

ABSTRACT

Title: RELATIONAL AGGRESSION AMONG GIRLS AND BOYS WITH EMOTIONAL/BEHAVIORAL DISORDERS IN A SPECIAL SCHOOL SETTING

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The purpose of this study was to determine if two factors, relational aggression (RA) and overt aggression (OA), emerge using the Children's Social Behavior Scale - Self Report (CSBS-S) with students with emotional/behavioral disorders (EBD) in a special school setting; to determine if students with EBD exhibit relation aggression (RA) or overt aggression (OA), as measured by the CSBS-S; and to determine if there was a relationship between these types of aggression and three variables: age, gender and IQ. The classroom teacher administered the CSBS-S to 130 students with EBD, ages seven to twenty years old, in their special school classrooms during the school day. Although RA and OA did not emerge as two distinct factors with this population, two new factors did emerge and were identified as verbal/physical aggression (VPA) and exclusion type aggression (EXA). VPA included all overt, physical and verbal behaviors and EXA included only behaviors in which a target child was excluded from the group. Students with EBD differentiated between all overt physical and verbal aggressive behaviors and

exclusionary behaviors. A possible implication of these results is that students with EBD do not differentiate between RA and OA and view all aggression, with the exception of exclusion, as a single type of aggression. Students with EBD did exhibit RA and OA. However the percentage differences between genders was not significant and the means and standard deviations of scores were similar, suggesting that in this setting, with these students, both boys and girls are similarly aggressive. IQ was a significant predictor for RA, OA, and VPA, while age was only a significant predictor for OA. The relationships between IQ and the four types of aggressions was negative which implied that as IQ increased, these three aggressions decreased. Although the CSBS-S was not a valid measure of RA and OA with students with EBD, two new variables were identified, VPA and EXA. It was recommended that further studies include interviews, focus groups and observations in order to better determine how students, especially girls, with EBD differentiate and perceive aggression.

RELATIONAL AGGRESSION AMONG GIRLS AND BOYS WITH
EMOTIONAL/BEHAVIORAL DISORDERS IN A SPECIAL SCHOOL SETTING

by

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DEDICATION

This work is dedicated to my husband, Dennis, whose support and sacrifice made this accomplishment possible.

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This accomplishment is not mine alone. It would be remiss if I failed to acknowledge my family who continued to believe in my ability to complete this dissertation and earn my degree. My parents, Leon and Lidia Butzky, taught me the value of education and gave me the confidence to pursue my dreams. My sister, Lilly, provided me with the ability to see this journey one, small step at a time. My children, Chelsea and Drisana, sacrificed time with “mom” and provided me with the inspiration to reach my goal. My husband, Dennis, was convincing, persuasive, and tireless when I was unsure, hesitant and tired. Without my family, I would never have finished.

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TABLE OF CONTENTS

| | |
|---|-----|
| Dedication..... | ii |
| Acknowledgements..... | iii |
| Table of Contents..... | v |
| List of Tables..... | vii |
| Chapter I..... | 1 |
| Overview..... | 1 |
| History of Study of Aggression..... | 2 |
| Aggression Defined..... | 4 |
| Outcomes of Relational Aggression..... | 5 |
| Relational Aggression, Age, and Social Information Processing..... | 7 |
| Female Aggression: Predictors and Models..... | 9 |
| The Student with EBD..... | 11 |
| Risks and Outcomes for Students with EBD..... | 12 |
| Risks for Girls with EBD..... | 13 |
| Statement of the Problem..... | 15 |
| Summary..... | 16 |
| Research Questions..... | 17 |
| Chapter II..... | 19 |
| Organization of Literature Review..... | 19 |
| Historical Overview of Research on Aggression..... | 20 |
| Bjorqvist’s Critique..... | 20 |
| Definitions of Aggression..... | 21 |
| Relational Aggression..... | 24 |
| Girls, Age and Relational Aggression..... | 29 |
| Outcomes of Relational Aggression..... | 32 |
| Psychosocial Maladjustments..... | 33 |
| Friendships..... | 39 |
| Instrumentation..... | 43 |
| Peer Nomination Measures..... | 43 |
| Self-Report and Teacher Report Measures..... | 45 |
| Current Study..... | 48 |
| Chapter III..... | 51 |
| Participants and Setting..... | 51 |
| Instrumentation: The CSBS-S..... | 56 |
| Design and Analysis..... | 59 |
| Factor Analysis of the CSBS-S..... | 59 |
| Descriptive Analysis..... | 60 |
| Multiple Regression Analysis..... | 62 |
| Chapter IV..... | 63 |
| Results..... | 63 |
| Do distinct factors for relational aggression (RA) and overt aggression (OA) emerge in the CSBS-S with students with emotional/behavioral disorders (EBD)?..... | 64 |
| Pearson’s R Correlation..... | 64 |

