvoy, Estrem, Rodriguez, and Olson (2003) explored relational aggression and physical aggression in preschool children. In an attempt to accurately assess levels of aggression, the researchers used the combined methods of a teacher rating scale, a peer nomination measure, and direct observations. Fifty-nine preschoolers, the majority being of White European descent and between the ages of 42 and 70 months of age, were selected to participate in the study. The teacher in each of the eight classrooms filled out the Preschool Social Behavior Scale Teacher form (PSBS-T) for each child. On this scale, teachers were asked to rate the frequency of aggressive acts on a 5-point scale for each of the 33 items. Each child also completed the Preschool Social Behavior Scale Peer form (PSBS-P). For this scale, children were shown photographs of their peers and were asked to point out the child they associated with each of the 19 statements. Direct observations of relational and physical aggression were conducted during indoor free-choice time in the classroom. Results indicated that girls were significantly rated for higher levels of relational aggression and boys were

significantly rated for higher levels of physical aggression. Overall, the boys were significantly more relationally and physically aggressive than the girls.

In a related study, Minde (1992) examined the developmental changes of aggression in preschool children. Three groups of participants were compared. Group I consisted of children who had been referred to the Child Psychiatric Outpatient Clinic for aggressive behavior. This group included 13 boys and seven girls with the average age of 52.7 months. Group II consisted of 20 non-aggressive children recruited from the same nursery schools and day care centers in which the children from Group I were enrolled. Group III had 10 non-aggressive children who had experienced significant violence at home.

Each of the participants' families were evaluated by the researcher to obtain personal and social background information in order to understand the subjects' overall development. Each child was also administered the Wechsler Preschool and Primary Scale of Intelligence to determine if intelligence plays a role in using peer relationships at school to overcome poor socialization experiences within the home setting. A 97-item questionnaire was given to their mothers in order to assess participants' temperament ratings. For behavioral assessment, two standardized tests (Richman Graham Behavior Screening Questionnaire and the Preschool Behavior Questionnaire) were completed, mother and child direct observations were conducted, and direct observations at school took place. To assess cognitive and social skills, the Interpersonal Awareness Test and the Preschool Interpersonal Problem Solving test were administered. The researcher made three hypotheses: (1) the aggressive preschoolers would show less empathy and would have sub par prosocial skills; (2) the children who lived in violent homes would

display high rates of empathy and prosocial behaviors; and (3) the development of empathy skills in all participants over an 18-month time period would show a decrease in aggressive behavior (Minde, 1992).

Results showed that the aggressive children displayed a delay in empathic and perspective taking skills. In comparison with the two other groups, the aggressive group showed a significant impediment in their interpersonal awareness and perspective taking ability. These results support previous research and theories on the notion that empathy is a key factor in the development of prosocial behavior. It also supports the idea that the development of empathy and prosocial behavior helps decrease levels of overall aggression (Minde, 1992).

Strayer and Roberts (2004) examined young children's peer-group behavior to assess empathy and prosocial behavior. Their ultimate goal was to understand the relationship between empathy, anger, and aggression, which would in turn add to the practical and theoretical implications for comprehending aggression in young children. The researchers theorized that more empathic children should be less angry because they have fewer anger associated memories to recall. They should also be better at social problem solving and thus engage in fewer situations of conflict and anger.

Twenty-four unacquainted children were randomly assigned to six play groups. They were predominantly White, were the mean age of 5.1 years, and were from middle-class families living in a large metropolitan area in western Canada. Each of the play groups met for three one-hour sessions. Their interactions, behaviors, and emotions were observed and videotaped. In order to specifically assess levels of empathy, the children individually viewed six emotionally evocative videotaped vignettes. Immediately after

watching the videos, participants were interviewed. Their ability to cognitively and affectively empathize with the stories' characters was measured through the Empathy Continuum. Empathy was also measured by teacher, parent, best friend, and self ratings (Strayer & Roberts, 2004).

Results showed that girls engaged in more prosocial behavior than boys, and boys engaged in more physical aggression than girls. Boys also exhibited more anger than girls. Results also indicated that the more empathic children were less physically and verbally aggressive and also engaged in more prosocial behaviors. This study enhanced previous research and underlined the negative association for empathy with anger and aggression (Strayer & Roberts, 2004).

Empathy in Young Children

When children interact with their environments and have contact with others, they learn that the positive psychological gain from being physically aggressive towards a peer is often followed by the physical and psychological pain of a reciprocated physical act (Gervais & Tremblay, 2005). Negative outcomes from aggression such as distress and emotional and physical pain, almost always follow aggressive acts. Environmental experiences and development allow for young children to learn how to control their aggressive behaviors as they discover the social consequences of their actions. Additionally, as children advance cognitively, the more likely they are able to understand and control their emotions as well as take another's perspective. This cognitive achievement allows for a reduction in potential aggressive conflicts and welcomes the probable occurrence of prosocial behaviors. The empathic child should be able to feel the same distress and pain as the other child, whether or not she or he was the aggressive

catalyst. Therefore, empathy serves as a learned lesson and as an inhibitor of further aggressive acts to a child who vicariously experienced pain through another child's experience (Bohart & Greenberg, 1997; Zhou, Valiente & Eisenberg, 2003).

Although the topic of empathy in adolescents and adults has ample research that extends back for decades, empirical studies of empathy in preschoolers are relatively recent (Bohart & Greenberg, 1997). The focus on the subject emerged about three decades ago. Along with its emergence came two important questions: What is empathy and how is it adequately measured? Empathy is an elusive concept that is both difficult to define and to measure (Bohart & Greenberg, 1997).

