

A COMPARISON OF RELATIONAL AND PHYSICAL AGGRESSION CORRELATES IN
YOUNG CHILDREN

By

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To Kevin, whose life taught me determination and whose
memory continually provides me with inner strength

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Current prevention and intervention programs designed to reduce and avert early childhood aggression focus primarily on physical aggression. Presently no empirically validated prevention/intervention programs specifically address relational aggression. Relational aggressors use their peer relationships when engaging in aggressive acts (to tell someone that they cannot be your friend). While a number of researchers have examined the characteristics of physical aggressors, less is known about the characteristics of relational aggressors. Given the first step to ameliorating relational aggression is accurate assessment, it is essential that the characteristics of relational aggressors be identified. Inaccurate assessment or misinformation regarding correlates of relational aggression renders interventions ineffective or even detrimental.

The primary aim of this research is to explore how correlates of relational aggression differ from correlates of physical aggression. The principle research questions that guide this project include: 1.) Is relational and physical aggression related in preschool children? 2.) What is the relationship between relational aggression and the following variables: gender, perspective taking skills, and expressive language abilities? and 3.) What is the relationship between physical

aggression and the following variables: gender, perspective taking skills, and expressive language abilities?

This project used inferential statistics to assess correlates of physical aggression and relation aggression in 103 children enrolled in early childhood programs in Alachua County Florida. The Expressive Vocabulary Test was used to assess expressive language abilities; the Preschool Social Behavior Scale- Teacher Form was used to assess levels of physical and relational aggression; and the Early Childhood Social Cognitions Interview and Relational Aggression Perspective Taking Questions were used to measure each participating child's level of perspective taking skills. Anticipated benefits of this project include (a) furthering knowledge of relational aggression correlates and possible predictors, (b) differentiating predictors and correlates of relational aggression from predictors and correlates of physical aggression, and (c) utilizing information regarding the correlates of relational aggression to make recommendations concerning the development of relational aggression intervention and prevention programs.

CHAPTER 1 INTRODUCTION AND LITERATURE REVIEW

Overview of Aggression

Various definitions of the word “aggression” are employed within the plethora of research devoted to this topic. Although overlap is present among the various definitions utilized (most researchers agree that an aggressive act is an intentional behavior that is harmful, either mentally or physically, and aversive to the victim) most researchers agree there are various forms and various ways to categorize aggressive acts (Crick, Casas, & Mosher, 1997; Dodge, 1980; Goldstein & Conoley, 1997; McEvoy, Estrem, Rodriguez, & Olson, 2003).

Little and colleagues argue that researchers must distinguish the “whys” of aggressive behavior from the “whats” of aggressive behavior (Little, Jones, Henrich, & Hawley, 2003). Specifically, the “whys” of aggressive behavior include descriptors of the driving forces behind aggressive acts and the “whats” of aggressive behavior typify the acts being committed (Little et al., 2003).

Many researchers speak of the “whys” of aggressive behavior through the use of the terms reactive aggression and proactive aggression. Specifically, reactive aggression refers to the immediate display of violent or threatening behavior in response to another’s actions. Reactive aggression is often characterized as “hot-blooded” aggression because no premeditated planning is involved with this type of aggression. Proactive aggression, on the other hand, is characterized as “planned” aggression and is sometimes referred to as instrumental aggression. Proactive, instrumental aggression is often controlled by external reinforcements and is always deliberate, intentional, and self-serving (Clarke, 2004; Conner, Steingard, Anderson, & Melloni, 2003; Hubbard, Dodge, Cillessen, Coie, & Swartz, 2001; Little et al., 2003; Vitaro, Brendgen & Tremblay, 2002).

Some researchers categorize the “whats” of aggressive acts as direct or indirect. Others categorize aggression as overt or covert. Direct, overt aggression includes acts of aggression that are carried out with both the perpetrator and the victim present. Acts of physical aggression could be categorized as direct, overt aggression. If a child physically hits another child, this act would be considered an act of direct, overt aggression. Indirect and covert aggression includes the presence of a third person that acts as a facilitator of the aggressive act. For example, if one child starts a rumor about another child, and a third child helps to spread this rumor it would be considered an act of indirect, covert aggression (Kochenderfer-Ladd & Ladd, 2001; Little, et al. 2003).

Still other researchers (Monks, Ruiz, & Val, 2002) prefer to classify aggression according to explicit descriptions of the act. For example, some classify acts of aggression as physical aggression, verbal aggression, or relational aggression. Physical aggression includes acts completed with physical force. For example, to hit someone, to throw something, to kick something, or to push someone would all be considered acts of physical aggression. Verbal aggression includes acts of saying harmful words directly to someone, whereas relational aggression uses the manipulation of peer relationships. For example, to call someone a mean name would be considered verbal aggression, but to tell someone that they cannot be friends with you would be considered relational aggression (Crick, Nelson, Morales, Cullerton-Sen, Casas, & Hickman, 2001; Monks et al., 2002).

Interestingly, verbally telling someone they cannot be friends with you could be considered both a relationally and a verbally aggressive act. To clarify, some forms of relational aggression also can be considered a type of verbal aggression. When the perpetration of relational aggression is conducted by the aggressor verbally telling the victim something (“I won’t be your

friend if you let Suzy play with you”) the incidence can be characterized as both an act of relational aggression and an act of verbal aggression. Importantly, however, other forms of relational aggression are not able to be characterized as verbal aggression. For example, to ignore someone is considered an act of relational aggression because it utilizes the peer relationship in the completion of the aggressive act. However, ignoring someone cannot be considered an act of verbal aggression (Crick, Nelson, Morales, Cullerton-Sen, Casas, & Hickman, 2001; Monks et al., 2002).

Significance of Relational Aggression

Relational aggression is a serious problem which can include social exclusion, spreading rumors, ignoring peers, asking others in the peer group to ignore or exclude a peer, telling a peer they cannot be part of the group, asking others in the peer group to tell a peer s/he can not be part of the group, and/or setting conditional limits on one’s friendship. Each month over 200,000 students in the United States miss school due to relational victimization (<http://www.opheliaproject.org>, retrieved 5/20/2006). Moreover, the vast majority of girls who are victimized by peers (approximately 70%) are victims of relational aggression (Crick & Bigbee, 1998).

Though the field of relational aggression is still in its infancy, a need to assess relational aggression and provide intervention services to relationally aggressive preschoolers has been identified. Crick, Casas, and Nelson (2002) point out that relational aggression attacks children’s needs for social acceptance and closeness, which can lead to the occurrence negative interpersonal events. For example, Crick, Casas, and Ku (1999) assessed the correlation between relational victimization and social and psychological adjustment problems among 192 preschool children using peer-nominations, teacher-reports, and interviews. Results indicated that children who are victims of relational aggression are significantly more likely to be rejected by peers, to

have poor peer relationships, to have significantly less prosocial problem solving skills, and to exhibit significantly more internalizing problems than those who were not found to be victims of relational aggression. Additionally, Crick and colleagues (2006) longitudinally studied relationally aggressive preschoolers. Results indicated relationally aggressive preschoolers were more likely than non-relationally aggressive preschoolers to be continually rejected by peers.

Similarly, McNeilly-Choque and colleagues (1996) used peer-nominations, teacher ratings, and direct observations to investigate relational aggression and physical aggression among preschool children. Relational aggression included any purposeful manipulation of the peer relationship (excluding peers, saying “you can not go to my party if you don’t give me the ball.”), whereas physical aggression included acts completed with physical force (hitting, kicking, spitting on, tripping, pushing, etc). Physically aggressive boys were significantly more likely to be rejected than non-physically aggressive children (i.e., both boys and girls) or than relationally aggressive boys. Similarly, relationally aggressive females were significantly more likely to be rejected than non-relationally aggressive females.

Investigating similar constructs in older children, Crick and Grotpeter (1995) found that children who engaged in relational aggression had significantly higher levels of loneliness, depression and isolation than their non-relationally aggressive peers. In a related study, Roecker Phelps (2001) examined the coping strategies of 491 third through sixth grade children who were exposed to relational and overt aggression. Children who were more commonly exposed to relational aggression tended to use internalizing strategies (worrying about the act of aggression, becoming anxious), whereas children who experienced overt aggression commonly exhibited the use of externalizing strategies (throw something).

Similarly, when exploring the psychological and social adjustment of relational aggressors among a sample of 9th through 12th grade students, Prinstein and colleagues (2001) found victims of relational aggression exhibited more internalizing behavior problems (anxiety, depression) than non-victimized peers (Prinstein, Boergers, & Vernberg, 2001). Likewise, when the social-psychological adjustment of young adult victims of relational aggression in a college sample were examined, results indicated victims of relational aggression were more often rejected by peers and less satisfied with their lives than non-victimized peers. Additionally, relational aggression was associated with overall higher levels of maladjustment (Werner & Crick, 1999).

Negative sequelae not only appear to be related to the victimization of relational aggression but also to the perpetration of relational aggression. For example, Crick, Ostrov, and Werner (2006) found relational aggression to be a strong predictor of psychological and social maladjustment. Cillessen and Mayeux (2004) used sociometrics to measure the social status and social preference of relational aggressors and physical aggressors in a sample of 905 children ages 10 to 14. The use of relational aggression was predictive of low social preference and high social prominence. In other words, relationally aggressive individuals were popular but not preferred among peers. Andreou (2006) also found relationally aggressive individuals are commonly popular but not liked.

Additionally, when studied longitudinally, engaging in relational aggression in the beginning of the year in later elementary school grades (3rd grade, 4th grade, 5th grade, or 6th grade) was predictive of future social maladjustment at the end of that school year (Crick, 1996). More specifically, findings indicate that when comparing individuals who engaged in relational aggression to those who engaged in physical aggression, the children who engaged in relational

aggression were more likely to be rejected by peers. Importantly, perpetrators of relational aggression in the beginning of third grade, the beginning of fourth grade, the beginning of fifth grade, and the beginning of sixth grade were likely to continue being consistent perpetrators of relational aggression throughout a year-long study, suggesting relational aggression may be a relatively stable characteristic in these individuals (Crick, 1996). This finding specifically highlights the need for research to inform relational aggression intervention projects. Relational aggression does not appear to be a characteristic that dissipates on its own. The need for intervention services is vast. However, prior to developing intervention programs for relational aggression, more research must be conducted to identify the correlates and predictors of relational aggression.

Theoretical Frameworks for Relational Aggression

Numerous studies use the Social Information Processing Model (SIPM) to describe the cognitive actions engaged in by relational aggressors. Recent studies have begun to consider the Resource Control Theory in the explanation of relational aggression. Each of these frameworks provides valuable tools for the explanation of relationally aggressive behaviors.

Social Information Processing Model

The Social Information Processing Model (SIPM) has been used to explain physically aggressive behavior by many researchers (Coie & Cillessen, 1993; Dodge, Lansford, Salzer Burks, Bates, Pettit, Fontaine, & Price, 2003; Salzer Burks, Laird, & Dodge, 1999; Webster-Stratton & Lindsay, 1999). In fact, most studies that link social information processing to the use of aggressive behavior directed towards peers focuses on physical aggression (Crick, Grotpeter, & Bigbee, 2002). However, Crick and colleagues (1995, 1999) have begun to demonstrate the usefulness of the SIPM in explaining relational aggression.

In the SIPM, children's social behaviors, including various forms of aggression, are considered to be a function of any one of the following steps: encoding social cues, interpreting social cues, forming goals, availability of access to a response(s), and deciding upon a response (Crick & Dodge, 1994). (See Appendix A). Physically aggressive individuals are commonly found to hold a hostile attribution biases (an excessively negative processing of information) with regard to their social information processing. More specifically, the hypothesis states that physically aggressive children interpret social cues delivered by others (peers) as having hostile or malice intent, despite if this is the case (Coie & Cillessen, 1993; Dodge, et al., 2003; Salzer Burks et al., 1999; Webster-Stratton & Lindsay, 1999).

According to the SIPM, holding a hostile attribution bias increases the likelihood that a child will react aggressively to behaviors exhibited by peers (Crick et al., 2002). Crick, Grotpeter, and Bigbee (2002) suggested that physically aggressive children may be more likely to hold hostile attribution biases for "instrumental provocation" contexts, and relationally aggressive children may be more likely to hold hostile attribution biases for "relational provocation" contexts (p. 1136). Examples of instrumental provocations include disagreements involving "physical dominance, territory issues, or instrumental concerns" (Crick et al., 2002, p. 1136). Examples of relational provocations include "interpersonal issues or relational concerns such as social exclusion, disagreements with friends, or being the target of peer's gossip" (Crick et al., 2002, p. 1136). For example, this hypothesis suggests that children who engage in relational aggression would assume that malice was intended if they did not get invited to a sleep over (i.e., social exclusion), even if this was not the case (the child who had the sleep over was not allowed to invite any more children).

To test this hypothesis, Crick and colleagues (2002) conducted two studies. In the first study, 825 third grade children from various elementary schools were screened to identify how physically and relationally aggressive they were. Results from this study identified 127 individuals who were either extremely physically aggressive when compared to peers or extremely relationally aggressive when compared to peers. The extremely aggressive individuals completed measures assessing their intent attributions and emotional distress. In the second study, 535 third to sixth grade children completed the aggression, intent attribution, and emotional distress instruments. Results from both of these independent studies indicated that physically aggressive individuals were more likely to hold hostile attribution biases for instrumental provocations and relationally aggressive individuals were more likely to hold hostile attribution biases for relational provocations (Crick et al., 2002). Interestingly, these findings have not been replicated in later studies. For example, Crain, Finch, and Foster (2006) conducted two independent studies to examine the social-information processing variables (holding hostile attribution biases) in relationally aggressive fourth- through sixth-grade girls, and found hostile intent attributions and outcome expectancies were not significantly related to peer nominations of relational aggression (Crain et al., 2006).

The SIPM suggests that physically aggressive children lack empathy when deciding upon a response to the actions of others. When describing the utilization of the SIPM to the explanation of relational aggression, Crick and colleagues (1995, 1999; Murray-Close, Crick, & Galotti, 2006) suggest that relationally aggressive individuals also lack empathy when deciding upon a response to the actions of others. However, alternatives to this school of thought should be considered. One alternative hypothesizes that relationally aggressive individuals do not lack empathy-related perspective taking skills. More specifically, the nature of relational aggression

involves manipulation. In order to be effective at manipulation, individuals need to be able to engage in perspective taking. Relationally aggressive individuals likely understand how their actions may make peers feel. If they did not, their utilization of relational aggression may not be effective in meeting their needs. Therefore, relationally aggressive individuals likely do possess some aspects of empathy (perspective taking). The aspect of empathy that is not clearly evident in relationally aggressive individuals is the ability to feel as others do.

Resource Control Theory

The Resource Control Theory (Hawley, 2003) could be used in combination with the SIPM to inform hypotheses regarding the decision-making process of relationally aggressive children. The Resource Control Theory hypothesizes that various interactions require competition for resources (competition for attention of peers, a certain place in line, a desired object, etc). The presence of such competition prompts the use of “strategic control efforts.” These control efforts can be prosocial, coercive, or a mixture thereof. For example, a child who would like to obtain a desired toy could think to themselves “I would like the toy Billy has. How can I obtain that toy,” they could then decide upon a “strategic control” strategy to utilize. The child could decide upon a prosocial strategy (think to her/himself, “I could ask Billy for the toy” and then ask Billy “May I play with that toy, please?”), or a coercive strategy (think to her/himself “if I push Joey, and he runs into Billy, Billy will probably push Joey back, and the teacher may put Billy in time out, and I will get to play with the toy Billy has.”). Bistrategic controllers, or children who use a mixture of prosocial and coercive control methods, are commonly the most relationally aggressive children in their peer groups (Hawley, 2003). These individuals are likely skilled at taking the perspectives of peers and matching the use of their control strategy to their current situations. Hawley (2003) found that relationally aggressive bistrategic controllers have higher levels of moral maturity than their less relationally aggressive

peers. Moreover, these individuals likely have better developed language abilities than their non- relationally aggressive peers. As such, it could be hypothesized that relationally aggressive preschool-aged children may be more mature with regard to empathy-related perspective taking skills than their non- relationally aggressive peers.

Relational Aggression in Early Childhood

As mentioned previously, relational aggression occurs when a peer uses her/his relationship as a means to harm, threaten, or persuade another peer to engage in or not engage in a specific behavior. Relational aggression can include social exclusion as a way to retaliate (Crick & Grotpeter, 1995). For example, when a preschooler says “I won’t be your friend unless you let me paint with that brush,” (s)he is engaging in relational aggression.

Though this form of aggression is most commonly found among adolescent females, it can be seen as early as the preschool years (Bonica, Arnold, Fisher, Zajo, & Yershova, 2003; Crick, Casas, & Mosher, 1997; Crick et al., 2001; McEvoy et al., 2003). During the preschool years, young children’s social skills are developing. As such, the relationally aggressive acts exhibited by these children are usually direct and obvious. For example, it is much more likely that you will hear a preschooler tell a peer that she will not be her friend than to have that preschooler spread a rumor about the peer (Crick et al., 2001).