| | |
|---|-----|
| Cronbach’s Apha | 64 |
| Principal Components Factor Analysis..... | 65 |
| Do students with EBD exhibit RA and do they exhibit OA? | 71 |
| Does gender and/or age predict RA and/or OA for students with EBD? Is there a relationship between cognitive ability (IQ) and RA or OA with students with EBD?.. | 75 |
| Pearson-r with OA and RA criterion variables | 76 |
| Pearson-r for VPA and EXA criterion variables..... | 77 |
| Multiple Regression with RA and OA criterion variables..... | 78 |
| Multiple Regression with VPA and EXA criterion variables..... | 82 |
| Chapter V | 85 |
| Overview..... | 85 |
| Study Design..... | 85 |
| Findings..... | 86 |
| Analysis of the CSBS-S | 86 |
| VPA and EXA Variables | 88 |
| Pearson’s r..... | 89 |
| Students with EBD and RA or OA | 90 |
| Gender, Age, IQ and RA and OA..... | 93 |
| Limitations | 96 |
| Conclusion | 98 |
| Appendix A..... | 102 |
| Appendix B | 105 |
| Bibliography | 108 |

LIST OF TABLES

| | |
|--|----|
| Table 1. Eigen Values from a Principal Components Factor Analysis of the CSBS-S | 66 |
| Table 2. Factor Loading for the CSBS-S Using Orthogonal Rotation | 67 |
| Table 3. Factor Loading for the CSBS-S using Oblique Rotation..... | 69 |
| Table 4. Number of Participants by Age and Gender..... | 72 |
| Table 5. Proportion of Participants by Ethnicity and Gender..... | 73 |
| Table 6. Means and Standard Deviations for Dependent Variables (RA and OA) by Gender..... | 75 |
| Table 7. Pearsons-r Correlation Coefficients and Significance Levels for Age and IQ and RA and OA Scores..... | 77 |
| Table 8. Pearson -r Correlation Coefficients and Significance Levels for VPA and EXA and RA and OA Scores..... | 78 |
| Table 9. R ² Achieved Through Simultaneous Multiple Regression Analysis: RA and OA as Criterion Variables; Age, Gender and IQ as Predictor Variables..... | 80 |
| Table 10. Results of Multiple Regression Analysis for Criterion Variable RA | 81 |
| Table 11. Results of Multiple Regression Analysis for Criterion Variable OA | 82 |
| Table 12. R ² Achieved Through Simultaneous Multiple Regression Analysis: VPA and EXA as Criterion Variables; Age, Gender and IQ as Predictor Variables | 83 |
| Table 13. Results of Multiple Regression Analysis for Criterion Variable VPA..... | 84 |
| Table 14. Results of Multiple Regression Analysis for Criterion Variable EXA..... | 84 |

CHAPTER I

Overview

Relational aggression is a form of indirect aggression where the aggressor damages the target child's relationships among peers while attempting to remain anonymous to the target. It has been found by some researchers to be more prevalent among girls than boys (Crick & Grotpeter, 1995; Andrews, et al., 1992; Crick, Casas & Mosher, 1997). Students diagnosed with emotional or behavioral disorders were not included in previous studies examining relational aggression. The purpose of this study is to 1) determine if the factor structure of the instrument used in previous research replicates with this population, 2) determine if girls and boys with emotional/behavioral disorders (EBD) exhibit relational aggression, 3) compare the prevalence rates of relational aggression between girls with EBD and boys with EBD, 4) examine the relationship between age and incidence of relational aggression, and 5) explore if cognitive ability (IQ) is related to relational aggression.

In this chapter, a brief history of the study of aggression among boys and girls is presented first. Next, various forms of aggression are defined. Sections focusing on the outcomes of relational aggression and the relationships between relational aggression, age and social information processing are included. Predictors of female aggression are also explored. Finally, a description of the characteristics of children with EBD are presented, including sub-sections on the risks and outcomes for students with EBD and the risks for girls with EBD in particular. This chapter ends with a statement of the problem, a summary of the chapter and the research questions to be addressed in this dissertation.