The process of developing empathic skills is complex and is contingent upon the child's cognitive and emotional development. While the acquisition of this familiar trait may be taken for granted, it is the positive product of learning, socialization experiences, and social interaction (Bohart & Greenberg, 1997). As a broad term, empathy has been defined as "an affective response that stems from the apprehension or comprehension of another's emotional state or condition and is similar to what the other person is feeling or would be expected to feel in the given situation" (Killen & Smetana, 2006, p. 518). In short, empathy is the ability to understand and share in another person's emotions and feelings. Researchers have also classified empathy in terms of its cognitive and affective elements. According to Freeman (1984), cognitive empathy occurs when a child understands how another child or person is feeling in a given situation, and affective empathy transpires when the child takes on the emotional state of another child or person in a given situation. It can be assumed that if a child displays affective empathy, the child also has cognitive empathy, for one is derivative of the other.

As to the exact process of the development of empathy, developmental psychologists have not been able to definitively say at which age these abilities and concepts are acquired. Part of the reason for this is the lack of empirical studies that look solely at the development of empathy in preschoolers as well as the challenges inherent in its complex operational definition. Even with the lack of definitive answers, the majority of researchers support the notion that children from a young age experience empathy and that their empathic skills develop with age (Bohart & Greenberg, 1997; Cole & Cole, 2001; Eisenberg & Mussen, 1989; Killen & Smetana, 2006).

The most widely used theory for the development of empathy as a base for research studies was developed by Hoffman (2000). His theory is "...appealing because it views empathy in a broad developmental perspective, changing with increasing age, with advancing cognitive capacities, and with maturation of affective processes" (Eisenberg & Mussen, 1989, p. 133). He proposed an outline for empathy that encompasses four stages. Over the course of the four stages, children increase in cognitive maturation and are better able to understand and respond appropriately to others' distress.

The first stage is "global empathy" and begins in infancy in which the infant cannot differentiate itself from others. The infant displays "reactive or contagious crying" in response to hearing another baby cry (Hoffman, 2000; Izard, Kagan, & Zajonc, 1984; Killen & Smetana, 2006, p. 519). Hoffman states that infants have the ability to experience empathic distress before they can even differentiate themselves from others (Davis, 1996; Eisenberg & Mussen, 1989). Although the infant's crying is not a result of understanding for the other baby, it is a reaction to the broad emotion of unpleasantness

(Davis, 1996; Marchesani & Stern, 2004). This “contagious crying” is more of a reflex because infants have not yet acquired the ability to understand the feelings of others (Cole & Cole, 2001; Eisenberg & Mussen, 1989). Additionally, during infants’ first years, they begin to differentiate themselves from others and seek comfort for their own discomfort when they are around other infants or people who are in distress. At this point, even though they are beginning to distinguish themselves from others, they still see the world from an egocentric point of view and do not realize that other people have their own feelings (Davis, 1996; Eisenberg & Mussen, 1989).

The second stage, “egocentric empathy,” occurs during the second year of life when toddlers begin to show a general understanding of other people’s emotions. They are capable of experiencing rudimentary empathy for an individual instead of solely seeking out comfort for themselves. While they may express empathy and try to comfort the individual, they are likely to do so in a manner that would soothe them were they in a similar circumstance. For example, if a two-year-old girl wants to comfort another child, she may offer her a stuffed animal or act in a manner that would comfort her if she was upset, not necessarily what the other child would actually prefer (Davis, 1996; Eisenberg & Mussen, 1989; Hoffman, 2000; Izard, Kagan, & Zajonc, 1984; Killen & Smetana, 2006; Snyder & Lopez, 2002).

The third period is the “empathy for another’s feelings” and surfaces during the second and third years of life. At this point, young children have a deeper awareness of their own feelings as well as those of others. They are more likely to display the role-taking ability and act accordingly to the other person’s needs in contrast to their own. Along with a more highly-developed role-taking ability, they are able to make finer

distinctions in the emotions they see in others and can even empathize with several emotions at once (Davis, 1996). They also have a more developed vocabulary and begin to express empathy verbally (Davis, 1996; Eisenberg & Mussen, 1989; Izard, Kagan, & Zajonc, 1984; Killen & Smetana, 2006).

The fourth stage, “empathy for another’s general condition,” occurs in late childhood or early adolescence when children have fully developed the ability to see themselves as having separate identities from others. By nine years of age, “The child begins to focus on inner processes and can reflect on the other person’s inner experience of emotion. The other’s inner states are vicariously experienced as the child’s own” (Marchesani & Stern, 2004, p. 69). Thus, with age comes cognitive maturation which fosters empathic skills (Killen & Smetana, 2006).

Measurement of Empathy in Young Children

Empathy in children has been, and continues to be, measured in several ways. Researchers continue to strive to find and combine the best measures to assess levels of empathy in preschoolers and adolescents that fully tap into empathy and its internal and multidimensional construct (Bohart & Greenberg, 1997). There are four main methods for assessing empathic behaviors. They include self-report, other-report, facial measures, and physiological measures. Each has its own advantages and disadvantages that researchers have encountered in their studies. It is important and recommended that researchers use a combination of these measures because each in its own regard evokes different aspects of empathic expression (Bohart & Greenberg, 1997; Zhou, Valiente & Eisenberg, 2003).