The majority of the research examining relational aggression among preschoolers has found it to be most common among female preschoolers (Bonica et al., 2003; Crick et al., 1997; Crick et al., 2001; Crick et al., 2006; McNeilly-Choque, Hart, Robinson, Nelson, & Olsen, 1996). However, McEvoy and colleagues (2003) found that preschool boys engage in both relational and physical aggression more often than preschool girls. More specifically, McEvoy et al. found relational aggression was the most common form of aggression among preschool females; yet, preschool boys were found to engage in more acts of relational aggression than

preschool girls. However, these findings have not been replicated. McEvoy and colleagues point out that their findings are discrepant with regard to the current literature and suggest that there is a need to examine this further in order to place confidence in these findings.

Estreem (2005) assessed the language abilities and aggressiveness of 100 preschool-aged children. Results indicated that overall incidences of relational and physical aggression tend to decrease as language skills increase. However relational aggression and physical aggression were not differentiated. Park, Essex, Zahn-Waxler, and colleagues (2005) also found language skills to be lower in individuals who exhibit relational and physical aggression. Again, Park and colleagues did not consider the differences inherent in the types of aggression exhibited.

When the type of aggression being measured was held constant, relationally aggressive preschool-aged girls tended to exhibit higher expressive language skills than non-relationally aggressive and than physically aggressive preschool-aged girls (Estreem, 2005). Similarly, Bonica and colleagues (2003) found expressive language skills and receptive language skills to be better developed in relationally aggressive individuals than in individuals who did not exhibit significant relationally aggressive characteristics. These findings are consistent with hypotheses posited by Crick and colleagues (1997), suggesting that relational aggression among preschoolers may be facilitated by strong verbal language skills.

Additionally, Sebanc (2003) assessed the role of friendships in young children's aggressive acts. Specifically, relationally aggressive children and overtly aggressive children were found to have friendships riddled with conflict. However, relationally aggressive children tended to experience more exclusive and more intimate friendships than children who were not relationally aggressive, suggesting that the social abilities of relationally aggressive children may not be under-developed (Sebanc, 2003). Simon (2002) also found evidence that the social abilities of

relationally aggressive young children may be average or above average. For example, Simon demonstrated that the empathy-related perspective taking skills of relationally aggressive preschool boys was well-developed when compared to the perspective taking skills of non-relationally aggressive peers. However, the relationship between empathy-related perspective taking skills and relational aggression in females was not significant. Moreover, this study has not been replicated, demonstrating the need for future studies to further investigate this construct's link to relational aggression in young children.

Assessment of Relational Aggression

Relational aggression has traditionally been assessed in elementary, middle, and high school students using teacher ratings and peer nominations. (See Appendix B for an overview of the methods used to assess relational aggression and Appendix C for a list of the limitations of each form of assessment). The traditional methods for assessing relational aggression among preschool students include the use of teacher ratings and peer nominations (Bonica et al., 2003; Crick et al., 1997; Crick et al., 2001; McEvoy et al., 2003; McNeilly-Choque et al., 1996). Specifically, the two most common tools utilized for assessing relational aggression among preschool children include the Preschool Social Behavior Scale-Teacher Form (PSBS-T) (See Appendix D) and the Preschool Social Behavior Scale-Peer Form (PSBS-P), each of which were originally developed by Crick and colleagues in 1997.

Preschool Social Behavior Scale- Teacher Form

The PSBS-T is a teacher rating scale utilized with teachers of 3-year-old to 5-year-old students. This scale consists of 25 items divided into 4 scales (i.e., the relational aggression scale, overt/physical aggression scale; prosocial behavior scale; and depressed affect scale). Six of the total items reliably assess relational aggression; another 6 reliably assess overt, physical aggression; 4 reliably assess prosocial behavior, and 3 reliably assess depressed affect

(Chronbach's $\alpha = .87-.96$) (Crick et al., 1997; Crick, Ostrov, Appleyard, Janeson, & Casas, 2004). This scale is simple to administer. Likewise, scoring is not complicated. On the other hand, the PSBS-T relies upon the teacher's subjective opinion; and, the limited number of items included on this scale could impair its reliability.

Preschool Social Behavior Scale- Peer Form

The PSBS-P is a peer nomination measure used with children ages 3 to 5. During an assessment utilizing the PSBS-P, children engage in two 15-minute interview sessions with an examiner. During these sessions, a picture nomination procedure is utilized to reliably assess relational aggression (Chronbach's $\alpha = .71$), overt physical aggression (Chronbach's $\alpha = .77$), and prosocial behavior (Chronbach's $\alpha = .68$). The total scale consists of 14 items. A total of 4 items are devoted to each construct (relational aggression, overt aggression, and prosocial behavior), and 2 additional items are used to assess peer-rejection and peer-acceptance ratings (Crick et al., 1997; Crick, et al., 2004). As with the PSBS-T, this assessment is simple to administer and score. Conversely, outcomes could be negatively impacted if children discuss their nominations after participating in the interview.

Direct Observations

The third most common method utilized in assessing relational aggression among preschool students includes engaging in direct observations. This method could be utilized in order to assess relational and physical aggression, relational aggression alone, or physical aggression alone. When utilizing this method for the assessment of relational aggression, the following operational definition is commonly employed: "any verbal or nonverbal behavior that (a) excludes others from play or encourages others to exclude a child ("tells others not to play with or be a peer's friend") or (b) threatens to exclude or ignore ("You won't be invited to my birthday party unless you give me that toy")" (McEvoy et al., 2003, p. 56).

In utilizing the direct observation method of assessing relational aggression, naturalistic observations or semi-structured observations could take place. Using the naturalistic observation method, children are observed in their natural setting. For example, these observations usually take place on the playground, or in the preschool classroom. In engaging in direct, naturalistic observations, a partial interval observation system is commonly employed. In this method, the observation period is broken down into 10 second intervals. If any act of relational aggression occurs anytime during a 10-second interval, it is marked accordingly. If more than a single instance of relational aggression occurs during a 10-second interval, it is only marked once. The rate of relational aggression is calculated by summing the observed frequency of relational aggression and dividing it by the number of total possible occurrences for each child (Crick et al., 2004; McEvoy et al., 2003).

As with the previous two assessment methods, this technique is simple and straightforward. Similarly, because it is a direct observation occurring in a naturalistic setting, it is authentic. Conversely, the observer is unable to know the extent of the impact of his/her presence in the child's environment. The observer also is at a disadvantage because he/she must get close enough to hear the verbal exchanges going on between children. While on a noisy playground this may be difficult to do from afar.

In semi-structured, analogue observations one tries to elicit and capture (often on video-tape) the types of peer interactions that naturally occur in the preschoolers' environment. For example, a group of preschoolers may be asked to color in a coloring book, and not be given enough crayons for everyone in the group. Essentially, the recordings of the peer interactions are closely observed and all instances of relationally aggressive acts are recorded. This method is relatively cost- and time-efficient; however, some authenticity may be lost (Crick et al., 2004).

Comparison of Three Methods

McEvoy and colleagues (2003) compared the 3 most commonly utilized methods of assessing relational aggression among preschool students. Specifically, 59 preschool students ranging in age from 42 months (i.e., 3 years, 6 months) to 70 months (i.e., 5 years, 10 months) were assessed using the naturalistic direct observation method described above, the PSBS-T, and the PSBS-P. Teacher and peers tended to identify the same children as relationally aggressive. Direct observations of relational aggression, on the other hand, were not as strongly correlated to peer nominations or teacher ratings. Importantly, when only rank order data pertaining to the preschool girls were analyzed, there was agreement among the 3 methods utilized. The relationship between direct observations, peer nominations, and teacher ratings was also assessed with regard to physical aggression. More agreement was found with regard to physical aggression, possibly because it is easier to identify than relational aggression.

Correlates of Relational Aggression

The empirical literature is quite informative concerning the negative sequelae related to the perpetration and victimization of relational aggression. Unfortunately, researchers provide few suggestions regarding how to prevent or alter relational aggression. Prior to being able to develop relational aggression prevention and intervention programs, data must be provided regarding the correlates and predictors of relational aggression. The first step to ameliorating relational aggression is accurate assessment of relational aggression, its correlates, and its predictors. Inaccurate assessment of relational aggression or misinformation regarding predictors and correlates of relational aggression renders interventions ineffective or even detrimental. Early assessment and identification of relational aggression correlates is critical.

Previous researchers have demonstrated relational aggression is related to serious psychosocial adjustment and peer relation problems. Currently there are few empirically validated

methods to prevent or intervene with relational aggression (The Ophelia Project and the Empower Program, Young, Boye, & Nelson, 2006) and none that address relational aggression in young children (Merrell, Buchanan, & Tran, 2006). Prevention and intervention programs that have been suggested for use in early childhood programs are often developed specifically for preventing physical aggression. These programs are commonly language based programs that address empathy. Language ability has been linked to relational aggression (Crick et al., 1997); however, the link of empathy to relational aggression in young children has yet to be definitively demonstrated. Many programs developed to address physical aggression focus on perspective taking as a way to increase empathy and inadvertently decrease aggression. The utility of this method to decrease relational aggression has not been empirically validated. As hypothesized previously, using the Resource Control Theory in combination with the Social Information Processing Model, relationally aggressive individuals may be quite skilled at empathy-related perspective taking.

Studies testing models of relational aggression's predictive variables and correlates are needed in order to inform relational aggression intervention and prevention program development. Significant relationships among language ability, social ability and gender exist. Moreover, the relationship of relational aggression to language ability and to gender has been demonstrated (relationally aggressive individuals are often females with well-developed language abilities). A model that systematically examines the relative contribution of each of these variables (i.e., gender, language ability, and social ability) to relational aggression in young children would likely prove quite useful in the further development of relational aggression prevention and intervention programs.

Gender

Most researchers examining relational aggression among preschoolers have found it to be most common among female preschoolers (Bonica et al., 2003; Crick et al., 1997; Crick et al., 2001; McNeilly-Choque, Hart, Robinson, Nelson, & Olsen, 1996). However, McEvoy and colleagues (2003) found that preschool boys engage in both relational and physical aggression more often than preschool girls. More specifically, McEvoy et al. found relational aggression was the most common form of aggression among preschool females; however, preschool boys were found to engage in more acts of relational aggression than preschool girls. These findings have not been replicated, highlighting the need for future research to further examine this phenomenon.

Language Ability

Estreem (2005) assessed the language abilities and physical and relational aggressiveness of 100 preschool-aged children. Results indicated that overall incidences of aggression tend to decrease as language skills increase. Park, Essex, Zahn-Waxler and colleagues (2005) also found language skills to be lower in individuals who exhibit relational and physical aggression. Each of these findings did not consider the differences inherent in the types of aggression exhibited. When the type of aggression being measured was held constant, relationally aggressive preschool-aged girls tended to exhibit higher expressive language skills than non-relationally aggressive and than physically aggressive preschool-aged girls (Estreem, 2005). Similarly, Bonica and colleagues (2003) found expressive language skills and receptive language skills to be better developed in relationally aggressive females than in females who did not exhibit significant relationally aggressive characteristics.

Discrepancies in the literature concerning whether expressive language skills, receptive language skills, or both are better developed in relationally aggressive preschoolers warrants further investigation of these constructs.

Empathy and Perspective Taking Skills

Loudin, Loukas, and Robinson (2003) examined the empathy-related perspective taking skills and empathic concern present in college students who exhibited relational aggression and in those who did not. Lower levels of perspective taking skills were found to be related to higher levels of relational aggression. Empathic concern was not found to be related to relational aggression in females. However, lower levels of empathic concern were predictive of higher levels of relational aggression in males. Crick and colleagues (2004) postulate that similar findings are likely to be found with younger samples. However, clear evidence of the occurrence of such findings in younger samples has not been demonstrated.

Simon (2002) assessed psychosocial correlates of relational aggression in 135 preschool-aged children. Affective perspective-taking skills (i.e., empathy-related perspective taking skills) were found to be significantly related to relational aggression in preschool aged boys. Specifically, preschool-aged boys who were found to be relationally aggressive were also found to have well-developed empathy-related perspective taking skills. The relationship between empathy-related perspective taking skills and relational aggression in females was not significant. These findings, along with Crick's divergent hypothesis and the contrasting findings Loudin et al. obtained using a college sample demonstrate the need to further assess the constructs of relational aggression and empathy-related perspective taking skills.

Social Competence and Friendships

The role of social abilities in relation to the predication of relational aggression in young children has not been clearly demonstrated in the literature. Nevertheless, Sebanc (2003) found

certain friendship characteristics are more commonly seen in relationally aggressive preschoolers than in their non-relationally aggressive peers. For example, relationally aggressive children and overtly aggressive children were found to have friendships riddled with conflict. However, relationally aggressive children tended to experience more exclusive and more intimate friendships than children who were not relationally aggressive. The latter finding suggests that the social abilities of relationally aggressive children may be sufficiently developed when compared to non-relationally aggressive peers (Sebanic, 2003). Relatedly, Anderou (2006) found elementary-aged relationally aggressive children are commonly popular but not liked by peers, and are often skilled at perspective-taking. Similarly, Simon (2002) found empathy-related perspective taking skills to be better developed in relationally aggressive preschool boys than in non-relationally aggressive preschool boys, demonstrating the need to further assess this construct in relation to the prediction of relational aggression in early childhood.

Family Factors

Werner, Senich, and Przepyszny (2006) examined mothers' responses to scenarios of physical aggression as compared to their responses to scenarios of relational aggression among preschool children. Findings indicate mothers view relational aggression less negatively than physical aggression. Moreover, mothers were found to be less likely to intervene in situations of relational aggression when compared to situations of physical aggression.

Similarly, Casas and colleagues (2006) examined the parent-child relationships of young children and how the use of relational aggression fluctuates as a function of those relationships. Mothers' use of a permissive parenting style was found to be predictive of relational aggression when effects due to age and gender were controlled. Moreover, each parent's use of psychological control was found to be positively correlated to relational aggression in females

and to physical aggression in males. The father's use of love withdrawal also was found to be predictive of male participants' use of relational aggression.

Relational aggression among siblings also has been found to be predictive of relational aggression among young children. For example, Ostrov, Crick, and Stauffacher (2006) found that preschoolers who have older siblings who utilize relationally aggressive strategies are more likely to engage in relational aggression among peers. However, relational aggression appears to be more commonly applied to sibling-dyads than to peer-dyads at age 4. This trend no longer appears to be present at age 8, when relational aggression between friends appears to increase (Stauffacher & DeHart, 2006).

Significance of Physical Aggression in Early Childhood

Physically aggressive acts are common among very young children. For instance, toddlers will often push, bite, shove, or hit other children when they become angry. As individuals move into the preschool years, they tend to turn to verbal aggression, including yelling at other children and having temper tantrums (Coie & Dodge, 1997). Physical aggression exhibited in the early childhood years can be a predictor of aggression in later childhood and adolescence. Additionally, early aggression has been related to adolescent antisocial behavior and delinquency. Several factors influence the actual development of aggression in children but once established a repeated pattern of physical aggression becomes a detrimental and stable trait, highlighting the need for early intervention.

Physical aggression is a social and personal problem that could have serious negative outcomes. Aggression comes at a grave personal cost to the individual and at a great expense to the community and society as a whole. On a personal level, some aggressive children tend to have higher rates of delinquent acts, lower academic achievement, poor peer relationships, as well as mental health issues. Clearly, these personal difficulties translate into serious social

problems such as involvement in the justice system, school dropout, poor community bonds, and mental illness (Huesmann, Eron, & Dubow, 2002; Risi, Gerhardstein, & Kistner, 2003; McMonagle, 2006; Miller-Johnson, Coie, Maumary-Gremaud, & Bierman, 2002).

The majority of aggressive children do not grow up to become aggressive adults. A small percentage of children who display aggressive behavior continue the pattern into adolescence and adulthood, often across multiple settings. These children are often referred to as early starters (Moffitt, 1993; Taylor, Iacono, & McGue, 2000). Early starters are on a developmental trajectory of increasing severity and multiplicity of problem behaviors.

Delinquency

Miller-Johnson and colleagues (1999) found physical aggression and corresponding peer rejection in a sample of 3rd graders predicted various delinquent acts in 6th, 8th, and 10th grade. Relatedly, Coie and colleagues (1992) followed two cohorts of third graders through their first year of middle school. The children who displayed physical aggression at the onset of the study (i.e. at the beginning of third grade) were found to have higher levels of externalizing behavior problems at the end of the study. This suggests early physical aggression predicted later adolescent disorders. These two studies both involved samples that represented low SES, African American populations; however, another study by Huesmann and colleagues (2002) contained a sample that was primarily middle class and representative of various ethnicities. Huesmann et al. (2002) identified early physical aggression and peer rejection in a sample of third graders as a risk factor for an increased likelihood of being arrested for various crimes up to 22 years later.