History of Study of Aggression

Historically, aggression has been studied by observing students for a period of time in order to document overt, observable behaviors. Researchers have almost always found that boys were more aggressive than girls (Hudley, 1993; Weiler, 1999). In exploring why boys were observed to be more aggressive than girls, researchers hypothesized and evaluated various factors: biological differences (Maccoby & Jacklin 1974); learned differences (Hyde & Schuck, 1977); reaction differences of boys and girls to school; and differences in reactions of teachers to boys in comparison to girls (Harmon, et al., 1992). In western cultures, men have been considered to be much more overtly aggressive than women. In some of these earlier studies, girls were identified as being not significantly aggressive, if at all, and deemed not necessary to include in future studies on aggression (Buss, 1961; Frodi, Macaulay & Thome 1977).

In the late 1970's and the 1980's, researchers began looking at the impact of age on aggression. Researchers found that younger children who had not yet developed verbal skills exhibited more overt, physical aggression than older children with advanced verbal skills. As children learned to communicate their wants and needs verbally, the need to express themselves in an overtly and physically aggressive manner diminished. It was noted however, that boys, significantly more than girls, continued to display overt, physical aggression even after verbal communication was developed (Lagerspetz, Bjorkquist, & Peltonen, 1988).

While reviewing over 28 observational studies on aggression in children, Maccoby and Jacklin (1974) found that boys were much more aggressive than girls, consistently obtaining higher scores in physical aggression than girls. However, girls

exhibited more verbally aggressive behaviors than physically aggressive behaviors when compared to boys.

In the early 1990's, researchers began looking at the way in which studies on aggression were conducted. Bjorkquist and Niemela (1992) drew attention to the fact that a great majority of studies on aggression were conducted by males with male subjects and that females were seldom included. Moreover, only overt, observable aggression was included in the studies and there was discrepancy in how aggression was defined among the studies. In several of the studies, aggression was defined as a physical, observable act by one child toward another child, while other studies defined aggression as simply a physical, observable act by a child with no target child involved (e.g. throwing a chair). In a few cases, researchers included verbal assaults as part of their definition of aggression while others did not, creating additional discrepancies in definitions of aggression. Pepler and Craig (1999) suggested that the under-representation of research literature on girls with aggression problems is due to the higher incidence of physical and observable aggression in males and the nature of observational studies, where only directly observable, physical and verbal behaviors were recorded.

Bjorkquist (1994) saw the omission of non-observable aggression as a missing piece in the study of aggression. Bjorkquist examined research on sex differences in aggressive styles and concluded that in addition to overt, directly observable aggressive behaviors, covert, indirect aggression should be examined. When aggression is defined as physical, overt and observable, females appear to have lower rates of aggression when compared to males. However, when aggression is defined by verbal threats and

intimidation, girls are proportionally more likely to appear as significantly aggressive (Everett & Price, 1995).

During the 1990's, Crick and Grotpeter (1995) examined a different type of covert, indirect aggression. Crick and Grotpeter (1995) began studying relational aggression, and its relationships to gender and psychological adjustment. They found that girls were more likely to be relationally aggressive than boys and relational aggression was a stronger predictor of social maladjustment for girls than for boys. Their research in the regular education setting has changed the way in which we define aggression and view the relationship between aggression and gender and has provided a very specific definition for a type of indirect aggression that is more prevalent among girls.

Aggression Defined

Definitions of aggression continue to evolve as researchers pursue the study of aggression. Aggression was initially considered to be either direct or indirect. Direct aggression included all overt, physically harmful behaviors that were acted out on a target child (Rohner, 1976). Behaviors such as kicking, punching, pulling, spitting, shoving, and bumping were identified as direct, overt aggression. Indirect aggression was identified as any aggression that was not direct aggression (Lagerspetz & Bjorkqvist, 1993). Indirect aggression included verbal attacks on a target without the target knowing the source and instigating others to attack a target. The term indirect aggression was also used to describe covert interactions, which caused harm to the target's social status. During such an act of indirect aggression, a child would manipulate others to attack a target or make use of social structures to harm a target while maintaining anonymity (Bjorkqvist, Niemi, 1992). Since the instigating child remained anonymous, this type of

indirect aggression, if acted out correctly, was not directly observable. Indirect aggression, where the instigating child remains anonymous to the target, requires a certain cognitive level of functioning to orchestrate successfully (Andrews, et al., 1992).