Self-report, the most commonly used method, can be implemented in tandem with

picture-stories, questionnaires, and stimulated experimental situations. With picture-stories, children are read brief stories that elicit varying empathic responses. Following the stories, the researcher asks the child “How do you feel?” or “How did that story make you feel?” The child’s responses are measured on a scale of how much they match up to the character’s emotional state. There are several drawbacks to self-report on picture-stories. First of all, it is often the case that the stories are not long enough and therefore do not provoke enough affect to elicit an empathic response. Also, self-reporting is influenced by social demands, and participants may feel pressure to answer and act socially appropriate. Participants may give answers that they feel the researcher would like to hear or expects to hear. Finally, it has been shown that children’s reports of empathy are influenced by the gender of the researcher. Researchers have found that children score higher on levels of empathy when interviewed by a person of the same sex (Zhou, Valiente & Eisenberg, 2003).

Self-report is also used with questionnaires in which several of the questions assess empathy across a range of behaviors and situations. In comparison to self-report on picture-stories, questionnaires are more convenient and economical to administer. Empathic responses are assessed for an array of behaviors and situations. Questionnaires are therefore more consistent at determining empathy than methods that only assess specific behaviors and situations. However, its main disadvantage is social desirability. Participants may be compelled to answer in a manner that presents them in a socially desirable light (Zhou, Valiente & Eisenberg, 2003).

Self-report also comes in the form of stimulated experimental situations. With this measure, children are shown videos, audiotapes, or realistic enactments that elicit

empathic responses. After viewing or hearing the clip, the children are asked to describe their emotions and how the characters from the clip must feel. Depending on the age of the child, responses may be attained in writing, verbally, or by pointing to pictorial scales. The main drawback of this method is that it relies on the participant's verbal ability and comprehension. A child may not be able to fully articulate or express her or his emotions (Zhou, Valiente & Eisenberg, 2003).

The second popular measure is other-reports. This measure obtains information from the teachers, parents, peers, etc. of the participant. The benefits of this technique are that it is useful for children who are too young to express themselves verbally, it is less likely to be biased by social desirability as opposed to self-reports, and multiple reporters can be used which is likely to provide more reliable data about empathic behaviors than when using only one reporter (Zhou, Valiente & Eisenberg, 2003).

The third widely-used measure is facial measures. Several emotions can be coded through facial expressions and physical reactions. These physical reactions are recorded while the participant is shown an empathy-eliciting stimulus. Their reactions are coded accordingly and used to assess the level of empathy in the child. This method is reliable due to the fact that young children have not yet mastered control of their initial reactions to situations that elicit strong emotions and have not yet learned which facial expressions society has deemed appropriate and inappropriate. Young children rarely censor their initial responses which allows for researchers to measure their empathic responses (Zhou, Valiente & Eisenberg, 2003). Along with the advantages of using facial measures, come disadvantages. The first limitation is that facial expressions not only reflect empathy, they reflect expressivity. A child who is more physically expressive will rate as more

empathic in comparison to a child who happens to be expressively tame, but just as equally empathic.

The fourth measure is physiological responses and includes heart rate and skin conductance. In the studies that examined heart rate, researchers concluded that the acceleration of heart rate is inversely related to empathy (Zhou, Valiente & Eisenberg, 2003, p. 276). Consequently, if a child's heart rate decelerates during an empathic-eliciting situation, the child is redirecting her/his attention away from the self toward the other person's emotional state. On the other hand, if the child's heart rate accelerates, she/he is experiencing personal distress and is not directly focusing on the other person. Similarly, skin conductance marks anxiety and fear in individuals. If a child has a low reading on the skin conductance scale during an emotion-eliciting scenario, the child is more likely expressing empathy and not personal distress. The main advantage to this measure is that participants will rarely be able to control their physiological responses. Also, given that children may have difficulty in reporting their emotions; this measure is able to assess empathy from a more objective perspective. However, individuals can experience both stress and empathy at the same time and it is unclear how this response would rate on a physiological test. In addition, analyses of the data can be complex and it is important for researchers to determine the onset of the emotional stimuli. Last on the list of disadvantages is the fact that age can influence physiological responses, which makes longitudinal studies a challenge (Zhou, Valiente & Eisenberg, 2003).

Emerging Research on Empathy in Young Children

Using the self-report on pictures-stories measure, Freeman (1984) studied the development of empathy in young children (between 43 months and 67 months) and

focused on the cognitive and affective aspects of empathy. She measured the level of four emotions: happiness, sadness, fear, and anger. After each child listened to a story vignette, Freeman asked two questions that measured a level of cognitive and affective empathy. To elicit cognitive understanding, "How does the child in the story feel?" was asked. To elicit affective comprehension, the question, "How do you feel?" was posed. Results from the 54 children indicated that cognitive empathy is easier for younger kids to express than affective empathy. To shed light on her findings, it is quite possible that the younger children were able to experience affective empathy, but lacked the verbal skills to express themselves clearly.

Freeman further explored the idea that cognitive empathy is a crucial component in the expression of empathy and develops before affective empathy. In agreement with Hoffman, Freeman concluded that cognitive empathy plays a crucial role in the development of empathy (Freeman, 1984). Results of the studies strongly indicated that "empathy is a multifaceted construct including both cognitive and affective dimensions. Among preschoolers of both sexes, the cognitive expression of empathy seems to emerge prior to the affective one" (Freeman, 1984, p. 243-244). This study supported the classification of empathy in terms of its cognitive and affective dimensions.