Consistent findings also are provided using younger populations. For example, in another study Miller-Johnson and colleagues (2002) followed a group of first grade students who were physically aggressive and rejected by peers. These students were found to experience conduct

problems in the fourth grade. Moreover, physical aggression at the onset of the study was predictive of impulsive and emotionally reactive behaviors at the end of the study.

Broidy and colleagues (2003) investigated the stability of physically aggressive behavior in a longitudinal study that evaluated participants from as early as birth through adolescence. Participants were representative of three countries, with two sites in each country. The findings suggested that problematic behavior (physical aggression) remained stable throughout the child's development. Interestingly, the participants from the United States were the only children to show an increase in problematic behaviors as they aged. The later suggests that the climate in the United States may support physically aggressive behavior. Early childhood physically aggressive behavior again was found to be a predictor of adolescent delinquent acts (Broidy et al., 2003)

Educational Outcomes

Risi, Gerhardstein, and Kistner (2003) and Kupersmidt and Coie (1990) also found that physically aggressive children are more likely to drop out of school. Ensminger and Slusarek (1992) explored aggressive behavior in relation to low academic and occupational achievement. Results indicated physical aggression in early elementary school is highly correlated with later school dropout. Previous research indicated children with behavior problems, especially in early childhood, tend to experience poor academic achievement and school failure (Barrington and Hendricks, 1989; Cairns, Cairns, and Neckerman, 1989; Hawkins et al, 1991; Risi, Gerhardstein, & Kistner, 2003; Shinn, Ramsey, Walker, O'Neill, & Steiber, 1987; Trembley, 1992). Whether physical aggression is directly related to low achievement or confrontations with teachers remains unclear. However, confrontation with teachers is related to low teacher expectations, which then impacts school achievement (Brophy, 1983; Meyer, 1985).

Mental Health Outcomes

Mental health and psychopathology also are concerns for children with physically aggressive tendencies. A significant childhood factor related to later drug and alcohol use is physical aggression. McMonagle (2006) found high school students who used drugs, smoked, and abused alcohol were more likely to engage in physically aggressive behaviors. Moreover, Kellam, Brown, Rubin, and Ensminger (1983) found in a longitudinal study of African American children followed from age 6 years to 16-17 years that early physical aggression influenced substance use. Ferguson and Horwood (1998) examined early conduct problems and later life opportunities; the conduct problem definition included aggression. Conclusions indicated that children with early-onset conduct problems are at-risk for substance abuse as well as other mental health concerns.

Interpersonal Outcomes

Interpersonal relationships are tremendously difficult for children demonstrating physically aggressive behaviors because physically aggressive children often have difficulty interpreting social cues properly (Crick & Dodge, 1994). They tend to assign more hostile intentions than is meant by the sender of the social message (de Castro, Welmoet, Willem, Veerman, & Bosch, 2005; Dodge, 1985; Milich & Dodge, 1984). This misinterpretation, especially in early childhood, often results in physically aggressive actions.

Altepeter and Korger (1999), and Shinn, O'Neill, and Ramsey (1987) found physically aggressive children have poor peer social relations. Rejection, especially in early childhood, is linked to later aggressive and violent behaviors (U.S Department of Health and Human Services, 2001). Due to lack of social skills, physically aggressive children are often rejected by their peers (Coie, Dodge, & Kupersmidt, 1990). However, as these children grow older and reach adolescence, they are not completely friendless. In fact, they frequently hold membership in

social groups that have similar experiences and attitudes (Cairns, 1988), thus, perpetuating a cycle of aggression and rejection.

Physical Aggression Intervention Programs

The study of physical aggression has evolved throughout the years, and many predictors and correlates of physical aggression (being male, being from a low SES background, growing up in a violent neighborhood, being born to young parents who use harsh punishment, parental conflict, marital discord, coercive relationships with parents, difficult temperaments, socially rejected, low school achievement, low language abilities, etc.) have been repeatedly identified (Coie & Dodge, 1997; Juvonen & Graham, 2001; Lavigne, Cicchetti, Gibbons, Binns, Larsen, & Devitto, 2001; Mathesen & Sanson, 2000; McEvoy et al., 2003; Monks et al., 2002; Pierce, Ewing, & Campbell, 1999). Unlike researchers who study relational aggression, researchers who study physical aggression have had plenty of empirical data related to the correlates of physical aggression to rely upon when devising physical aggression intervention programs.

Within early childhood, general strategies used to combat physical aggression include home visits, parenting programs, marital and family therapy, and early childhood education. Moreover, when addressing youth and/or adolescents many strategies focus on teaching problem solving skills, violence prevention curricula, mentoring, peer mediation, peer counseling, and vocational training/employment (Kellerman, Fuqua-Whitley, Rivara, & Mercy, 1998). A description of some specific programs frequently cited in the literature follows.

Second Step Violence Prevention Curriculum

Though other primary prevention programs (e.g., Peace Builders Program, Resolving Conflict Creatively Program) are cited in the literature, Second Step Violence Prevention Curriculum (i.e., Second Step) is one of the programs most frequently discussed. Second Step was developed by the Committee for Children and is implemented by teachers of children

preschool aged through eighth grade. It focuses on teaching impulse control, anger management, and empathy to the students involved in the program via the use of class discussions, role-playing, modeling, corrective feedback, and contingent positive reinforcement (Leff, Power, Manz, Costigan, & Nabors, 2001).

Grossman and colleagues (1997) conducted a pretest-posttest control group design with 790 second and third graders to measure the effectiveness of Second Step. In this study, all second graders in specified schools were targeted. When parent and teacher ratings were utilized, they found a positive modest effect for the intervention. More specifically, after the intervention implementation, teachers and parents reported a decrease in physical aggression and an increase in prosocial behaviors in the lunchroom and on the playground. Therefore, Second Step has been shown to not only decrease levels of physical aggression but also increase levels of prosocial behaviors (Grossman et al., 1997). However, Second Step's ability to decrease levels of relational aggression has not been empirically validated.

Play Time/Social Time: Organizing Your Classroom to Build Social Interaction Skills

Kamps and colleagues (2000) implemented a social intervention to physical aggression which included social skills training with reinforcement and peer tutoring. Two cohorts of children from Head Start participated in this study. The first cohort began with 33 children in kindergarten; however ended up with only 19 children in first-grade. The second cohort began with 20 children in preschool, however ended up with 12 children in kindergarten. Each child who participated was identified as having heightened behavioral risks.

In the first year of intervention, students in Cohort 1 engaged in affection activities, and received social skills instruction using Play Time/Social Time: Organizing You Classroom to Build Interaction Skills, a curriculum developed at Vanderbilt University and the University of Minnesota. Affection activities occurred 2 to 4 times per week, and social skills lessons occurred

1 to 3 times per week. Cohort 1 received 2 years of intervention followed by peer tutoring in reading. Cohort 2 received 2 years of intervention beginning in the second year of the study. Their social skills' training was the same as the one used with Cohort 1. In each cohort, teachers were instructed to provide reinforcement in the form of stickers on a chart when children were "caught" using the skills taught during their social skills training lessons. Kamps and colleagues (2000) found the use of social skills training coupled with reinforcement and peer tutoring favorably impacted young physically aggressive children. However Play Time/Social Time's usefulness with relationally aggressive children has yet to be demonstrated.

Promoting Alternative Thinking Strategies

Another intervention program that has had positive effects on physical aggression in young children is one devised by Kusche and Greenberg (1995) called "Promoting Alternative Thinking Strategies" (PATHS) (in Leff et al., 2001). This program consists of discussions, direct instruction, and modeling aimed at helping children to develop self-control, emotion regulation, and problem solving skills. Originally developed for use with deaf children, it has since been adapted and empirically validated for use with various other populations, including regular education children. The objective of PATHS is to help children develop appropriate problem solving skills, self-control, and emotional regulation.

The Conduct Problems Prevention Research Group (1999) found a modest positive effect on peer sociometric measures of physical aggression for children who participated in the PATHS program. Although the effect size was small, findings were consistent across school location (urban and rural), socioeconomic status, and ethnic composition of classrooms involved in the study. No overall differences were found between control and intervention groups on teacher ratings of classroom aggression; however, teachers who implemented the program with higher treatment integrity did report significant decreases in classroom aggression (in Leff et al., 2001).

In a similar study, Kamp and colleagues (2003) found PATHS was not only effective in decreasing physical aggression in schools, but also in improving children's emotional competence. Two factors were found to contribute to successful outcomes from PATHS: adequate support from the school principal, and high treatment integrity by teachers implementing PATHS (Kamp, Greenberg, & Walls, 2003). In each of these studies, the PATHS program was used with young school-aged children who already exhibited physically aggressive behaviors. No data are available regarding PATHS efficacy for use with relationally aggressive children.

First Step to Success

Walker and colleagues (1998) developed another prevention program called First Step to Success to prevent antisocial behaviors from developing in disruptive and aggressive kindergartners. With this program, a screening procedure is used to identify the most at-risk kindergartners. Next, a classroom-based intervention is used to increase prosocial behaviors and decrease physically aggressive or disruptive behaviors in these at-risk kindergartners. A group dependent contingency procedure incorporating adult praise, peer support and approval, and careful monitoring of performances is used in this phase. Target children are able to earn group privileges, individual privileges, or home rewards for engaging in appropriate behaviors. The final component of this program involves home based parent training in which parents are taught how to teach the target child school-related skills. In this phase, the importance of home and school communication is emphasized.

Walker and colleagues (1998) evaluated the effectiveness of their program using an experimental-waitlist/control group design. The experimental group consisted of 24 kindergartners who participated in the First Step to Success program for a 3-month period prior to the control/waitlist group participating in the program. Results from this program have shown

decreases in the amount of physically aggressive behaviors teachers report. Additionally, after implementation, teachers have reported increases in both adaptive behaviors and on-task behaviors (in Leff et al., 2001; Walker, Stiller, Severson, Feil, & Golly, 1998). First Steps to Success also has not been empirically validated for use with relationally aggressive children.

FAST Track Prevention Program

The Conduct Prevention Research Team investigated the use of the FAST Track Prevention Program. They “demonstrated that a combination of parent training sessions, case manager home visits, social-cognitive therapeutic interventions, and academic/classroom interventions for elementary school children can lead to greater problem solving competence and fewer (physically) aggressive and disruptive behavioral outbursts” (in Fields & McNamara, 2003, p. 76). The sample utilized by the Conduct Prevention Research Team included individuals who, by age 5, were identified as being at risk for chronic violence and conduct problems. These at-risk individuals were referred to as "early starters." This study was conducted across four varying geographical sites. Schools in each area were chosen for inclusion in this study based upon high rates of crime and poverty in the neighborhoods in which they resided. Children at each school included in this study were chosen on the basis of both parent ratings of the child's behavior at home and teacher ratings of the child's behavior at school. Entire schools served as intervention sites or control sites. The families of each child who was targeted for intervention also participated in this study. The total intervention consisted of parent group meetings, tutoring for the students, consultations with teachers, home visits, and skill-building groups for the children. Data were obtained using teacher reports, parent reports, child interviews and peer ratings. By the end of this four-year study, the intervention group tended to have significantly lower parent reported oppositional and aggressive behaviors. Interestingly, parenting behavior change found during grade 3 significantly accounted for the relationship between the effect of

the intervention on aggressive and oppositional behaviors during grade 4. Moreover, the researchers found that by grade 4, the control group received significantly lower peer preference scores than the intervention group did. Additionally, the intervention group reported having fewer friends abusing one or more substances than the control group did. This outcome appeared to be accounted for, at least partially, by hostile attributions held during grade 3. The intervention did appear to have positive effects on the reduction of parent's harsh physical discipline practices, on the improvement of children's social and academic competence at school, and on the improvement of social problem solving skills. Furthermore, processes targeted during the first three years of this intervention were found to predict outcomes during the fourth year of this study (Conduct Problems Prevention Research Group, 2002). Again, the FAST Track Prevention Program was not devised for use with relationally aggressive individuals.

Additional Physical Aggression Intervention Programs

A myriad of additional physical aggression intervention and prevention programs have been empirically validated, and are present within the physical aggression literature (The Peer-Coping Skills training (Prinz, Blechman, & Dumas, 1994), Tools for Getting Along (Smith, Miller, & Daunic, 2002), the Incredible Years Training Series (Webster-Stratton, 2000), ACHIEVE: A Collaborative School-based Reform Process (Knoff & Batsche, 1994), Bullying Prevention Program (Olweus, Limber, Mihalic, 1999), etc.). None of these programs have been empirically validated for use with relationally aggressive individuals. The literature related to the prevention and intervention of relational aggression is scarce to nonexistent. Relational aggression is governed by different processes than physical aggression. As such, the use of physical aggression programs to ameliorate relational aggression could prove to be detrimental. In order to inform relational aggression intervention efforts, more data is needed regarding the correlates and contributing factors of relational aggression.

Purpose of the Present Study

The empirical literature is quite informative concerning availability and efficacy of intervention programs designed to ameliorate physical aggression. Additionally, the negative sequelae associated with the perpetration and victimization of relational aggression are highlighted in the literature. Unfortunately, researchers provide few suggestions regarding how to prevent or alter relational aggression. Many of the intervention programs designed to ameliorate physical aggression have been used in hopes of also decreasing relational aggression. However, data are not available to support the use of these programs for the intervention of relational aggression. Moreover, the goal of many physical aggression prevention/intervention programs is to increase perspective taking skills. Use of the Resource Control Theory (Hawley, 2003) to explain relational aggression provides support for the idea which states relational aggressors may be quite skilled at perspective taking skills. More specifically, the Resource Control Theory postulates that relational aggressors may rely upon and utilize perspective taking skills in the perpetration of relational aggression. Prior to being able to develop relational aggression prevention and intervention programs, data must be provided regarding the correlates of relational aggression. Moreover, data are needed to inform how correlates of relational aggression differ from correlates of physical aggression. The first step to ameliorating relational aggression is accurate assessment and identification. Inaccurate assessment or misinformation regarding predictors and correlates of relational aggression renders interventions ineffective or even detrimental. Early assessment and identification are critical.

Previous researchers have demonstrated relational aggression is related to serious psychosocial adjustment and peer relation problems. Currently there are few empirically validated methods to prevent or intervene with relational aggression, and none that address relational aggression in young children. Prevention and intervention programs that have been suggested for

use in early childhood programs are often language based programs that address perspective taking skills. Language ability has been linked to relational aggression; however, the specifics related to the types of language abilities that are linked to relational aggression in each gender have not been clearly replicated. Therefore, a need to further investigate the role language plays in relational aggression is present. Additionally, the link of perspective taking to relational aggression has yet to be clearly demonstrated, highlighting the need for future research to address this correlate. Although the majority of studies assessing relational aggression in early childhood have found this type of aggression to be most common among females (Crick et al., 1997), McEvoy et al. (2003) found male preschoolers engaged in relational aggression more often than female preschoolers. These discrepant findings justify the further investigation of the role gender plays in the prediction of relational aggression.

The current project assesses correlates of relational aggression in early childhood. Specifically, an examination of how correlates of relational aggression in early childhood differ from correlates of physical aggression is conducted. The following research questions are addressed by the current study:

- 1) Is relational and physical aggression related in preschool children?
- 2) What is the relationship between relational aggression and the following predictor variables: gender, perspective taking skills, and expressive language abilities?
- 3) What is the relationship between physical aggression and the following predictor variables: gender, perspective taking skills, and expressive language abilities?

The Social Information Processing Model (SIPM) has been used to explain physically aggressive behavior by many researchers (Coie & Cillessen, 1993; Dodge, Lansford, Salzer Burks, Bates, Pettit, Fontaine, & Price, 2003; Salzer Burks, Laird, & Dodge, 1999; Webster-Stratton & Lindsay, 1999). In fact, most studies that link social information processing to the use

of aggressive behavior directed towards peers focuses on physical aggression (Crick, Grotpeter, & Bigbee, 2002). However, Crick and colleagues (1995, 1999) have begun to demonstrate the usefulness of the SIPM in explaining relational aggression.

The SIPM suggests that physically aggressive children lack perspective taking skills when deciding upon a response to the actions of others. The current study seeks to clarify how relationally aggressive preschoolers differ with regard to perspective taking skills and language when they are compared to non-relationally aggressive preschoolers and when they are compared to physically aggressive preschoolers. Additionally, the current study hypothesizes that relationally aggressive children use their knowledge of how others may feel when engaging in the manipulation of social relationships. If data support this possibility, researchers who study aggression will be able to support the notion that the SIPM is used in a completely different manner by physical aggressors than by relational aggressors. Furthermore, this increased knowledge could lead to further development of models used to explain relational aggression. These improved models could, in turn, be able to be utilized to inform the development of relational aggression intervention and prevention programs.