Social aggression, as identified by Cowan and Underwood (1995), is a form of indirect aggression that impacts the target child's social status or standing in the peer group. Younger, adolescent girls have been found to exhibit a higher rate of social aggression than boys (Paquette & Underwood, 1999). Further, social aggression, according to Cowan and Underwood, carries out the same goals as direct aggression and causes as much harm as direct, physical aggression through socially destructive interactions.

Crick and Grotpeter (1995) identified a closely related form of indirect aggression called relational aggression. Relational aggression, according to Crick and Grotpeter, impacts the target child's relationship among peers, friends and social groups. The instigating child would harmfully affect the targeted child's relationships through the acts of excluding the target child from the play group, spreading rumors so others will reject the target child, and initiating and perpetuating the rejection of the target child while maintaining anonymity. Additionally, relational aggression, like social aggression, was considered to be a form of aggression more prominently used by younger, adolescent girls.

Outcomes of Relational Aggression

Although relational aggression does not manifest itself with physical pain and injury, the emotional distress and harm to the target child has been documented. In addition, the emotional distress and harm has been reported as being greater for targeted

girls than targeted boys (Crick, Bigbee & Howes, 1996). Crick, Bigbee and Howes (1996) reported that targeted girls cited relationally aggressive acts such as insults and verbal threats as most harmful behaviors when compared to physical acts of aggression, whereas targeted boys cited physical aggression and verbal insults as most harmful behaviors.

For girls who are relationally aggressive, damaging the target child's relationships with her peers is just as harmful and damaging to the target child, if not more so, than direct, overt aggression (Bjorkquist, et al., 1993). Leschied et al. (2000) suggested that even though the level of overall aggression demonstrated by girls is lower than boys, "due to the type of expression, aggressive tendencies and socialization experiences of girls, the extent of potential distress experienced by girls may indeed prove to be even greater than for boys" (p.15). Additionally, boys were found to be significantly more physically victimized than girls, whereas girls were more relationally victimized or targeted.

While targets of either physical or relational aggression experienced significant adjustment problems, targets of relational aggression suffered adjustment problems beyond those experienced by targets of physical aggression (Crick & Casas, 1999). Thus, relational aggression is seen as not only damaging the target child but as having the added goal of damaging relationships between the target child and others (Crick & Bigbee, 1998).

Relational aggression has been identified as a type of aggression, different, although slightly correlated with direct, overt aggression (Crick & Grotpeter, 1995). According to Crick and Grotpeter, relational aggression is not only different from overt

aggression, relational aggression was found to be a predictor for the tendency of social maladjustment. Additionally, relational aggression was a stronger predictor for social maladjustment for girls than for boys.

Thus, having a clear and inclusive definition of aggression is important when examining aggressive behaviors and making comparisons between boys and girls. In this study, the definition of relational aggression will be the definition used by Crick and Grotpeter (1995) where an instigating child harmfully affects the targeted child's relationships through the acts of excluding the target child from the play group, spreading rumors so others will reject the target child, and initiating and perpetuating the rejection of the target child while maintaining anonymity.

Relational Aggression, Age, and Social Information Processing

In order to carry out relational aggression it is important for the child to be able to understand the nature of relationships and social groups. In 1994, Orenstein pinpointed early adolescence as a critical turning point in a girl's life. Lagerspetz, Bjorquist and Peltonen (1988) found that girls who were approaching adolescence, around the age of 11 or 12, were more inclined to act out their aggression indirectly. Early adolescence is a time when children can comprehend and predict the outcome of their behavior, which a child must be able to do in order to act out aggression while remaining unidentified (Andrews et al. 1992).

Bjorquist, Lagerspetz, et al. (1992) found that girls approaching adolescence were more inclined to act out their aggression indirectly. Andrews, et al. (1992) found that early adolescence is a time when a child can comprehend and predict outcomes of their behaviors, thereby making indirect aggression, i.e., relational aggression, a viable option.

Additionally, Andrews, et al., concluded that as girls become more able to process complex social relationships, reflecting an increase in social intelligence, there is a shift in the type of aggression exhibited, from direct to indirect. Talbott (1997) also found that at the age of 11, girls who were overtly aggressive became more relationally aggressive.