In another study using self-report and story vignettes, Borke (1971) elicited empathic responses in children between the ages of three and eight-years-old. Borke expanded on the notion that children as young as three can express empathy, discovering that "the first differentiation children develop is between generalized pleasant and generalized unpleasant responses" (Borke, 1971, p. 268). An explanation for this is that at such a young age, children are protected by their care givers to the point that fear and

distress are not common emotions that they encounter on a daily basis. On the other hand, happiness and sadness are common occurrences. In accordance with previous studies, Borke emphasized the importance of implementing measures that are age appropriate to ensure that young children will be able to demonstrate their empathic abilities. In order to do so, Borke used self-reports that required the children to point to a range of picture faces of various emotions. The children were to choose which face corresponded to how the character in the story was feeling. This allowed children to respond behaviorally as opposed to verbally, minimizing any difficulty with communication.

Building on Hoffman's definition of empathy, researchers Kestenbaum, Farber, and Sroufe (1989) defined empathy as "an emotional and behavioral response to another's emotional state, which is similar in affective tone and is based on the other's circumstances rather than one's own" (p. 55). They used "empathy and anti-empathy scales" during direct observations to measure levels of empathic responding in preschoolers. The scales rated on a seven-point and three-point scale and incorporated both affective and cognitive responses. The researchers observed a high number of empathic responses and concluded that children as young as three-years-old are able to experience and express empathy. They went on further to stress the importance of the setting of the experiment. Studying empathy through naturalistic observation assured that children can be observed over a long period of time and on several observation sessions. These situations, since they occur naturally, "vary in intensity, duration, cause, and victim of distress" and allow the children "to be able to react to each occasion without being affected by previous experiences, unlike some measures that require an individual to respond to several situations in one session" (Kestenbaum, Farber & Sroufe, 1989, p.

59). While there are several advantages to naturalistic observation, there is one main disadvantage. It is difficult to capture facial expressions which may be quite brief and missed by either the camera or researchers. The researchers' attention might be divided and therefore might miss a child standing back in a corner or their backs might be turned to a child.

The study of empathy has been researched at length in older children, adolescents, and adults. It is only relatively recent that more studies are focusing on defining and understanding the development of empathy in preschoolers. As stated by Freeman (1984), "a paucity of this research, however, has investigated the development of empathy in preschool age children. For this reason, many unanswered questions regarding empathy in young children remain" (p. 235). With such a scarcity of this particular type of research, one naturally wonders about the relation of empathy to other varying factors. For instance, is a preschool child's level of empathy related to her or his level of aggression? And if so, is the level of empathy related to specific types of aggression?

The current study was concerned with the interplay between empathy and relational and physical aggression in preschool children. Due to a lack of extensive empirical studies, the breakdown of empathy and these two types of aggression had not yet been examined. This investigation sought to discover if more empathic preschoolers are less aggressive, as well as to find a correlation between levels of empathy and type of displayed aggression. With the assistance of the Elisabeth W. Amen Nursery School and its two main classroom teachers, the researcher observed 30 preschool students. Empathy was measured by other-report by way of a questionnaire. Aggression was measured by

direct observation and was based on the definitions in the study by Crick, Casas, and Mosher (1997).

Method

Participants

Participants included 30 preschoolers at the Elisabeth W. Amen Nursery School, a private institution located on the Wheaton College campus in Norton, Massachusetts. In affiliation with the College, the observational nursery school enables the Wheaton College community to observe and study young children. The participants were recruited from the nursery school's two three-day afternoon classes. The first class (Classroom A) met on Tuesday, Wednesday, and Thursday afternoons from 12:30 to 3:00. Its class roster was comprised of seven girls and eight boys. The second class (Classroom B) met on Tuesday, Wednesday, and Thursday afternoons from 12:45 to 3:15. Among its class roster were seven girls and eight boys.

Both classes of preschoolers were between the ages of three-and-a-half and five, were predominantly White (with the exception of one participant), and were from middle to upper class families. In total, the sample size consisted of 30 children, 14 girls and 16 boys.

Measures

Teacher Reports. The Teacher Questionnaire was based on the Teachers' Reports of Children's Sympathy/Empathy and the Factor Loadings for the Teacher Measure of Social Behavior (PSBS-T) (Crick, Casas, & Mosher, 1997; Zhou, Valiente, & Eisenberg, 2003). The questionnaire explored items of empathy and relational and physical aggression. Responses were scored using a 5-point Likert scale: 1 = Strongly Agree; 2 = Agree; 3 = Neither Agree or Disagree; 4 = Disagree; 5 = Strongly Disagree. A high level

of empathy was rated as a one and a low level of empathy was rated as a five. Therefore, the lower the empathy score, the higher the level of empathy, and conversely, the higher the empathy score, the lower the level of empathy. Out of the 20 questions, eight specifically measured empathy (questions numbers 3, 4, 7, 8, 10, 12, 14, and 17). Among the empathic questions were, “This child often feels sorry for others who are less fortunate,” “This child rarely feels sympathy for others,” and “This child gets upset when she/he sees another child being hurt.” Questions regarding relational aggression included, “This child tells a peer that she or he won’t play with that peer or be that peer’s friend unless she or he does what this child asks,” “This child tells others not to play with or be a peer’s friend,” and “When mad at a peer, this child keeps that peer from being in the play group.” Physical aggression questions included, “This child does not hit or kick others” and “This child ruins other peers’ things when she or he is upset.” See the Appendix for the complete teacher questionnaire. Inter-item reliability tests revealed that $\alpha = .80$.