CHAPTER 2 METHODOLOGY

Participants

Participants included 103 children aged 4 years, 0 months to 5 years, 9 months from early childhood programs in Alachua County, Florida. The sample size was determined via the use of power analyses. A sample of more than 90 participants was found to be adequate to answer the proposed questions. English speaking children of all differing ability levels were invited to participate in this study. Any child who met the above mentioned criteria and attended one of the designated early childhood centers during the data collection phase of this project was invited to participate.

Teachers of each of the participating children also were asked to participate in this study. For every 5 teacher rating scales a teacher completed, the teacher was provided with a \$10 Target gift card to be used for classroom supplies as compensation and incentive for participating in this study.

Procedure

After IRB approval was obtained, the directors of various early childhood programs in Alachua County were approached and asked if they would allow for doctoral dissertation data to be collected at their sites. When the directors of the programs agreed to allow for data collection to occur at their site, teachers of 4- and 5- year-old children were asked to participate in this study. Teachers were informed that they would be asked to complete a 25-item rating scale for each participating child. Moreover, teachers were informed of the \$10 Target gift cards they would receive as compensation and incentive for their participation. Next, teachers who agreed to participate in this study were asked to help recruit and obtain parental permission from the parents of the students in their classrooms.

After teacher agreement for participation and parental permission had been obtained, demographic information for each child included in this project was collected. Specifically, information regarding the language spoken in the home and the age of the child was collected. Additionally, data related to classroom climate was obtained. Particularly information regarding the number of students in each classroom, the number of teachers in each classroom, and the average number of classroom discipline referrals per year was obtained. Then, information regarding the climate of the early childhood centers was obtained. Specifically, information regarding the accreditation status of the centers, the average number of discipline referrals per center per year, and the number of students receiving subsidized child care services was gathered. Next, classroom teachers were asked to fill out the Preschool Social Behavior Scale-Teacher Form (PSBS-T) for each child participating in the study (Crick et al., 1997).

The expressive language abilities of each participant was assessed using the Expressive Vocabulary Test (EVT) (Williams, 1997), and the Early Childhood Social Cognitions Interview (ECSCI) was used to reliably measure each participating child's level of perspective taking skills (Smith, Jones, & Wojtalewicz, 2001 in Wojtalewicz, 2004). Additional questions regarding the relational aggression perspective taking skills of each participating child were asked. Specifically, children were asked following questions: 1) "Megan wanted a doll Rachel was playing with. Megan told Rachel that she would not be invited to the birthday party if Rachel did not let Megan play with the doll. How do you think Rachel will feel?" and 2) "Chad was playing with the blocks at school today. Joe was painting. But, Chad wanted Joe to play with the blocks too. So, Chad told Joe that he would not be Joe's friend if Joe did not play with the blocks too. How do you think Joe will feel?"

Measures

Teacher ratings of relational aggression, teacher ratings of physical aggression, expressive language ability, and perspective taking skills were assessed for each participant. The measures which were utilized are described below.

Preschool Social Behavior Scale- Teacher Form

The PSBS-T is a teacher rating scale utilized with teachers of 3-years-old to 5-years-old students. This scale consists of 25 items divided into 4 scales (i.e., the relational aggression scale, overt/physical aggression scale; prosocial behavior scale; and depressed affect scale). Six of the total items reliably assess relational aggression; another 6 reliably assess overt, physical aggression; 4 reliably assess prosocial behavior, and 3 reliably assess depressed affect (Chronbach's $\alpha = .87-.96$) (Crick et al., 1997; Crick, Ostrov, Appleyard, Janeson, & Casas, 2004). This 5-point Likert rating scale was simple to administer. For example, teachers were given a copy of the PSBS-T for each child included in the study. Teachers rated each child's behavior on a 5-point scale ranging from never or almost never true for this child to always or almost always true for this child. Items included statements such as: This child threatens not to be friends with a peer if the peer does not engage in this child's preferred activity. Moreover, scoring was not complicated. For each of the 4 scales (i.e., relational aggression; overt, physical aggression; prosocial behavior; depressed affect) the rankings for each item included as part of that scale was added together. The sum of rankings was utilized as the score for that scale.

Expressive Vocabulary Test

The Expressive Vocabulary Test (EVT) was utilized to quickly and accurately assess the expressive language ability of each participant. The EVT is a reliable and valid individually administered, norm-referenced assessment of expressive vocabulary and word retrieval. Two sections are contained in the EVT: a section devoted to word identification, and a section

devoted to the use of synonyms. Evidence of reliability and validity is presented in the EVT examiner's manual. For example, split-half reliabilities range from .83 to .97, test-retest reliabilities range from .77 to .90, and reliability alphas range from .90-.98. Moreover, evidence of criterion-related validity is presented in the EVT manual. For example, EVT scores moderately correlate with scores from the Oral Expression section of the Oral and Written Language Scales (OWLS) ($r=.60$ for children ages 4 to 8 and $r=.86$ for children ages 10 to 13). The EVT also moderately correlates to the Verbal Intelligence Quotient of the Wechsler Intelligence Scale for Children- Third Edition (WISC-III) ($r=.72$) (Williams, 1997).

Each child was administered the EVT by the principal investigator or a trained advanced doctoral school psychology student specializing in early childhood. Scoring procedures explained in the EVT manual were followed. Children were given 1 point for each correct response. Raw EVT scores controlling age were used as a measure of expressive language ability.

Early Childhood Social Cognitions

The Early Childhood Social Cognitions Interview (ECSCI) was used to reliably measure children's level of perspective taking (Chronbach's $\alpha = .80$). The ECSCI is a semi-structured questionnaire designed to assess children's social cognitions related to the following areas: 1) the child's emotional knowledge (i.e., ability to determine the emotional state of another); 2) the child's ability to assume the perspective of another; and 3) the child's ability to use problem solving in social situations (Smith, Jones, & Wojtalewicz, 2001 in Wojtalewicz, 2004). Evidence of construct-related validity and content-related validity has been demonstrated (Wojtalewicz, 2004). (See Appendix E).

Each child was administered the ECSCI by the principal investigator or a trained advanced doctoral school psychology student specializing in early childhood. The ECSCI used pictures

(males and females of varying ethnicities) to guide the interview process. Participants were asked to identify the emotions/feelings of individuals depicted in the pictures. Next participants were asked to identify what about the individual's face or body made the child participant think the child was feeling the identified emotion. Participants then listened to a story about a boy who was upset when he got to school. The boy in the story then received a hug from his teacher and felt better. Participants were asked to label the boy's initial feeling, provide a reason why he may have felt that way, label his feeling at the end of the story, and provide a reason why he may have felt that way. The participants were shown a picture of a boy and a picture of a girl and told the following story: "Jessica loves clowns, but Tyler is afraid of them. Their teacher tells them that their class will be going to the circus and that there will be lots of clowns there." Participants were then asked to explain how Jessica would feel, how Tyler would feel, and how Jessica could help Tyler feel better. Finally, participants were shown a picture of 2 children (matching the gender of the participant) and a toy ball. Each of the children in the picture were given a name (Tyler and Matt if boys, Jessica and Amy if girls). The children were told the following story: "_____(child A) has been playing with this ball for a long time and ____ (child B) wants a chance to get to play with it. But ____ (child A) keeps on playing with it. What can ____ (child B) do so s/he can have a chance to play with it?" After children provided an initial answer, they were encouraged to think of as many ways as possible child B could use to get a chance to play with the ball.

Participants' verbatim responses were written down by the examiner. Responses were then entered into an excel spreadsheet to be scored. Participants responses were scored according to the following criteria: Part A: Determining the Emotional State of Another (a) one point was given for each correctly identified emotion in the Emotion Identification section of the ECSCI;

no points were given for incorrectly identified emotions (b) two points were given for every correctly identified physical attribute as a cue for emotion identification (“teeth are showing” would earn 2 points if a child is describing a happy face); one point was earned if the child only stated a reason for the emotion (“she gets to play outside with her friend” would earn 1 point if given as a reason the person in the picture is happy) (c) if the participant identified that Juan felt angry or sad when he got to school the participant earned a point (d) if the participant gave a logical reason why Juan felt angry or sad when he got to school (“it was his first day at a new school and he was scared”) the participant earned a point (e) if the participant identified that Juan felt better after his teacher gave him a hug the participant earned a point (f) if the participant identified a logical reason why Juan felt better (“his teacher gave him a hug”) the participant earned a point. Part B: Perspective Taking (a) the participant earned a point if the participant identified a positive emotion for Jessica (b) the participant earned a point if the participant identified a negative emotion for Tyler (c) the participant earned a point for each identified positive way that Jessica could help Tyler feel better. Part C: Problem Solving (a) the participant earned a point for each answer (positive or negative) that explained what child B could do to get a chance to play with the toy child A had.

Inter-rater reliability was determined by having an additional rater (i.e., a rater other than the primary investigator) independently score 50% (n=52) of the transcribed answers. Raters agreed upon the vast majority of ratings. The total number of agreements was divided by the total number of agreements plus the total number of disagreements (i.e. total agreements/total agreements + total disagreements). Using this formula, inter-rater reliability was calculated to be 98% (i.e. $51/(51+1)=.98$). Disagreement occurred on one participant’s ratings. The two raters worked together to come to a consensus on what the appropriate rating should be for this item.

Relational Aggression Perspective Taking Questionnaire

Relational aggression perspective taking skills were preliminarily assessed using the following two questions: 1) “Megan wanted a doll Rachel was playing with. Megan told Rachel that she would not be invited to the birthday party if Rachel did not let Megan play with the doll. How do you think Rachel will feel?” and 2) “Chad was playing with the blocks at school today. Joe was painting. But, Chad wanted Joe to play with the blocks too. So, Chad told Joe that he would not be Joe’s friend if Joe did not play with the blocks too. How do you think Joe will feel?” Evidence of content-related validity is present in each of these questions. Additionally, evidence of preliminary reliability is present (Chronbach’s $\alpha = .59$).

Participant’s answers were recorded verbatim. Then answers were sorted according to the information provided. Participants provided the following answers: mad, happy, sad, mad and sad, not happy, happy and sad, and I don’t know.

Research Questions and Data Analysis

The following research questions guided the proposed study:

- 1) Is relational and physical aggression related in preschool children?
- 2) What is the relationship between relational aggression and the following predictor variables: gender, perspective-taking skills, and expressive language abilities?
- 3) What is the relationship between physical aggression and the following predictor variables: gender, perspective-taking skills, and expressive language abilities?

Variables were entered into SPSS and descriptive statistics were calculated for age, gender, EVT raw scores, relational aggression raw scores as measured by the PSBS-T, physical aggression raw scores as measured by the PSBS-T, perspective-taking raw scores as measured by the ECSCI, relational aggression perspective taking ability, number of students per classroom, number of teachers per classroom, number of center discipline referrals per year, and number of

children per center receiving subsidized child care. Group differences were examined using ANOVAs.

The relationships between EVT raw scores, relational aggression raw scores, physical aggression raw scores and ECSCI raw scores were calculated using Pearson product-moment correlations.

Gender was treated as a categorical variable. Therefore, point biserial correlations were conducted to determine the relationships between gender, relational aggression raw scores, physical aggression raw scores, EVT raw scores, and ECSCI raw scores.

Full and reduced multiple regression models were analyzed to assess whether gender, EVT scores, and ECSCI raw scores predict higher levels of relational aggression. Models to be tested were determined based upon a priori hypotheses and correlation matrices. The following reduced models based upon a priori hypotheses were tested: (a) relational aggression as a DV and ECSCI raw scores as an IV, (b) physical aggression as a DV and ECSCI scores as an IV, (c) relational aggression as a DV and EVT scores as an IV, and (d) physical aggression as a DV and EVT scores as an IV. The following full models based upon findings from the correlation matrices were tested using step-wise regression: relational aggression as a DV and number of children per site, number of students in classroom, and number of adults in classroom as IVs.

Furthermore, because physical aggression was found to be highly correlated with male gender, and because prosocial skills were found to be highly correlated with female gender, categorical stepwise regression analyses were conducted using SPSS. Categorical regression is a type of regression analysis that can be utilized when the independent variables include a combination of nominal, ordinal and/or interval data. The following models were tested using categorical stepwise regression analyses: (a) physical aggression as a DV and age, gender,

number of adults in classroom, and EVT scores as IVs, (b) prosocial score from PSBS-T as a DV and gender, age and school site as IVs, (c) physical aggression as a DV and age, gender, EVT score, ECSCI score, and number of adults in classroom as IVs.

Step-wise regression was determined to be acceptable due to the exploratory nature of this study. Relying on data from models identified using stepwise regression is risky because this method of data analysis capitalizes on chance. However, because stepwise regression was only used in an exploratory nature, and as a result of data reduction, it could be considered acceptable in this circumstance (Agresti & Finlay, 1999).

One-way ANOVAs were conducted to assess how the relational aggression perspective taking skills relate to the relational aggression PSBS-T scores, physical aggression PSBS-T scores, prosocial PSBS-T scores, EVT scores and ECSCI scores.

CHAPTER 3 RESULTS

The purpose of this study was to investigate how correlates of relational aggression in early childhood differ from correlates of physical aggression. Specifically, the current study sought to clarify how relationally aggressive preschoolers differ with regard to gender, perspective-taking skills, and language when compared to non-relationally aggressive preschoolers and when compared to physically aggressive preschoolers.

This chapter begins with an overview of descriptive statistics related to participant and site characteristics. Next, correlations between EVT raw scores, relational aggression raw scores, physical aggression raw scores, ECSCI raw scores, and gender are presented. Results of regression analyses used to test the main hypotheses and hypotheses based upon data reduction are presented. Subsequently, results of ANOVA analyses used to test the main hypotheses and hypotheses based upon data reduction are presented. A summary of major findings and the implications of these findings are discussed in chapter 4.

Descriptive Statistics

Participant Characteristics

The 103 child participants were evenly distributed for gender (female $n=51$, male $n=52$). Eighty-two percent were in a 4- and 5-year-old preschool class at an early childhood center or elementary school; 8% were in a 3- and 4-year-old preschool class at an early childhood center; and 10% attended kindergarten at an elementary school. See Table 3-1 for descriptive statistics of participant characteristics. As is discussed in the following section, participants did not differ on any important setting or environmental characteristics.

Class Characteristics

Sixty-four percent of participants attended a class which utilized the Second Step Violence Prevention (Second Step) curriculum. This curriculum teaches emotion identification, emotional regulation, and problem solving skills. The ECSCI was developed to assess the effectiveness of the Second Step program. Therefore, utilization of Second Step in the majority of the current sample may confound results of this study based upon the ECSCI data.

Analysis of variance (ANOVA) indicates that EVT varies according to class type ($F=15.62$, $p=.000$), with children in kindergarten classes having better expressive language abilities than children in preschool and pre-kindergarten classes. When analysis of covariance (ANCOVA) was used to control for the effect of age on EVT scores, no EVT score differences were found among the types of classrooms included in this study ($F=.710$, $p=.494$). This finding is consistent with developmental theory and literature.

An ANOVA also indicated that prosocial skills vary according to class type ($F=4.47$, $p=.04$); however when an ANCOVA was run to control for the effect of age, no differences were found among each of the class types ($F=.357$, $p=.700$). Again, children's prosocial skills evolve as they get older. Therefore, it is not surprising that kindergarten children exhibit more prosocial behaviors than preschool children.

ANOVAs were also conducted to see if other variables of interest varied according to class type. ECSCI scores, PSBS-T relational aggression scores, and PSBS-T physical aggression scores did not vary according to class type. See table 3-2.

Site Characteristics

Seventeen percent of participants attended preschool at site A, 12% attended preschool at site B, 24% attended preschool at site C, 13% attended preschool at site D, 26% attended preschool or kindergarten at site E, and 8% attended preschool at site F. Each site had a

minimum of 2 teachers completing PSBS-Ts. Site A had 4 teachers completing PSBS-Ts, site B had 2 teachers completing PSBS-Ts, site C had 7 teachers completing PSBS-Ts, site D had 2 teachers completing PSBS-Ts, site E had 4 teachers completing PSBS-Ts, and site F had 3 teachers completing PSBS-Ts.

Analyses of variances (ANOVAs) indicated that schools differed significantly with regard to mean teacher-rated physical aggression ($F=2.92$, $p=.017$) and mean teacher-rated prosocial skills ($F=2.99$, $p=0.15$). Post-hoc univariate analyses indicated only one site differed significantly from the others. Specifically, site C differed significantly from site E with regard to physical aggression ($p=.004$) and differed significantly from site F with regard to children's prosocial skills ($p=.031$). No other significant differences between or among sites were found. See table 3-3 for additional site and class characteristics descriptive statistics.