Direct Observations. Relational and physical aggressions were coded according to definitions used by Crick, Casas, and Mosher (1997). Relational aggression was defined as any verbal or nonverbal behavior that (a) excludes others from play or encourages other to exclude a child or (b) threatens to exclude or ignore. Physical aggression was defined as kicking, hitting, pushing, shoving, grabbing or throwing toys, destroying others’ materials or toys, or threatening to do any of these acts.

Procedure

Prior to official data collection, a pilot study was conducted during the third week of February to practice operation of digital video recorders and their placement within the two classrooms as well as to practice coding of relational and physical aggression.

Assessment of empathy, relational aggression, and physical aggression were measured through the use of a teacher questionnaire and direct observations. The teachers were administered the Teacher Questionnaire for each student during the third week of February. The Teacher Questionnaire was constructed to primarily measure levels of empathy.

Levels of relational and physical aggression were measured through direct observations that were conducted during the fourth week of February (2/27 and 3/1) and the first week of March (3/6, 3/7, and 3/8). Observations were conducted through the use of the observational booth's one-way mirror and digital video recordings during free-play time. This time period was selected because situations that elicit empathic reactions and aggressive acts are more likely to occur during unstructured activities when the participants are able to interact with each other without much structured teacher intervention (McEvoy, Estrem, Olson, Rodriguez, 2003). Two digital video recorders were set up in each classroom to capture as great a span of the classroom as possible.

In Classroom A, from perspective of the observational booth, one recorder was set-up in the lower right hand corner of the room and was able to capture the water/sand table, the center activity table, the dramatic play area, and the loft. The second recorder was set-up towards the back left hand corner of the room with a view of the art table, the open floor area, and the center activity play area. See Figure 1 for classroom diagram.

In Classroom B, from the perspective of the observational booth, the first recorder was set-up in the lower left hand corner of the room and was able to record the dramatic play area, the open floor area, the center activity table, the art table, and the water/sand table. The second recorder was placed in the back right hand corner of the room and predominantly picked up the open floor area. During observations, the researcher occasionally entered the classrooms and adjusted the angles of the recorders in order to more accurately capture and follow the children's various play activities. See Figure 2 for classroom diagram.

For both classrooms, the various free-play time/choice time activities changed on a daily basis. Throughout the course of observations, activities included plastic fish and sea creatures at the water table, play dough, building blocks, toy trucks and cars, painting and drawing, numerous art projects, helping the teacher bake brownies, helping make slime, dress-up and dramatic play, and several other games and activities suited for the preschoolers.

The researcher watched the video recordings during the third week of March and coded acts of relational and physical aggression. After completion of the Teacher Questionnaire and observation of aggression, the researcher assessed answers to items addressing empathy for each child. Measured level of empathy for each child was examined in relation to measurements of relational and physical aggression.

Results

Empathy scores (empathy was rated from 1 being high empathy, to 5 being low empathy) were significantly correlated with physical aggression. Specifically, empathy scores were significantly associated with rates of physical aggression, $r = .45$, $p < .05$.

Empathy scores were not significantly related to rates of relational aggression, $r = .164$, $p = .39$. These relationships are depicted in Table 1.

The average number of physical aggressive acts (per 20 hours) for boys was 15.63. The average number of physical aggressive acts for girls was 4.36. These differences were significant, $t(28) = 3.07$, $p < .05$. See Figure 3 for gender and physical aggression relationship. The mean number of relational aggressive acts for boys was .50, and the mean for girls was .43. These scores were not significantly different, $t(28) = .19$, $p = .85$. Overall, the average number of physical aggressive acts for both boys and girls was 9.99, while the average number of relational aggressive acts was .46. For empathy, the average number for boys and girls was 2.16. Mean empathy score for boys was 2.29 and the mean empathy score for girls was 2.03. Boys and girls showed no significant difference in rates of empathy, $t(28) = 1.19$, $p = .25$.

Discussion

The current study explored the interplay between empathy and relational and physical aggression in 30 preschool children at the Elisabeth W. Amen Nursery School. The hypothesis was partially confirmed in that the more empathic participants were less physically aggressive. The more empathic children were significantly less physically aggressive in comparison to the less empathic participants. The less empathic participants were significantly associated with high rates of physical aggression. The low empathic participants were not significantly related to high rates of relational aggression, but were in the correct statistical direction. Overall, boy participants were more physically aggressive than girl participants. There was no significant gender difference in rates of empathy.

Occurrences of physical aggression most frequently involved grabbing toys from one another, throwing toys, or hitting toys against a surface. Places within the classrooms that elicited regular occurrences of this type of aggression were the water/sand table as well as the open floor area.

One relational aggressive instance involved two boys that required teacher intervention. The conversation is as follows:

Boy 1: He's not my friend anymore.

Teacher: Why isn't he your friend anymore?

Boy 1: (Quiet response, unable to be heard on camera recording)

Teacher (to Boy 2): You said that to my friend ____?

Boy 2: Nods head

Teacher: Do you really mean it?

Boy 2: Yeah.

Teacher: How come?

Boy 2: Cause I have other friends.

Teacher: So you can't have more than one friend at school? Didn't we talk a little about this at circle? ____, look at me. Didn't we talk a little about this at circle?

Boy 2: Nods head

Teacher: ____, when you say things like that to your friends it makes them feel sad. Look at ____'s face when you said he couldn't be your friend anymore. Let me see _____. That's a very sad face. You don't want your friends to feel sad do you ____?

Boy 2: Shakes head

Another instance involved two girls. One girl physically crossed her arms, gave a stern look to the girl she was playing with, turned her back to the girl, and then walked away, thus ignoring her and continuing to give her the silent treatment. In comparison to rates of physical aggression, relational aggressive acts occurred less frequently.

The results support previous research conducted on empathy and relational and physical aggression in preschoolers. The previous studies were supported in the findings that boys were more aggressive than girls and aggressive children were rated as less empathic. Parallel to McEvoy, Estrem, Rodriguez, and Olson (2003), this study

incorporated a teacher rating measure and direct observations during free-time play within the classroom to assess levels of relational and physical aggression in preschool children. This study shared similar results in the study conducted by Minde (1992), however, those researchers executed varying measures and procedures. While Minde compared three different groups of participants on various behavioral assessments and standardized tests, the current study looked at one group of participants using other-report and direct observations. These different measures and procedures that produced similar results highlight the relationship between levels of empathy and aggression. Strayer and Roberts (2004) also used direct observation of play time, but also incorporated story vignettes to assess levels of empathy in preschool children. Again, comparable results were found in regards to gender and levels of aggression as well as empathy and aggression.

While Freeman (1984), Borke (1971), and Kestenbaum, Farber, and Sroufe (1989) used self-report, story vignettes, and direct observations to measure empathic responses and behaviors from young children, the current study used other-report by way of a teacher questionnaire. These complementary studies gave convergent validity to the idea that children as young as two and three-years-old can experience and express empathy.

The positive and negative aspects of the four methods to measure empathy in young children were taken into account in creating this investigation. The use of other-report (the teacher questionnaire) and direct observations enhanced the study. By using the strongest and most appropriate combination of measures, the researcher was able to accurately assess levels of empathy and aggression.

The direct ratings of empathy from the teachers allowed for a more objective assessment of empathy in part because empathy is difficult to measure through direct observations, especially with this age group, and the teachers had been working with the preschoolers for a year-and-a-half and therefore knew the children and their behaviors well. One of the teachers also used an empathy training program within her class entitled, “Second Step: A Violence Prevention Curriculum.” The program aims to teach young children to solve social problems by engaging in hands-on, activity-based lessons. A kit is provided to the teacher that includes training material for the teacher, lesson cards, three classroom posters, two puppets, a sing-along CD, and several other items. The teacher implemented the “Second Step” program at the beginning of several observed classes during meeting time, as well as throughout the class period to help alleviate and work through any peer conflicts. This can be seen in the above conversation with the two boys about relational aggression. The three posters were also hung on her classroom walls and depict children with various facial emotions. These cards were similar in function to those in Borke’s (1971) study.

One of the strengths of this study was working with the Elisabeth W. Amen Nursery School. As an observational nursery school, the facility is equipped and structured to make possible observations and research studies. The school facilitates observations of the preschoolers’ natural behavior within their usual environment of the classroom. Due to these accommodations, the researcher was able to unobtrusively conduct the study and observe participants’ natural behavior. Additionally, the staff and teachers were accustomed to the Wheaton community entering the building and utilizing its resources. They also actively and enthusiastically assisted in the study by giving their

advice, showing interest and investment in the study, offering to help in any way possible, providing relevant reading materials, and welcoming the researcher to the school.

Along with the strengths of the study came several limitations— the first being the use of digital video cameras as opposed to several trained researchers. By using cameras, there was a limited viewpoint of the classrooms. It is possible that the cameras were not able to pick up each instance of aggression. Also, the volume quality was inadequate and was not able to pick up all of the onscreen conversations. Using several trained researchers would have ensured that all areas of the classroom would have been watched, increasing the likelihood of capturing all aggressive acts as well as hearing and recording all of the conversations. Another drawback was the possibility that when rating the children, the teachers may have defined empathy in part based on aggressive behavior. This could create an artificial relationship between the two variables. By recruiting participants solely from one nursery school with similar socio-economic backgrounds was also a limitation. With such a narrow range of participants, results cannot be applied to populations outside of the study. Natural limitations of conducting a correlation design were also present. The study recorded correlations, not causation, and therefore cannot conclude that high levels of empathy directly reduce acts of aggression or that high acts of aggression delay the development of empathy. Confounding variables such as participants' home life, parental influence, and television and movie influence could effect development of empathy as well as aggressive behaviors.

This study can be expanded and built upon in the future. Future research would need to address the above limitations and consider using trained researchers, finding a way to ensure that artificial relationships are not created by the teachers when completing

the questionnaire, as well as recruiting a more diverse and expansive population. Results would be strengthened by using younger children and more racially and economically diverse children. Significant gains could also be had through the construction of an experimental study that looked at causality and that could draw conclusions about empathy as a direct inhibitor of aggression or aggression as a result of a delay in empathic and prosocial development.

Ultimately, this study's findings add to the limited theory and research on empathy as well as relational and physical aggression in preschool children. High levels of empathy were significantly correlated with low levels of aggression. Conceivably, the development of empathy reduced the presence of aggressive behavior in participants. These findings underline the importance of the development of empathy and prosocial behavior and their ability to inhibit aggressive acts towards others in preschool children.