Data Reduction

Pearson product-moment correlations were used to examine the relationships between EVT scores, relational aggression scores, physical aggression scores, prosocial scores, ECSCI scores, number of adults in classroom, number of students in classroom, and age. Gender was treated as a categorical variable. Therefore, point biserial correlations were conducted to determine the relationships between gender, relational aggression raw scores, physical aggression raw scores, prosocial scores, EVT scores, ECSCI scores, number of adults in classroom, number of students in classroom, and age.

The number of adults in each class significantly correlated with physical aggression ($r=.266$, $p=.007$) and relational aggression ($r=.222$, $p=.024$), as measured by the PSBS-T. Specifically, as the number of adults in classrooms increased, the amount of teacher rated physical and relational aggression increased. The number of students in each classroom (i.e. students enrolled in each class) also significantly correlated with teacher-rated physical

aggression scores ($r=.240$, $p=.01$) and with teacher-rated relational aggression scores, as measured by the PSBS-T. ($r=.241$, $p=.01$). As the number of students in each class increased, so did the amount of physical and relational aggression. Additionally, the number of children at each site (i.e. children enrolled in each site) significantly correlated with physical aggression PSBS-T scores ($r=.206$, $p=.036$) and with relational aggression PSBS-T scores ($r=.263$, $p=.007$). Again as the number of children enrolled at each site increased, the amount of teacher rated physical and relational aggression also increased. Finally, a site's use of Second Step correlated with ECSCI scores ($r=.310$, $p=.001$), with sites who implemented the Second Step curriculum having students who scored higher on the ECSCI, as would be expected. Table 3-4 depicts correlations that were found among major independent and dependent variables of interest.

Table 3-4 illustrates that physical aggression and male gender were significantly correlated ($r=.373$, $p=.000$). Conversely, gender and relational aggression did not significantly correlate. However, prosocial behavior was found to have a significant relationship to gender, with female participants' prosocial behavior rated more highly ($r=-.286$, $p=.003$). Additionally, EVT scores and physical aggression were significantly correlated ($r=-.229$, $p=.020$). Specifically, individuals who scored low on the EVT tended to exhibit more physical aggression. A significant correlation between expressive language skills and relational aggression was not found. However, relationally aggressive children were found to exhibit less well-developed prosocial behaviors ($r=-.529$, $p=.000$).

Data reduction findings were used to identify variables to include in regression models. Based upon findings from data reduction, stepwise multiple regression and stepwise categorical regression models were tested. Specifically, the following models were tested as a result of data reduction: (a) relational aggression as a DV and number of children per site, number of students

in classroom, and number of adults in classroom as IVs, (b) physical aggression as a DV and age, gender, number of adults in classroom, and EVT scores as IVs, (c) prosocial score from PSBS-T as a DV and gender, age and school site as IVs, (d) physical aggression as a DV and age, gender, EVT score, ECSCI score, and number of adults in classroom as IVs. Relying on data from models identified using stepwise regression is risky because this method of data analysis capitalizes on chance; however, because stepwise regression was used in an exploratory manner as a result of data reduction, it could be considered acceptable in this circumstance (Agresti & Finlay, 1999).

Statistical Assumptions

Based upon visual inspection of probability plots, the assumptions of conditional normality, linearity, and homoscedacity were met for each independent variable. Therefore the use of multiple regression and analysis of variance was deemed appropriate.

Multiple Regression Analyses

Full and reduced models were analyzed to assess whether gender, EVT scores, and ECSCI scores predict higher levels of relational and physical aggression.

Hypothesis 1: Perspective-Taking Ability and Relational Aggression

The first hypothesis stated that relationally aggressive young children would have better developed perspective-taking skills, as measured by the ECSCI, than non-relationally aggressive children. Support for this hypothesis was not found ($\beta=.063$, $t=.632$, $p=.529$). As mentioned previously, the Second Step Violence Prevention Curriculum was taught to the majority of participants. The ECSCI was originally developed to assess the efficacy of this prevention program. As such, it is likely that the findings are misleading. Future studies should further explore the role perspective-taking plays in fostering relational aggression. See Table 3-5.

Hypothesis 2: Perspective-Taking Ability and Physical Aggression

The next hypothesis stated that physically aggressive children would have less well-developed perspective-taking skills, as measured by the ECSCI. Support for this hypothesis also was not found ($\beta=-.056$, $t=-.567$, $p=.572$). Again, the use of the Second Step Curriculum may confound these results. See Table 3-6.

Hypothesis 3: Expressive Language Skills and Relational Aggression

Hypothesis 3 stated that relationally aggressive young children would have better developed expressive-language skills, as measured by the EVT. Support for this hypothesis was not found ($\beta=.108$, $t=1.096$, $p=.276$) when other variables were not held constant. See Table 3-7.

Hypothesis 4: Expressive Language Skills and Physical Aggression

The next hypothesis stated physically aggressive children would have poorer expressive-language abilities, as measured by the EVT. Support for this hypothesis was found ($\beta=-.229$, $t=2.359$, $F=5.565$, $p=.020$). In other words, in this sample, when other variables are not held constant, it appears that expressive language ability is linked to perpetration of physical aggression. See Table 3-8.

Regression Analyses Based on Data Reduction

Stepwise regression was utilized to explore how correlates of relational aggression may differ from correlates of physical aggression. Stepwise regression was deemed an acceptable method of data analysis because of the exploratory nature of this study and because the variables could be ranked based on research with older children and developmental theory. However, because stepwise regression capitalizes on chance (Agresti & Finlay, 1999), results should be interpreted with caution. Independent variables to be included in the utilization of stepwise regression data analysis were determined based upon theory, previous research findings, and correlations found during the data reduction stage of data analysis.

Physical aggression

Models designed to explain the variance of physical aggression included age, gender, EVT scores, ECSCI scores, and number of adults in the classroom as independent variables and physical aggression as the dependent variable. Categorical stepwise regression was used to analyze these models because categorical regression allows for the independent variables to be nominal, ordinal, and/or interval data. Three models were found to fit the data.

First model

The first model only included gender ($\beta=.373$, $t=4.038$, $p=.00$) as a significant predictor of physical aggression ($F=16.308$, $p=.00$). Male gender accounted for a significant amount of the variance in physical aggression.

Second model

When gender was held constant, the number of adults in the classroom ($\beta=.259$, $t=2.901$, $p=.00$) accounted for a significant amount of the variance in physical aggression scores ($F=12.961$, $p=.00$). When there were more adults in the classroom the rate of teacher-rated physical aggression increased.

Third model

When gender and number of adults in the classroom were held constant, EVT scores ($\beta=-.222$, $t=-2.556$, $p=.01$) accounted for a significant amount of the variance in physical aggression scores ($F=11.296$, $p=.00$). In other words, when gender and the number of adults in the classroom were held constant, having lower expressive language abilities accounted for a significant amount of the variance in physical aggression. See table 3-9.

Relational aggression

Models designed to explain the variance of relational aggression included EVT scores, ECSCI scores, number of adults in the classroom, number of children in the classroom, number

of students at the site, and PSBS-T prosocial scores as independent variables and relational aggression as the dependent variable. Again, stepwise regression was considered an appropriate methodology to employ because of the exploratory nature of the question being answered (what correlates are linked to relational aggression in young children). Two models were found to fit the data. The regression analyses which were run for relational aggression did not parallel the regression analyses which were run for physical aggression because the analyses for each of the separate types of aggression were decided based upon results obtained during data reduction.

First model

The first model found prosocial behavior ($\beta=-.529$, $t=-6.271$, $p=.00$) accounted for a significant amount of the variance in relational aggression scores ($F=39.326$, $p=.00$). As prosocial behavior increased, the amount of relational aggression decreased.

Second model

The next model held prosocial behavior constant ($\beta=-.568$, $t=-6.786$, $p=.00$) and found EVT scores ($\beta=.211$, $t=2.524$, $p=.01$) accounted for a significant amount of the variance in relational aggression scores ($F=23.893$, $p=.00$). This model is consistent with theory and previous research which postulates that young children who are relationally aggressive often have better developed expressive-language ability (Bonica et al., 2003). When both age and prosocial behavior scores on the PSBS-T were held constant, EVT scores significantly accounted for the variance in relational aggression scores on the PSBS-T ($F=15.774$, $p=.00$). See table 3-10.

Prosocial behavior

Models designed to explain the variance of prosocial behavior scores included prosocial behavior scores as a dependent variable and sex, age, and early childhood program as independent variables. Categorical stepwise regression was used to analyze these models because

categorical regression allows for the independent variables to be nominal, ordinal, and/or interval data. Two models were found to fit the data.

First model

The first model included only gender ($\beta=-.286$, $t=3.003$, $p=.00$) as a significant predictor of prosocial behavior ($F=9.017$, $p=.00$). Female gender accounted for a significant amount of the variance in prosocial behavior.

Second model

The next model found when gender was held constant, the participant's early childhood program accounted for a significant amount of the variance in prosocial behavior ($F=8.34$, $p=.00$). See table 3-11.

Analysis of Variance

One hypothesis of this study postulated that relationally aggressive young children have well-developed perspective taking skills. When the ECSCI was used as a measure of perspective-taking ability, findings were not significant. As mentioned previously, the majority of sites included in this study utilize the Second Step Violence Prevention Curriculum. The use of this program may confound the results of this study with regard to the use of the ECSCI as a measure of perspective-taking. Therefore, additional relational aggression perspective-taking questions were asked of each participant. Specifically, participants were read the following scenarios and asked the following questions: (a) "Chad was playing with the blocks at school today. Joe was painting. But, Chad wanted Joe to play with the blocks too. So, Chad told Joe he would not be Joe's friend if Joe didn't play with the blocks too. How do you think Joe will feel?" and (b) "Megan wanted a doll Rachel was playing with. Megan told Rachel that she would not be invited to the birthday party if Rachel did not let Megan play with the doll. How do you think Rachel will feel?" Oneway-analysis of variance (ANOVAs) was utilized to assess the relational-

aggression perspective taking skills of relationally aggressive young children as compared to children who are not relationally aggressive and to assess the relational aggression perspective taking skills of physically aggressive children when compared to children who are not physically aggressive.

Hypothesis 1: Perspective-Taking Ability and Relational Aggression

Two one-way ANOVAs were used to assess the relational aggression perspective-taking abilities of relationally aggressive children, as compared to children who are not relationally aggressive. Relational aggression as measured by the PSBS-T was the dependent, continuous variable. Children were asked two questions related to how victims of relational aggression would feel as a result of their victimization. Child responses included the following: *mad, sad, happy, not happy, mad and sad, happy and sad, and I don't know*. Children were read the following scenarios and asked the following questions: (a) "Chad was playing with the blocks at school today. Joe was painting. But, Chad wanted Joe to play with the blocks too. So, Chad told Joe he would not be Joe's friend if Joe didn't play with the blocks too. How do you think Joe will feel?" and (b) "Megan wanted a doll Rachel was playing with. Megan told Rachel that she would not be invited to the birthday party if Rachel did not let Megan play with the doll. How do you think Rachel will feel?"

Scenario A: How do you think Joe will feel

Relational aggression perspective taking ability with regard to the first scenario (i.e., "Chad was playing with the blocks at school today. Joe was painting. But, Chad wanted Joe to play with the blocks too. So, Chad told Joe he would not be Joe's friend if Joe didn't play with the blocks too. How do you think Joe will feel?") was examined using an oneway ANOVA. Results approached but did not reach significance ($F=1.872, p=.09$), highlighting the need for future studies with larger samples to further examine the relational aggression perspective taking

abilities of relational aggressors. Post hoc analyses were unable to be performed because 2 or fewer participants were present in two of the groups.

Relational aggression scores on the PSBS-T were then utilized to identify participants who are excessively relationally aggressive. A score of 18 on the relational aggression section of the PSBS-T was used as a cut-off for inclusion in the excessively relationally aggressive group. Eighteen was used as a cutoff score because there were 6 relational aggression questions. The PSBS-T is a Likert-Scale where a rating of 3 indicates that the behavior occurs sometimes, a rating of 4 indicates the behavior occurs often, and a rating of 5 indicates the behavior always or almost always occurs. As such, a total score of 18 would indicate that the participant frequently engaged in relational aggression.

Of the 14 participants who were identified as excessively relationally aggressive 86% said the victim in scenario A would feel “sad,” 7% said the victim would feel “not happy,” and 7% said the victim would feel “mad and sad.” Of the 89 participants who were not identified as relationally aggressive 75% said the victim in scenario A would feel “sad.”

Scenario B: How do you think Rachel will feel

Perspective-taking ability with regard to the second scenario (i.e. “Megan wanted a doll Rachel was playing with. Megan told Rachel that she would not be invited to the birthday party if Rachel did not let Megan play with the doll. How do you think Rachel will feel?”) was analyzed using an oneway ANOVA. Results were significant ($F=2.225$, $p=.04$), suggesting that relational aggressors understand how their victimization will make others feel. Post hoc analyses were unable to be performed because 2 or fewer participants were present in two of the groups.

Of the 14 participants who were identified as excessively relationally aggressive 93% said the victim in scenario B would feel “sad” and 7% said the victim would feel “not happy,” indicating that perpetrators of relational aggression are able to understand how relationally

aggressive acts will make others feel. Of the 89 participants who were not identified as relationally aggressive, 78% said the victim in scenario B would feel “sad,” indicating that some non-relationally aggressive individuals also are able understand how relationally aggressive acts will make others feel.

Hypothesis 5: Relational Aggression Perspective Taking Ability and ECSCI

One way ANOVAs were then utilized to examine if individuals who scored higher on the ECSCI would be better able to take the perspective of relational victims than those who scored lower. Individuals who scored higher on the ECSCI performed better on each relational aggression perspective-taking question ($F=2.33$, $p=.04$ for scenario 1, and $F=3.165$, $p=.01$ for scenario 2). Follow-up univariate tests regarding the 3 components of the ECSCI (i.e., determining the emotional state of another, taking the perspective of another, and problem solving) indicated that, with regard to scenario A (i.e. “Chad was playing with the blocks at school today. Joe was painting. But, Chad wanted Joe to play with the blocks too. So, Chad told Joe he would not be Joe’s friend if Joe didn’t play with the blocks too. How do you think Joe will feel?”), individuals who appropriately answered the relational aggression perspective taking question about Joe (i.e., answered “sad”) also scored higher on portion of the ECSCI concerned with taking the perspective of another ($F=2.445$, $p=.03$). Furthermore, follow-up univariate tests regarding the 3 components of the ECSCI indicated that, with regard to scenario B (i.e. “Megan wanted a doll Rachel was playing with. Megan told Rachel that she would not be invited to the birthday party if Rachel did not let Megan play with the doll. How do you think Rachel will feel?”), individuals who appropriately answered the relational aggression perspective taking question about Rachel also scored higher on the portion of the ECSCI concerned with determining the emotional state of another ($F=3.302$, $p=.01$). These results again highlight the

need to further examine what perspective taking abilities differ in relationally aggressive children when compared to their non-aggressive peers. See Tables 3-12 and 3-13.

Summary

This study examined how correlates of relational aggression in young children differ from correlates of physical aggression in young children. The following hypotheses were tested: (a) relational and physical aggression in young children is related, (b) females engage in more relational aggression, (c) males engage in more physical aggression, (d) better-developed expressive language abilities will account for a significant amount of the variance in relational aggression scores, (e) less well-developed expressive language abilities will account for a significant amount of the variance in physical aggression scores, (f) children who are more relationally aggressive will be more skilled at perspective-taking than children who are more physically aggressive.

Pearson product-moment correlations indicated that physical and relation aggression is significantly related. Females were not found to be more relationally aggressive than males; however, males were found to be more physically aggressive than females.

When prosocial behavior scores is held constant, better developed expressive language abilities account for a significant amount of the variance in relational aggression scores. Conversely, less-well developed expressive language abilities accounts for a significant amount of the variance in physical aggression scores.

Perspective taking skills as measured by the ECSCI were not found to account for a significant amount of the variance in relational or physical aggression scores. The ECSCI was developed to assess the efficacy of the Second Step Violence Prevention Curriculum. Because the majority of sites included in this study were utilizing the Second Step Violence Prevention Curriculum, findings based upon ECSCI scores may be misleading. However, when perspective

taking skills related to relational aggression scenarios were assessed relational aggressors did appear to have well-developed relational aggression perspective-taking skills.