Aggression and violent acts committed by children and adolescents in American schools are social problems that researchers and other officials are currently trying to remedy. One antidote for this aggressive epidemic is fostering the development of empathy in children from a young age. Empathic skills and prosocial behaviors should be taught from an early age. One way to do this would be to advocate the nationwide use of programs such as "Second Step: A Violence Prevention Curriculum" within the school systems. Along with these cognitive abilities comes the regulation of aggression, which positively adds to the development of healthy relationships. If more children were encouraged to explore their feelings and to understand the feelings of their peers, then perhaps statistics of school violence could be reduced and school shootings could be a phenomenon of the past.

Table 1: Correlations

	1	2	3
1. Empathy		.450*	.164
2. Physical			.327
3. Relational			

* $p < 0.05$. ** $p < 0.01$.

Figure 1: Classroom A

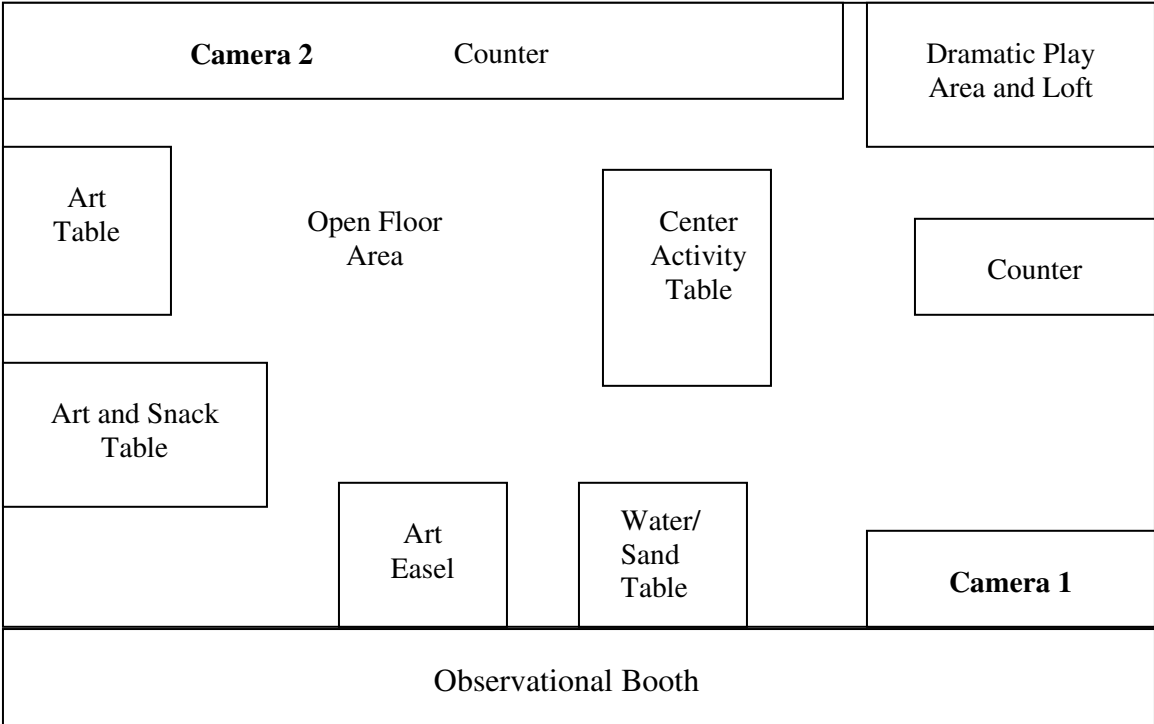


Figure 2: Classroom B

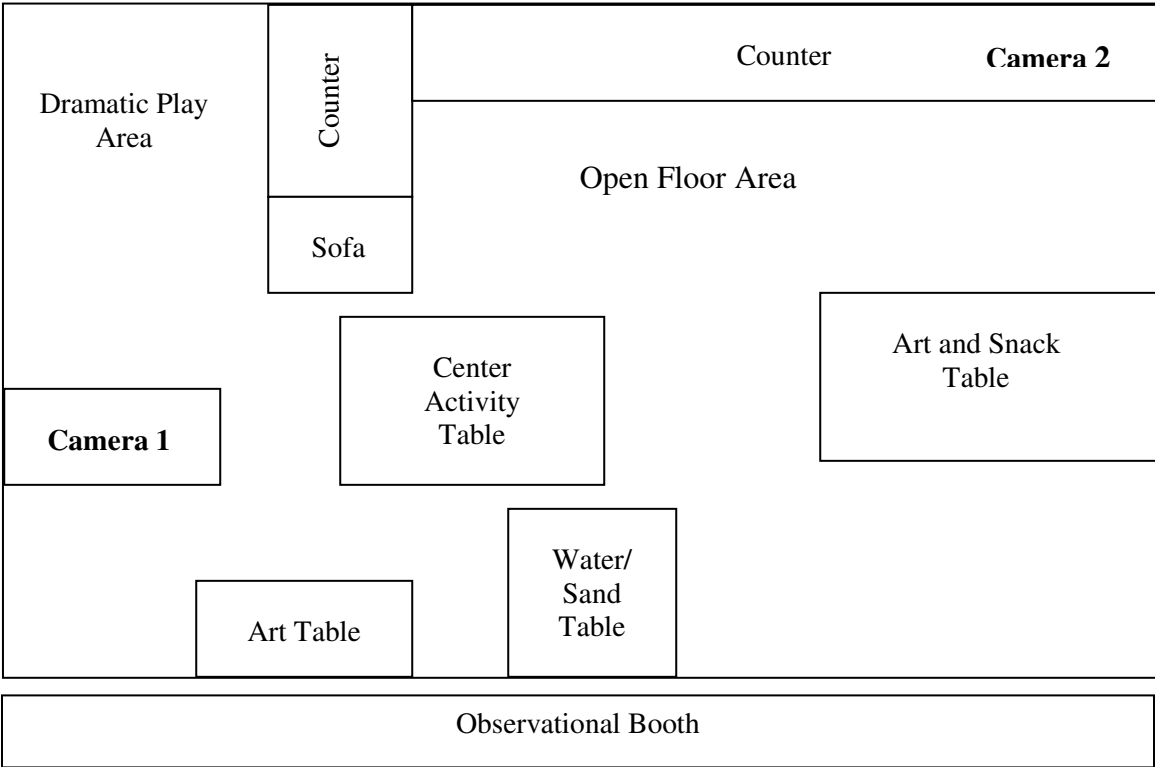
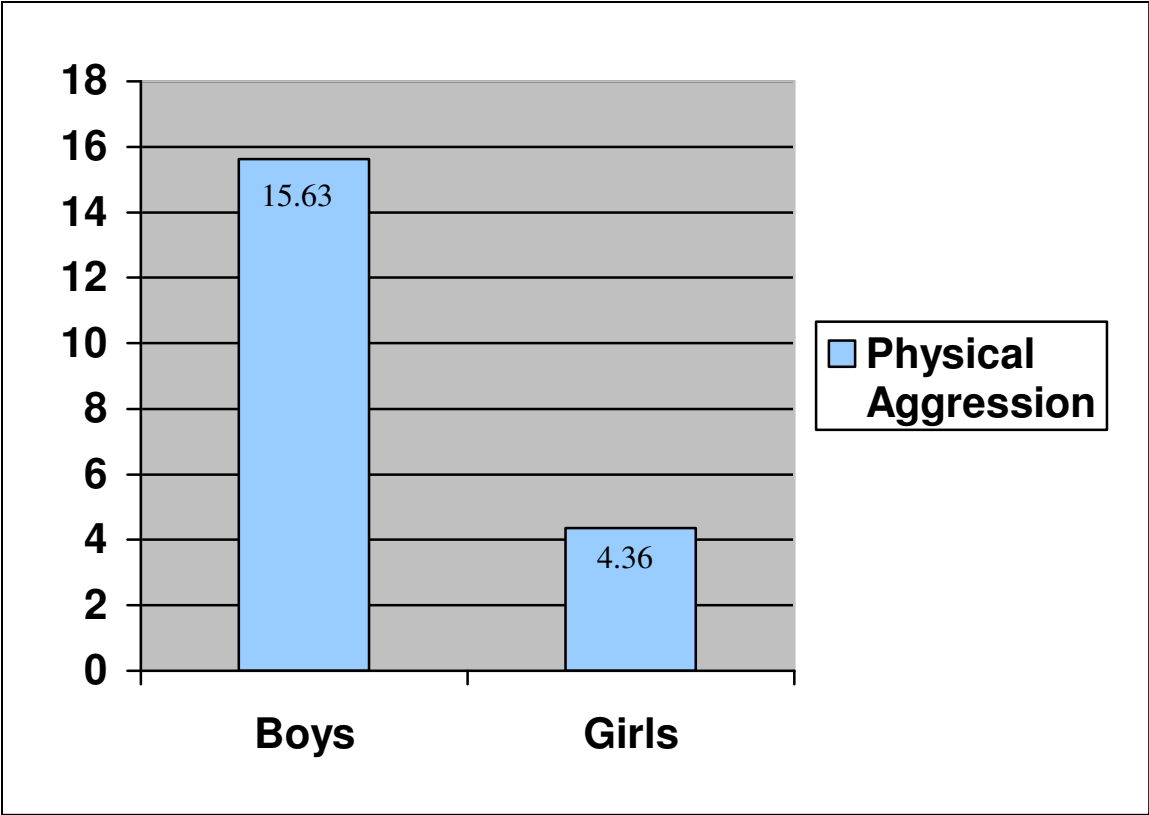


Figure 3: Average Physical Aggression and Gender



Appendix: Teacher's Questionnaire

Child's Name:

Teacher's Report

Using the scale below, please note your agreement regarding each statement about the child.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree

- _____ 1. This child settles down to work quickly.
- _____ 2. This child doesn't have much fun.
- _____ 3. This child usually feels sorry for other children who are being teased.
- _____ 4. This child is not helpful to peers.
- _____ 5. This child has difficulty concentrating on daily assignments.
- _____ 6. This child does not hit or kick others.
- _____ 7. This child gets upset when she/he sees another child being hurt.
- _____ 8. This child is kind to peers.
- _____ 9. This child looks sad.
- _____ 10. This child rarely feels sympathy for other children who are upset or sad.
- _____ 11. When mad at a peer, this child keeps that peer from being in the play group.
- _____ 12. This child is good at sharing and taking turns.
- _____ 13. This child ruins other peers' things when she or he is upset.
- _____ 14. This child rarely feels sympathy for others.
- _____ 15. This child tells others not to play with or be a peer's friend.
- _____ 16. This child smiles a lot.
- _____ 17. This child often feels sorry for others who are less fortunate.
- _____ 18. This child needs reminding if asked to carry out a regular task.
- _____ 19. This child can work well in a small peer group.
- _____ 20. This child tells a peer that she or he won't play with that peer or be that peer's friend unless she or he does what this child asks.

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