Table 3-1 Descriptive statistics of child characteristics

Variable	Minimum	Maximum	Mean	Std. Dev.
EVT raw score	37	75	54.44	10.32
ECSCI total raw score	2	45	20.63	7.83
PSBS-T Relational Aggression	6	25	11.6	5.06
PSBS-T Physical Aggression	5	23	8.35	3.71
PSBS-T Prosocial Skills	8	20	15.59	3.05

Table 3-2 ANOVAs for kindergarten versus non-kindergarten classes

Variable	F	p
ECSCI Total	.520	.473
EVT	15.620	.000
PSBS-T Relational Aggression	1.110	.295
PSBS-T Physical Aggression	2.806	.097
PSBS-T Prosocial Skills	4.471	.037

Table 3-3 Descriptive statistics of class and site characteristics

Variable	Min	Max	Mean	Std. Dev.
Number of students per class	12	46	24.24	12.85
Number of adults per class	2	7	3.02	2.02
Number of site discipline referrals per year	0	130	22.58	42.23
Number of children at site	88	131	108.15	16.40
Number of children per site receiving subsidized childcare	0	16	3.25	4.93

Table 3-4 Pearson product-moment correlations and point-biserial correlations

	EVT	ECSCI	Relational Aggression	Physical Aggression	Prosocial Skills	Age	Gender
EVT	1.000	.424**	.108	-.229*	.181	.470**	-.058
ECSCI		1.000	.063	-.056	.030	.089	-.089
Relational Aggression			1.000	.488**	-.529**	-.037	-.001
Physical Aggression				1.000	-.531**	-.259**	.373**
Prosocial Skills					1.000	.228*	-.286**
Age						1.000	-.021
Gender							1.000

*indicates significant at the .05 level, ** indicates significant at the .01 level

Table 3-5 Summary of regression analysis for perspective taking and relational aggression

Variable	B	SE B	B	t	P
ECSCI score	.041	.064	.063	.632	.529

*indicates significant at the .05 level, ** indicates significant at the .01 level

Table 3-6 Summary of regression analysis for perspective-taking and physical aggression

Variable	B	SE B	B	t	P
ECSCI score	-.027	.047	-.056	-.567	.572

*indicates significant at the .05 level, ** indicates significant at the .01 level

Table 3-7 Summary of regression analysis for expressive language and relational aggression

Variable	B	SE B	B	t	P
EVT score	.053	.049	.108	1.096	.276

*indicates significant at the .05 level, ** indicates significant at the .01 level

Table 3-8 Summary of regression analysis for expressive language and physical aggression

Variable	B	SE B	B	t	P
EVT score	-.082	.035	-.229	-2.359	.02*

*indicates significant at the .05 level, ** indicates significant at the .01 level

Table 3-9 Summary of regression analysis for correlates of physical aggression

Variable	B	SE B	B	t	P
Sex	2.617	.641	.355	4.081**	.000
Number of adults in classroom	.496	.159	.271	3.116**	.002
EVT	-.080	.031	-.222	-2.556**	.010

*indicates significant at the .05 level, ** indicates significant at the .01 level

Table 3-10 Summary of regression analysis for correlates of relational aggression

Variable	B	SE B	B	t	P
Prosocial behavior	-.941	.139	-.568	-6.786**	.000
EVT	.104	.041	.211	2.524**	.010

*indicates significant at the .05 level, ** indicates significant at the .01 level

Table 3-11 Summary of regression analysis for correlates of prosocial behavior

Variable	B	SE B	B	t	P
Sex	-1.680	.563	-.276	-2.984**	.004
Early childhood program	.479	.179	.247	2.668**	.009

*indicates significant at the .05 level, ** indicates significant at the .01 level

Table 3-12 Summary of oneway ANOVA and univariate tests scenario A

Variable	df	F	P
ECSCI	6	2.33*	.038
Emotional Identification	6	2.062	.065
Perspective Taking	6	2.445*	.030
Problem Solving	6	1.543	.173

*indicates significant at the .05 level, ** indicates significant at the .01 level

Table 3-13 Summary of oneway ANOVA and univariate tests scenario B

Variable	df	F	P
ECSCI	6	3.165**	.007
Emotional Identification	6	3.302**	.005
Perspective Taking	6	1.341	.247
Problem Solving	6	1.438	.208

*indicates significant at the .05 level, ** indicates significant at the .01 level

CHAPTER 4 DISCUSSION

This study examined physical and relational aggression in young children. Possible correlates of physical and relational aggression were explored; and, how correlates of relational aggression in early childhood differ from correlates of physical aggression in early childhood was investigated. The following research questions guided the current study:

- 1) Is relational and physical aggression related in young children?
- 2) What is the relationship between relational aggression and the following predictor variables: gender, perspective taking skills, and expressive language abilities?
- 3) What is the relationship between physical aggression and the following predictor variables: gender, perspective taking skills, and expressive language abilities?

Research Question 1

The first guiding research question asked whether physical and relational aggression are related in young children. Previous studies have demonstrated some correlates of physical and relational aggression differ (Bonica et al., 2003; Estrem, 2005), yet few studies speak directly about the correlation of physical and relational aggression in young children. Studies examining aggression in older children and adolescents have found physical aggressors are more commonly males and relational aggressors are more commonly female; however, the direct relationship of physical aggression to relational aggression in older children is rarely discussed (McNeilly-Choque et al., 1996; Roecker Phelps, 2001).

McEvoy and colleagues found that preschool males were more likely than preschool females to be either relationally aggressive or physically aggressive; however, the direct relationship of relational aggression to physical aggression was not examined. Crick et al. (2006) found that preschool females were more likely to be relationally aggressive than preschool males, and that preschool males were more likely to be physically aggressive than preschool

females. Additionally, Crick et al. (2006) demonstrated that aggressive preschoolers can be categorized into groups of only relationally aggressive preschoolers, only physically aggressive preschoolers, and both relationally and physically aggressive preschoolers.

In the current study relational aggression and physical aggression were associated with one another. Specifically, individuals who were relationally aggressive were likely to also be physically aggressive, and individuals who were physically aggressive were likely to also be relationally aggressive. As was demonstrated by Crick et al. (2006), individuals who were only relationally aggressive (i.e., relationally aggressive children who were not physically aggressive) and individuals who were only physically aggressive (i.e., physically aggressive children who were not relationally aggressive) also were found.

Possible explanations for why the current study found that as relational aggression increases so does physical aggression include the following: (1) the relationship between physical and relational aggression could be due to shared variance, and (2) highly relationally aggressive children may utilize physical aggression at times, but not as frequently as relational aggression and highly physically aggressive children may utilize relational aggression at times, but not as frequently as physical aggression.

The first possibility suggests that the relationship between physical and relational aggression could be due to shared variance. Specifically, relational aggression and physical aggression were assessed using the same instrument, the PSBS-T. Each participant had his/her classroom teacher complete the PSBS-T, resulting in an indirect measure of both physical and relational aggression. Results may be confounded by the report from a single teacher per participant due to this indirect measurement. In other words, relationally aggressive children may not, in fact, be more inclined to utilize physical aggression. Instead, teachers may perceive

individuals who engage in either physical aggression or relational aggression more negatively. In turn, these teachers may rate these children higher on each form of aggression. In other words, if a teacher commonly observes a child engaging in relational aggression, this teacher may rate relational aggression as very high. The teacher may also assume that because the child uses relational aggression frequently, s/he may also utilize physical aggression at times.

Another explanation for the correlation of relational and physical aggression could be that highly relationally aggressive children may utilize physical aggression at times, but not as frequently as relational aggression. Similarly, a highly physically aggressive child might use relational aggression at times, but not as frequently as physical aggression. This possibility should be explored further. For example, future studies could utilize point biserial correlations to assess the relationships among an only relationally aggressive group, an only physically aggressive group, and a both relationally and physically aggressive group. Analysis of variance (ANOVA) also could be used to examine group differences between an only relationally aggressive group, an only physically aggressive group, and a both relationally and physically aggressive group. In the current sample, there were only 3 children who were considered only highly physically aggressive, only 2 children who were considered both highly relationally aggressive and highly physically aggressive, and only 12 children who were considered only highly relationally aggressive. These groups were not large enough, and thus did not yield enough statistical power to find significant differences. Therefore, sufficient data were not available to assess relationships between group differences among a purely highly relationally aggressive group, a purely highly physically aggressive group, and a mixed highly-relationally and highly- physically aggressive group.

Research Question 2

The second research question examined the relationships between relational aggression and gender, expressive-language ability, and perspective taking skills. Initial analyses did not find relational aggression to be related to gender, expressive-language ability, or perspective taking skills; however, further analyses did provide some support for the hypothesis stating expressive-language abilities may be higher in relationally aggressive children and for the hypothesis stating that perspective taking abilities may be better developed in relationally aggressive children.

Gender

Most research examining relational aggression in young children has found relational aggression is most common among females (Bonica et al., 2003; Crick et al., 1997; Crick et al., 2001; Crick et al., 2006; McNeilly-Choque et al., 1996). However, McEvoy and colleagues (2003) found that young males engage in relational aggression more often than females. Specifically, McEvoy et al. found relational aggression was the most common form of aggression among young females; however, young males were found to engage in more acts of relational aggression than young females.

No gender differences with regard to relational aggression were found in the current study. In other words, among this sample, males and females engaged in the same amount of relational aggression as reported by teachers on the Preschool Social Behavior Scale.

Various explanations for the finding of no gender differences with regard to relational aggression exist. As mentioned previously, the majority of participants attended centers that utilized the Second Step Violence Prevention Curriculum. The implementation of this program may be confounding the results. Specifically, this program could be teaching young preschoolers to understand the emotional perspective of others so well that these children are all now more skilled at employing relational aggression.

A related possibility is that gender is not as important a predictor of relational aggression as it is of physical aggression. Skills such as expressive language ability and perspective taking ability may actually account for a significantly larger amount of the variance in relational aggression than gender does.

Expressive Language Ability

Hypothesis 3 stated that relationally aggressive young children would have better developed expressive-language skills, as measured by the EVT. Support for this hypothesis was not found when other variables were not held constant; however, support for this hypothesis was found when prosocial skills were held constant. In other words, expressive-language ability does predict relational aggression when prosocial skills are held constant.

The Resource Control Theory could be utilized to help explain this unexpected finding. The Resource Control Theory hypothesizes that various interactions require competition for resources (competition for attention of peers, a certain place in line, a desired object, etc). The presence of such competition prompts the use of “strategic control efforts.” These control efforts can be prosocial, coercive, or a mixture thereof. Hawley (2003) found that relationally aggressive children are more commonly “bistrategic controllers” or children who use a mixture of prosocial and coercive control methods. Because these children tend to use both coercive and prosocial strategies at times, it is possible that teachers generally rate them as less prosocial. The link between prosocial abilities and expressive language abilities was not directly examined by this study. However, when prosocial skills are controlled, and all children, despite their use of control strategies, are compared, expressive language abilities of relational aggressors are stronger. In other words, when the teacher perspective of social ability is taken out of the equation it does appear that relational aggressors have better expressive language skills.

The use of the Resource Control Theory helps explain this perplexing finding; however, this theory in and of itself is not sufficient. Future research should further examine this phenomenon. Until this finding is further studied, confident conclusions are unable to be formed.

Perspective Taking Skills

The current study hypothesized that relationally aggressive preschoolers would have better developed perspective-taking skills when compared to non-relationally aggressive preschoolers and to physically aggressive preschoolers. Support for this finding initially was not provided, as the measure initially utilized to assess perspective taking skills (i.e., the ECSCI) is a measure derived from the Second Step Curriculum. As the majority of participants in this study were attending programs where the Second Step Curriculum was implemented, this finding is likely confounded.

In order to further examine the relationship between perspective-taking skills and relational aggression, participants were told 2 stories that demonstrated blatant acts of relational aggression. When participants were asked how the relational victims in the scenarios felt, an overwhelming majority of relational aggressors were able to correctly take the perspective of the victim. However, many non-aggressive individuals also were able to correctly identify the perspective of the victim, pointing out the need to further investigate this construct. Additionally, in one of the scenarios the relationally aggressive preschoolers were better able to take the perspective of the relational victims than their non-relationally aggressive peers. In the other scenario, the findings were approaching significance, again highlighting the need to further investigate this construct.

The Resource Control Theory, in combination with the Social Information Processing Model (SIMP), could be used to explain the relationship between relational aggression and

perspective taking skills. Hawley (2003) notes relational aggressors use both coercive and prosocial strategies to get what they want. This suggests that these aggressors are able to understand various ways to obtain desired outcomes. In order to be able to understand various methods of obtaining preferred results, and in order to be able to choose the most effective way of obtaining desired outcomes, one must be able to take the perspective of others and apply this knowledge when making social decisions. In other words, it is likely these individuals appropriately encode social cues (i.e., step 1 of the SIMP) and accurately understand the social cues (i.e., step 2 of the SIMP). During the next step of the SIMP where goals are clarified (i.e., step 3 of the SIPM), these relationally aggressive individuals decide upon what they want, and then think of both coercive (via the use of relational aggressive) and prosocial strategies. If these aggressors think they are able to obtain the desired outcome via the use of prosocial strategies, they may do so. However, if these relationally aggressive individuals think that using prosocial strategies may not yield the desired result, they may decide to utilize relational aggression in order to obtain the preferred outcome. Importantly, however, many preschoolers' skills may not be sufficiently well developed to make fine decision-making distinctions.

Relationally aggressive young children may have more advanced perspective-taking skills than their non-relationally aggressive peers because of the development of their thinking abilities. The decision making abilities of most preschool children may not be developed well-enough to make very fine distinctions during the information processing of their social worlds. However, the decision making abilities of relational aggressors, in combination with, or instead of, the perspective-taking abilities of relational aggressors may actually be what is better developed in these preschool children.

Research Question 3

The third research question examined the relationships between physical aggression and gender, expressive-language ability, and perspective taking skills.

Gender

Male gender has repeatedly been found to be related to physical aggression in young children (Coie & Dodge, 1997; Juvonen & Graham, 2001; Lavigne et al., 2001; Mathesen & Sanson, 2000; McEvoy et al., 2003; Monks et al., 2002; Pierce et al., 1999). The current study also found physical aggressors were more likely to be male.

An overwhelming amount of literature supports the idea that physical aggressors are more commonly males, especially in early childhood. A likely explanation for this repeated finding is that young physical aggressors are, in fact, more likely to be male than female.

Expressive Language Ability

Young physical aggressors often have been found to exhibit poor expressive and receptive language skills (Estreem, 2005; Park et al., 2005). Consistent with past research, participants in the current study who were physically aggressive tended to have less well-developed expressive language abilities.

This finding simply provides more evidence to support the idea that physical aggressors commonly have less-well developed language skills.

Perspective Taking Skills

Many researchers use the Social Information Processing Model (SIPM) to explain physically aggressive behavior (Coie & Cillessen, 1993; Dodge, Lansford, Salzer Burks, Bates, Pettit, Fontaine, & Price, 2003; Salzer Burks, Laird, & Dodge, 1999; Webster-Stratton & Lindsay, 1999). With regard to the SIPM, physically aggressive individuals are commonly found to process information in an excessively negative manner (have hostile attribution biases). The

hypothesis states that physically aggressive children interpret social cues delivered by others (peers) as having hostile or malice intent, despite whether hostile or malice intent was present. This hypothesis suggests physical aggressors often lack perspective taking skills (Coie & Cillessen, 1993; Dodge, et al., 2003; Salzer Burks et al., 1999; Webster-Stratton & Lindsay, 1999). Support for the idea that physical aggressors lack perspective taking skills was not found in the current study.

This divergent finding was likely due to the implementation of the Second Step Curriculum in the majority of participating sites. The measure used to assess general perspective-taking skills (i.e., the ECSCI) is a measure derived from the Second Step Curriculum. Therefore as stated before, the use of this curriculum likely confounded the results of this study. As such, future research should further investigate the role perspective taking plays in physically aggressive young children.

Other Findings

Physical Aggression

Variables to be included in exploratory step-wise regression analyses were determined through the use of data reduction. In conducting these exploratory analyses, the number of adults in classrooms was found to significantly predict the amount of physical aggression that occurred. The classrooms that had more adults in them were very large, open, unstructured classrooms with many children present in the room at any given time. The classroom atmosphere, rather than the number of adults present, may actually be the predictor of physical aggression under these circumstances. Unfortunately data to explore this possibility were not gathered.

Prosocial Skills

Correlates of prosocial skills were examined because less well developed prosocial skills was related to both physical aggression and relational aggression and because when prosocial

skills were held constant expressive language ability was a significant predictor of relational aggression. Sex, age, and early childhood program attended significantly predicted prosocial skills. As mentioned previously, males were more likely to engage in physical aggression. Therefore, it is not surprising that females tended to display more prosocial behaviors. Additionally, social skills improve as children get older. As such, it is not surprising that older children engaged in more prosocial behaviors than younger children. Finally, the early childhood programs attended by participants predicted prosocial behaviors. A couple of explanations could explain this finding. First, teachers at some sites may be more tolerant of problem behaviors, and thus rate less prosocial behaviors more leniently. Next, some sites may have classes spend more time engaging in activities to increase social skills. Finally, the demographics of students at each site might impact the use of prosocial skills.

Theoretical Implications

Results from this study support the notion that the SIPM may be utilized in a qualitatively different manner by relational aggressors than by physical aggressors (Crick et al., 2002).

Crick et al. (2002) found relational aggressors hold “hostile attributions” with regard to situations based upon relationships. Crain et al. (2006) were unable to replicate these findings in two independent studies. The current study did not examine hostile attribution biases; however it did study the role of perspective taking among relational aggressors.

Hawley (2003) found relational aggressors were skilled at choosing the more effective “control strategies,” whether they be prosocial control strategies or coercive control strategies. Findings from the current study suggest the role of perspective taking should be further investigated with regard to relational aggressors.

Based upon the Social Information Processing Model, the Resource Control Theory, and preliminary findings of this study, it appears an altered form of the Social Information

Processing Model, which is informed by the Resource Control Theory, may be better able to account for relational aggression in young children. Specifically, relational aggressors may be able to understand various ways to obtain desired outcomes via their skilled perspective taking abilities. Relational aggressors might accurately encode the social cues given by others (i.e., step 1 of the SIPM). They also may appropriately understand those cues (i.e., step 2 of the SIPM). Although findings from Crick et al. (2002) suggest this is where the breakdown in social information processing occurs in relationally aggressive individuals, the breakdown may occur during the next three steps (i.e., step 3, step 4, and step 5 of the SIPM,) where goals are clarified, access to solutions are evaluated, and decisions are made.

According to the Resource Control Theory, during the third step of the SIPM these relationally aggressive individuals decide upon what they want, and then think of both coercive (via the use of relational aggressive) and prosocial strategies to obtain the desired outcome (step 4). If these aggressors think they are able to obtain the desired outcome via the use of prosocial strategies, they may decide to do so (step 5). However, if these relationally aggressive individuals think that using prosocial strategies may not yield the desired result, they may decide upon implementing relational aggression in order to obtain the preferred outcome (step 5). Appendix G graphically illustrates how the Social Information Processing Model could be combined with the Resource Control Theory to explain relational aggression among young children.

Limitations

Design and Internal Validity

Ostrov, Crick, and Stauffancher (2006) point out the “importance of a multi-contextual approach (school and family influences) in understanding the development of aggression and in providing a guide for future interventions.” The current study did not assess contextual factors

regarding family and neighborhoods. Specifically, information concerning parenting styles, number of siblings, birth order, amount of sibling-on-sibling relational aggression, neighborhood environments, and amount of neighborhood relational aggression observed by parents could have helped to explain more of the variance in relational aggression. Future studies should ask for parents' perspectives about each of these factors. Information related to the contextual factors left out of this study could prove useful in informing relational aggression prevention and intervention efforts.

As mentioned previously, the use of the Second Step Violence Prevention Curriculum likely confounded some of the current studies results, thus presenting a threat to the study's internal validity.

External Validity and Generalizability

Data for the current study were collected in a southeastern college town. Additionally, data were only obtained from model early childhood centers, each of which has or is capable of having accreditation from various early childhood accrediting boards. Given that data were collected at model centers in a college town, the parents may have a higher level of education than parents in the general population. As such, care should be taken when generalizing results to other populations.

Measurement

As mentioned previously, the ECSCI was developed to assess perspective taking gains made as a result of inclusion in a Second Step Violence Prevention program. The majority of participants in this study attended centers where the Second Step Violence Prevention Curriculum was implemented. Therefore, the ECSCI likely provided a measure of skills related to those learned from Second Step, and not overall perspective taking skills.

Finally, the Relational Aggression Perspective Taking Questionnaire only included two scenarios. This instrument was able to provide preliminary results regarding the relational aggression perspective taking abilities of relational aggressors; however, the instrument was not sensitive enough to provide detailed results concerning differences among relational aggressors, physical aggressors, and non-aggressors.

Future Directions

Perspective Taking

The combined use of the Social Information Processing Model and Resource Control Theory to explain relational aggression deserves further attention. Future research could examine the relationship of control strategies and perspective taking among relationally aggressive, physically aggressive, and non-relationally aggressive children. Future studies could explore the following questions: Are control strategies mediated by perspective taking abilities? Do individuals who always or almost always use coercive strategies tend to have less-well developed perspective taking abilities? Do individuals who commonly use both coercive and prosocial control strategies have better-developed perspective taking abilities? How do the perspective taking abilities of individuals who almost always utilize prosocial control strategies differ from those who commonly use coercive and prosocial strategies? Could this difference be utilized in some way to inform relational aggression prevention and intervention efforts?

Additionally, the role of relational hostile attribution biases deserves further attention. Research aimed at answering the question of how these hostile attribution biases may fit into the Relational Aggression Social Information Processing Model based upon Resource Control, if these hostile attribution biases exist, should be conducted.

Findings of the current study demonstrated that relationally aggressive individuals understood how victims of relational aggression would feel in relationally aggressive scenarios.

However, non-aggressive children also were able to correctly identify how victims of relational aggression would feel in relationally aggressive scenarios. Future research should try to disentangle what is different, if anything, about the relational aggression specific perspective-taking abilities utilized by relational aggressors when compared to non-relational aggressors.

An expanded version of the Relational Aggression Perspective Taking Questionnaire could be used to obtain further knowledge of how specific perspective taking abilities of relational aggressors differ from those of non-aggressors. The questionnaire used in the current study only included two scenarios. This instrument may have been more sensitive if more scenarios were included.

Efforts to create a valid and reliable measure of young children's general perspective taking abilities should be made. The main measure (i.e., the ECSCI) used to assess perspective taking abilities in the current study may have provided misleading results. As mentioned previously, the measure was created based upon the Second Step Violence Prevention Curriculum. The majority of participants in this study attended programs that implemented the Second Step Violence Prevention Curriculum. Therefore, the ECSCI may have actually been measuring a result of exposure to the Second Step Violence Prevention Curriculum as opposed to overall, general perspective-taking abilities. Future studies should consider the use of a different measure to assess overall perspective taking skills.

Gender

The current study found gender was not a significant predictor of relational aggression in young children. McEvoy et al. (2003) also found female gender and relational aggression were uncorrelated in preschool sample. Conversely, many researchers have found young females are more relationally aggressive than young males (Bonica et al., 2003; Crick et al., 1997; Crick et al., 2001; Crick et al., 2006; McNeilly-Choque et al., 1996). These discrepant findings highlight

the need to continue examining the role gender plays in the prediction of relational aggression among young children.

Expressive Language

One hypothesis of the current study postulated that higher expressive language abilities would be predictive of relational aggression in young children. Estrem (2005) and Bonica and colleagues (2003) found better-developed expressive language abilities to be predictive of relational aggression in young children; however, Park et al. (2005) found less well-developed language abilities account for a significant amount of the variance in relational aggression. The current study found that expressive-language abilities were only predictive of relational aggression when prosocial skills were held constant. In other words, when the teacher perspective of social ability is taken out of the equation it does appear that relational aggressors have better expressive language skills. The use of the Resource Control Theory could help to explain this perplexing finding. This theory alone, however, is unable to adequately explain this finding. Future research should further examine this puzzling discovery. Until this finding is further studied, confident conclusions regarding the expressive language abilities of relational aggressors are unable to be stated.

Applied Implications

Physical aggression

One unexpected finding of this study was the relationship between adults in a classroom and physical aggression. Physical aggression increased as the number of adults in the classroom increased. As mentioned previously, the classes with more adults also contained more children in very large rooms with masses of open space. In order to decrease physical aggression, early childhood classrooms could be smaller rooms, with fewer students, and thus fewer adults.

Additionally, the classroom could be designed so large open spaces were not present, decreasing the opportunity for running and rough play within the classroom.

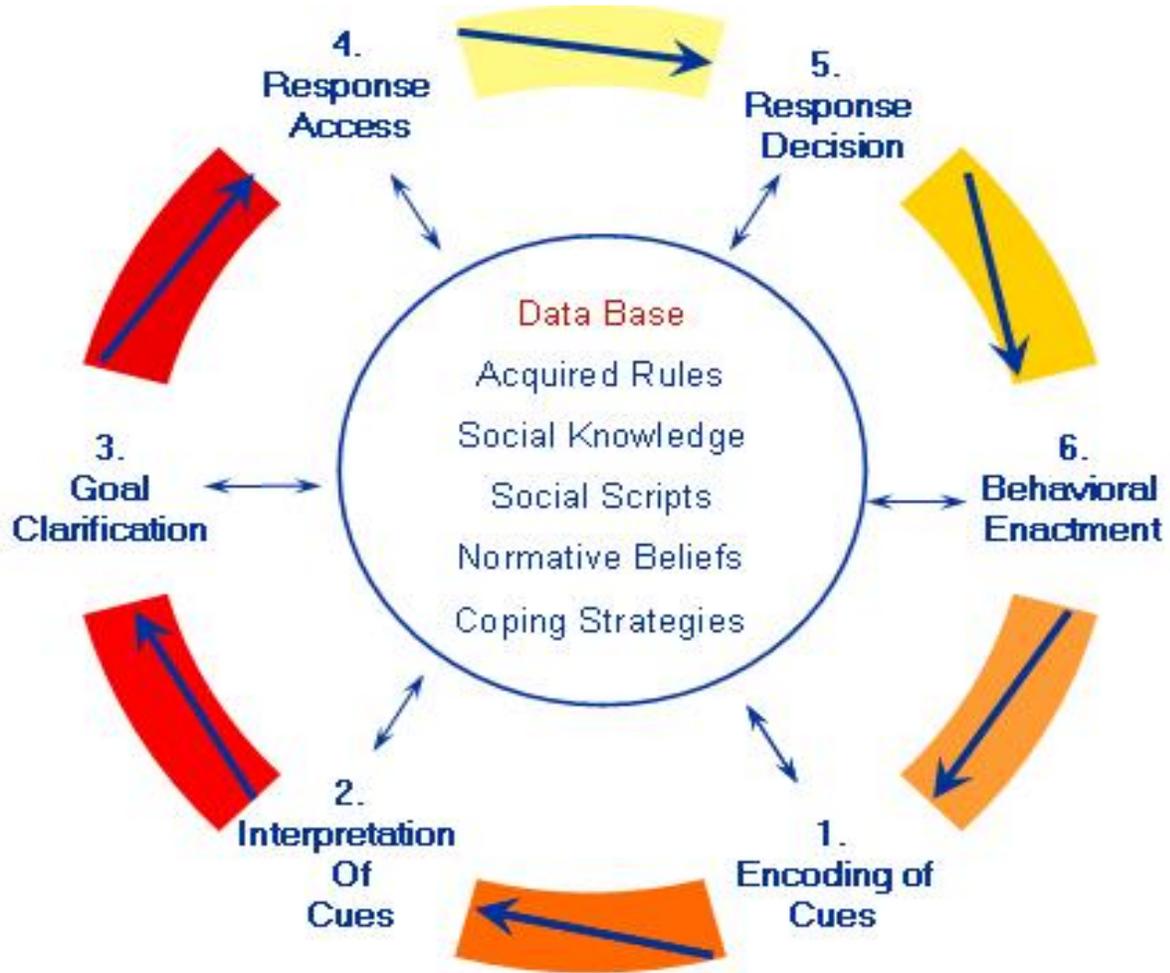
Relational aggression

Relational aggressors may have better perspective taking skills, but this is not something intervention and prevention programs should try to alter. Relational aggression appears to be linked to many positive attributes. Some may ponder the possibility that relational aggression is normative. However, if relational aggression were normative, would it be related to so many negative psycho-social outcomes among victims as well as perpetrators? The more satisfying answer may be that a negative predictor of relational aggression exists, research has just not identified it yet. Comparing the perspective taking abilities and control strategies of relational aggressors may provide answers regarding what we can change to decrease relational aggression.

Moreover, researchers may want to consider the unappealing possibility that current physical aggression prevention programs may be inadvertently increasing relational aggression. As mentioned previously, it appears that relational aggression is linked to skills advantageous for children to have (well developed expressive language ability, well developed perspective taking skills). Research efforts should explore how to continue to promote these skills while demoting the use of relational and physical aggression.

APPENDIX A
SOCIAL INFORMATION PROCESSING MODEL

(Crick & Dodge, 1994)



APENDIX B
REVIEW OF RELATIONAL AGGRESSION ASSESSMENT TECHNIQUES

Table B-1. Review of relational aggression assessment techniques

Instrument/ Technique	Aspects Assessed	Psychometric Properties	Child Friendliness	Examiner Friendliness	Target Population
Direct Observation in Natural Setting Based on PSBP's definition of relational aggression (Crick, Casas, Mosher, 1997)	Relational aggression	Evidence of Content Validity; Concurrent Criterion- Related Validity is present when compared with PSBS-P and when compared with PSBS-T (McEvoy et al., 2003) Interrater-reliability would need to be obtained when this method is used	Very, child should be unaware that he/she is being observed	No- It is difficult to "hear" some instances of relational aggression. It is difficult/imp ossible to ensure observer is not causing children to behave in manners out of the norm. It is very time consuming.	Preschooler Children (defined as ages 3-5 yrs) Could be used with other individuals as well
Semi- structured, Analogue Observations (Crick et al., 2004)	Relational Aggression	Evidence of Content validity is present; Low levels of participant reactivity increases its external validity (Crick et al., 2004) High interobserver has been reported (Crick et al., 2004) Interrater-reliability would need to be obtained each time this method is used High agreement with teacher reports (PSBS-T) has been reported (Crick et al., 2004)	Somewhat, however peer interactions are manipulated in hopes of eliciting relational aggression	Yes; however coding video-tapes is likely to be a tedious task	Preschool Children (defined as ages 3-5 yrs) Could be used with other individuals
Parent interview: relational aggression (Crick & et al.)	Relational aggression	Some evidence of Content Validity (however this is limited because the interview is semi- structured) Other Data are unavailable	Not applicable, but it is up to the interviewer to ensure it is parent friendly	Yes, as long as the interviewer is comfortable with his/her role as interviewer	Could be utilized with individuals of any age

Table B-1. Continued

Instrument/ Technique	Aspects Assessed	Psychometric Properties	Child Friendliness	Examiner Friendliness	Target Population
Preschool Behavior Scale- Peer Form (PSBS-P) (Crick, Casas, Moshier, 1997)	1.Relational Aggression; 2.Overt, Physical Aggression; 3.Peer Acceptance; 4.Peer Rejection; 5.Prosocial Behavior	Evidence of Content Validity is present; Concurrent Criterion- Related Validity is present when compared with direct observations (McEvoy et al., 2003); Internal consistency reported by McEvoy et al., 2003 for relational aggression (ra) = between .64 and .76; for overt aggression (oa)= between .61 and .83; for prosocial behavior (pb)= .62 and .80 Chronbach's α for ra= .71; oa=.77; pb=.68 (Crick et al., 1997)	Yes, picture nominations used to ease in assessment. May be less child- friendly for young children with limited or less developed language skills.	Yes, however, it may be time- consuming and tedious to administer and score.	Preschool Children (defined as ages 3-5yrs)
Preschool Behavior Scale- Teacher (PSBS-T) (Crick, Casas, Moshier, 1997)	1.Relational Aggression; 2.Overt, Physical Aggression; 3.Prosocial Behavior; 4.Child's Acceptance with Same- Sex Peers; 5.Child's Acceptance with Opposite- Sex Peers	Evidence of Content Validity is present Concurrent Criterion- Related Validity is present when compared with direct observations (McEvoy et al., 2003); Internal consistency reported by McEvoy et al., 2003 for relational aggression (ra) = between .81 and .89; for overt aggression (oa)= between .72 and .83; for prosocial behavior (pb) = between .62 and .83; for depressed affect (da) = between .82 and .90 Chronbach's α ra= .96; oa= .94; pb= .88; da= .87 (Crick et al., 1997)	N/A for children. For teachers it is easy to understand and short; however teachers may be asked to fill out a rating for several (if not all) students in the class, so it could become more tedious.	Very Examiner Friendly. It is easy to administer and score	Preschool Children (defined as ages 3 – 5 yrs)

Table B-1. Continued

Instrument/ Technique	Aspects Assessed	Psychometric Properties	Child Friendliness	Examiner Friendliness	Target Population
Children's Social Behavior Scale (CSBS) (Crick, 1996)	1.Relational Aggression 2.Overt, Physical Aggression 3.Prosocial behavior	Evidence of Content Validity is present; Internal consistency= for relational aggression is between .63 and .83; for physical aggression is between .76 and .84; for prosocial behavior is between .73 and .89 (Crick, 1996)	N/A for children. For teachers it is easy to understand and short; however tedious if asked to complete for several students.	Very examiner friendly. It is easy to administer and score	3 rd through 6 th grade
Children's Peer Relation Scale (CPRS) (Crick 1991 in Crick & Grotmeter, 1995)	1. Overt, Physical Aggression 2.Relational Aggression 3. Prosocial Behavior 4.Loneliness	Evidence of Content Validity is present; Internal consistency= between .7 and .82 (depending on construct) Test-retest reliability = between .80 and .96 (depending on construct) (Crick & Grotmeter, 1995)	Yes, it is written in child- friendly terms and it is relatively short	Yes, it is easy to administer and score.	Middle childhood through adolescence (9 yrs – 17 yrs)
Peer Nomination of Relational Aggression and other Aspects of Social Adjustment (Crick, 1995; Crick & Grotmeter, 1995)	1.Overt, Physical Aggression 2.Relational Aggression 3.Prosocial Behavior 4.Loneliness	Evidence of Content Validity is present; Internal Consistency of items for prosocial items is .79 to .90; for relational aggression items is .73 to .84; for overt aggression items is .88 to .91; for isolation/ unhappiness items is .91 to .92 (Crick, 1995; Crick & Grotmeter, 1995)	Yes, however children must be encouraged not to discuss their rankings.	Yes, however, it may be time- consuming and tedious to administer and score.	3 rd through 6 th grade (but can be, and has been adapted for use with adolescents or individuals in college)

Crick & Grotmeter, 1995; Crick et al., 2004; McEvoy et al., 2003

APPENDIX C
LIMITATIONS OF CURRENT RELATIONAL AGGRESSION ASSESSMENT
TECHNIQUES

Table C-1. Limitations of current relational aggression assessment techniques

Instrument/Technique	Limitations
Direct Observation in Natural Setting Based on PSBP's definition of relational aggression (Crick, Casas, Mosher, 1997)	<ol style="list-style-type: none"> 1. In order to get a valid picture of each child, it is likely to become very time consuming. 2. It may be difficult to hear what the children are saying. 3. Children may behave differently as a result of having the observer present. 4. Somewhat subjective, as it depends on whether the examiner feels the behavior fits the operational definition of relational aggression. As such, interrater-reliability is essential. 5. Control is essentially exchanged for authenticity (though this is not necessarily a limitation).
Semi-structured, Analogue Observations (Crick et al., 2004)	<ol style="list-style-type: none"> 1. Coding video-tapes could become tedious 2. Not as authentic as observations in natural settings 3. Somewhat subjective, as it depends on whether the examiner feels the behavior fits the operational definition. As such, interrater-reliability is essential.
Parent interview: relational aggression (Crick & Grotmeter, 1995)	<ol style="list-style-type: none"> 1. No quantitative information is obtained. 2. Based on parents subjective opinion. 3. Parent may not be aware of instances of relational aggression.
Preschool Behavior Scale- Peer Form (PSBS-P) (Crick, Casas, Mosher, 1997)	<ol style="list-style-type: none"> 1. Children with limited language skills may have difficulty understanding what is being asked of them. 2. Children may discuss with peers who have not been assessed yet, possibly skewing the findings obtained. 3. Limited number of items for each construct (max of 7) could limit reliability.
Preschool Behavior Scale- Teacher (PSBS-T) (Crick, Casas, Mosher, 1997)	<ol style="list-style-type: none"> 1. Based on the teachers subjective judgment. 2. Teacher may not see all behaviors exhibited by the child. 3. Limited number of items for each construct (max of 6) could limit reliability.
Children's Social Behavior Scale – Teacher Form (CSBS) (Crick, 1996)	<ol style="list-style-type: none"> 1. Based on the teachers subjective judgment. 2. Teacher may not be aware of all instances of relational aggression 3. Teacher may not see all behaviors exhibited by the child. 4. Limited number of items for each construct (max of 7) could limit reliability.
Children's Peer Relation Scale (CPRS) (Crick 1991 in Crick & Grotmeter, 1995)	<ol style="list-style-type: none"> 1. Limited number of items for each construct (max of 5) could limit reliability. Some constructs have as few as 2 items, which could limit reliability. 2. There is no scale to assess truthfulness of answers provided. 3. Children may be reluctant to answer in ways that they feel make them look negatively. They may try to "please the examiner" with their answers.
Peer Nomination of Relational Aggression and other Aspects of Social Adjustment (Crick, 1995; Crick & Grotmeter, 1995)	<ol style="list-style-type: none"> 1. Children may discuss assessment with peers who have not been assessed yet, possibly skewing the findings obtained. 2. Limited number of items for each construct (max of 5) could limit reliability. 3. Children may be reluctant to negatively nominate friends who engage in items worded negatively.

APPENDIX D
PRESCHOOL SOCIAL BEHAVIOR SCALE–TEACHER FORM

The following measure is adapted from that described in Crick, Casas, & Mosher (1997)>

Crick, N.R., Casas, J.F., & Mosher, M. (1997). Relational and overt aggression in Preschool. *Developmental Psychology*, *33*, 579-588.

The measure is based on a similar measure developed for use with children in middle childhood (e.g., Crick, 1996). The PSBS-T contains a total of 25 items and assesses the following:

Subscales:

Relational Aggression: Items # 4, 8, 11, 13¹, 15, 19¹, 21, 22

Over/Physical Aggression: Items # 2, 5, 7, 12, 14, 17¹, 20¹, 23

Prosocial Behavior: Items # 1, 3, 6, 10

Depressed Affect: Items # 9, 16, 18²,

Child's acceptance with same sex peers: Item # 24

Child's acceptance with opposite sex peers: Item # 25

¹ = items cross-loaded on the factor analysis and were dropped from further analyses.

² = item needs to be reverse-coded.

Preschool Social Behavior Scale – Teacher

Child's Name _____	Child's sex: Male or Female?
Teacher's Name _____	Age _____

	Never or almost never true	not often	some times	often	always or almost always true
1. This child is good at sharing and taking turns	1	2	3	4	5
2. This child kicks or hits others.	1	2	3	4	5
3. This child is helpful to peers.	1	2	3	4	5
4. This child tells a peer that he/she won't play with that peer or be that peer's friend unless he/she does what this child asks.	1	2	3	4	5
5. This child verbally threatens to hit or beat up other children.	1	2	3	4	5
6. This child is kind to peers.	1	2	3	4	5
7. This child pushes or shoves other children.	1	2	3	4	5
8. This child tells others not to play with or be a peer's friend.	1	2	3	4	5
9. This child doesn't have much fun.	1	2	3	4	5
10. This child says or does nice things for other kids.	1	2	3	4	5
11. When mad at a peer, this child keeps that peer from being in the play group.	1	2	3	4	5
12. This child verbally threatens to physically harm another peer in order to get what they want.	1	2	3	4	5
13. This child tries to embarrass peers by making fun of them in front of other children.	1	2	3	4	5
14. This child ruins other peer's things (e.g. art projects, toys) when he/she is upset.	1	2	3	4	5
15. This child tells a peer they won't be invited to their birthday party unless he/she does what the child wants.	1	2	3	4	5
16. This child looks sad.	1	2	3	4	5
17. This child throws things at others when he/she doesn't get his/her own way.	1	2	3	4	5
18. This child smiles at other kids.	1	2	3	4	5
19. This child walks away or turns his/her back when he/she is mad at another peer.	1	2	3	4	5
20. This child verbally threatens to push a peer off a toy (e.g. tricycle, play horse) or ruin what the peer is working on (e.g. building blocks) unless that peer shares.	1	2	3	4	5
21. This child tries to get others to dislike a peer (e.g. by whispering mean things about the peer behind the peer's back).	1	2	3	4	5
22. This child verbally threatens to keep a peer out of the play group if the peer doesn't do what the child says.	1	2	3	4	5
23. This child hurts other children by pinching them.	1	2	3	4	5
24. This child is well liked by peers of the <u>same</u> sex.	1	2	3	4	5
25. This child is well liked by peers of the <u>opposite</u> sex.	1	2	3	4	5

APPENDIX E
PRESCHOOL PEER NOMINATION MEASURE–PEER FORM

The following measure was adapted from that described in Crick, Casas, & Mosher (1997).

Crick, N.R., Casas, J.F., & Mosher, M. (1997). Relational and overt aggression in preschool. *Developmental Psychology*, 33, 579-588.

The measure is based on a similar measure developed for use with children in middle childhood (e.g., Crick & Grotpeter, 1995). The PSBS-P contains a total of 19 items and assesses the following:

Subscales:

Peer Acceptance: **Item #1**

Peer Rejection: **Item #2**

Relational Aggression: **Items #4, 6, 7, 10, 12, 14, 16**

Overt/Physical Aggression: **Items #3, 5, 9, 13, 15, 18**

Prosocial Behavior: **Items #7, 11, 17, 19**

Preschool Social Behavior Scale – Peer Form

Session A

1. Point to the pictures of three kids who you like to play with.
2. Point to the pictures of three kids who you don't like to play with.
3. Point to the pictures of three kids who push or shove other kids. (OA)
4. Point to the pictures of three kids who tell other kids not to be someone's friend. The might say, "don't play with that kid." (OA)
5. Point to the pictures of three kids who say they will hit or beat up other kids to that they can get what they want. (VTO)
6. Point to the pictures of three kids who say they won't invite someone to their birthday party if they can't get what they want. (VTR)
7. Point to the pictures of three kids who are good at sharing and taking turns. (PS)
8. Point to the pictures of three kids who won't let a kid play in the group if they are mad at that kid. They might tell the kid to go away. (RA)
9. Point to the picture of three kids who say they will knock someone's stuff over or mess it up if they don't get to play with it too. (VTO)
10. Point to the pictures of three kids who whisper mean things about other kids. (RA)
11. Point to the pictures of three kids who are nice to other kids. They might do nice things for other kids. (PS)

Session B

12. Point to the pictures of three kids who tell other kids that they can't play with the group unless they do what the group wants them to do. (VTR)
13. Point to the pictures of three kids who kick or hit other kids. (OA)
14. Point to the pictures of three kids who won't listen to someone if they are mad at them, they may even cover their ears. (RA)
15. Point to the pictures of three kids who say they will push someone off a toy if they don't get to play on it too. (VTO)
16. Point to the pictures of three kids who say they won't be someone's friends if they don't get what they want. (VTR)
17. Point to the pictures of three kids who help other kids. (PS)
18. Point to the pictures of three kids who throw things at other kids when they don't get their way. (OA)
19. Point to the pictures of three kids who smile at other kids a lot. (PS)

Loneliness Questions

	<u>Yes</u>	<u>No</u>	<u>Sometimes</u>
1. Can you find a friend when you need one?	_____	_____	_____
2. Do you have kids to play with at school?	_____	_____	_____
3. Do you get along with other kids at school?	_____	_____	_____
4. Do the kids at school like you?	_____	_____	_____
5. Do you have friends at school?	_____	_____	_____
6. Do you like to hear stories?	_____	_____	_____

APPENDIX F:
EARLY CHILDHOOD SOCIAL COGNITIONS INTERVIEW

A. The ability to determine the emotional states of another person.

1. Part A: Recognize overt expressions of emotions: show child pictures of children and ask how they are feeling. Emotions include: happy, sad, angry, surprise, and afraid.

1. Part B: Verbalize the cues to determine the emotion: Ask, “How can you tell that the person is _____?” “What about the person’s face/body tells you that he/she is feeling _____?”

2. Part A: Recognizes that feelings can change, and why it happens. Say, “When Juan first got to school today, he was crying. His teacher gave him a hug and he started smiling.”
 - a. How did Juan feel when he got to school?
 - b. Why do you think he might have felt _____?
 - c. How did Juan feel after his teacher gave him a hug?
 - d. Why do you think he might have felt _____?

B. The ability to assume the perspective and role of another person.

1. Part A: Recognize that different people have different feelings about the same thing: show picture of two children and say, “ Jessica loves clowns, but Tyler is afraid of them. Their teacher tells them that their class will be going to a circus, and that there will be lots of clowns there. How do you think Jessica will feel? How do you think Tyler will feel?”
Part B: Express care and concern for others: Ask, “How could Jessica help Tyler feel better?”

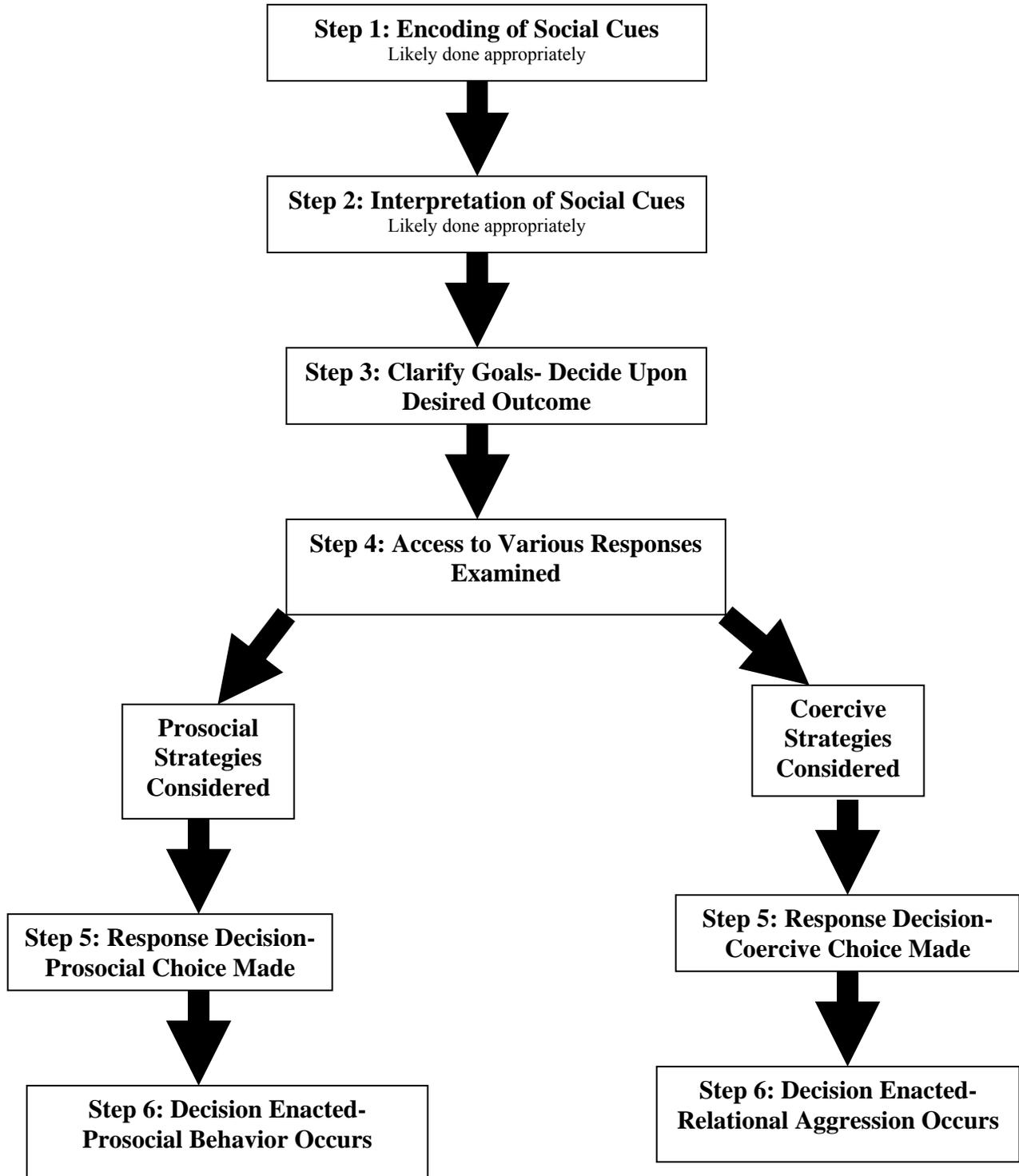
C. The ability to problem solve social situations:

Show each sheet of pictures to child and say, “ This is _____(name for child A). This is _____(name for child B). Can you tell me what toy this is? (show picture of toy). Yes, a ball. Now _____(name of child A) has been playing with this ball for a long time and _____(name of child B) want a chance to play with it. But, _____(name for child A) keeps on playing with it. What can _____(name for child B) do so s/he can have a change to play with the toy?”

“That’s one way. Now the idea of this game is to think of lots of ways to get a chance to play with toys, okay? What else could _____(name for child B) do?”

APPENDIX G:
RELATIONAL AGGRESSION SOCIAL INFORMATION PROCESSING BASED ON
RESOURCE CONTROL

(Model components taken from Crick & Dodge, 1994 and Hawley, 2003)



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BIOGRAPHICAL SKETCH

Jennifer Harman was born and raised in Memphis, TN. She obtained her undergraduate education at the University of Memphis, where she majored in psychology and minored in sociology. Upon receiving her Bachelor of Arts in psychology, Jennifer was admitted to the School Psychology Program at the University of Memphis. After completing a year of graduate education at the University of Memphis, Jennifer decided she would like to pursue a doctoral degree in school psychology. She was admitted as a doctoral student in the School Psychology Program at the University of Florida in 2003. Jennifer earned her Masters of Education from the University of Florida in December of 2004. She plans on completing a clinical internship during the 2008/2009 academic school year. Upon graduation, Jennifer plans to pursue a post-doc placement which would allow her to work towards licensing hours.