It appears that early adolescence is a critical turning point for some girls where aggressive behaviors change from direct to indirect aggression. Stattin and Magnusson (1989) as well as Pulkkiene (1992) found that teacher ratings of social aggression in girls 10 to 13 years of age, reflected changes from direct forms to more indirect forms of aggression as the girls entered adolescence.

In an attempt to understand this shift in girls from direct to indirect aggression, Schlossman and Cairns (1993) studied processing skills in girls. Schlossman and Cairns suggested that this shift occurs because, as girls age, there is an increased ability to process more complex social relationships reflecting an increase in social intelligence. At this point in a girl's life there is an understanding of how relationships are formed, the importance of relationships with others, the hierarchical social groups and the importance of peer acceptance and influences (Mast, 2001). In addition, girls, more than boys, who were in the early stages of adolescence were rejected by their peers for aggressive behaviors thus supporting the need for girls to remain unidentified when being aggressive.

Crick and Bigbee (1998) further examined relational aggression with regard to social information processing and found that girls and boys who were identified as relationally aggressive perceived the intended behavior of peers in social situations as hostile. Girls significantly outnumbered the boys in being identified relationally

aggressive and tended to interpret social situations as more hostile than did the boys.

According to Crick and Bigbee, if a child perceives the interaction to be hostile, the child will in-turn respond with aggression and a female child will most likely respond with relational aggression.

Female Aggression: Predictors and Models

Researchers found girls to be significantly more relationally aggressive than boys, (Crick & Grotpeter, 1995; Crick, 1997) and found girls to view relationally aggressive acts as more positive and normal than do boys (Crick, Bigbee & Howes, 1996; Crick & Werner, 1998). Girls viewed relationally aggressive acts as more socially acceptable by their peers and thus viewed relationally aggressive acts as more positive than physically aggressive acts. Other researchers, who examined indirect forms of aggression, but not specifically relational aggression, found that girls exhibited indirect aggression more than boys (Lagerspetz et al. 1988; Artz 1998). Interestingly, in the Artz (1998) study, the indirect aggression exhibited by girls was reported as relational in nature.

Researchers have identified various predictors of aggression in girls. Family factors, peer factors, school factors, trauma and cognitive factors such as social information processing abilities make up some, but not all possible, predictors of aggression in girls. Family factors include weak attachments between daughters and primary care providers (parents), verbal abuse between parent and daughter (Vissing et al. 1991), and exposure to family violence (Okeefe, 1994). School factors that may predict aggression in girls include a high number of absences, dropping out of school, (Kupperschmidt et al. 1990), and rejection by school related peers where the cycle of peer rejection is then retaliated. Dodge, et al. (1982) found that special trauma (e.g., physical

abuse) may impact a girl's tendency toward aggression. Most interestingly, cognitive processing patterns may affect a girl's tendency toward relational aggression (Andrews, et al. 1992; Burks, et al. 1999).

Dodge (1981) described a social cognitive processing model made up of various steps in the processing of social information. Dodge explained the cognitive process in which a child must engage in order to interact appropriately in social situations. A major component of this model was that a child must first process cues in an appropriate order so that a child could respond competently in a social situation. Children's behavioral responses to the environmental cues they experience occur as a function of their progression throughout the cognitive steps.

Crick and Dodge (1994) also identified a social information processing model which consists of encoding, representation, response search, response decision and enactment. According to this research, aggressive children lack the ability to process at all five stages of the social information processing model. In accordance with the Crick and Dodge's social information processing model, Crick and Werner (1998) assessed response-decision processes of relationally and overtly aggressive children, and found that overtly aggressive girls, but not boys, saw an overtly aggressive response to relational conflict as relatively positive. They also found that overtly aggressive girls evaluated relationally aggressive acts more positively than non-overtly aggressive girls. Thus, physically aggressive girls saw acts of overt aggression and relational aggression as positive when responding to relationally aggressive conflicts. Therefore, girls with EBD, who may have been identified because of their overt, physical-aggression, may also view overt and relationally aggressive acts as positive ways to deal with conflict. Additionally,

girls with EBD may be deficient in their social information processing abilities which, may predict the tendency towards aggression.

The Student with EBD

School systems use the term emotional and/or behavioral disorders (EBD) to identify students who exhibit certain characteristics as described by the Federal Individuals with Disabilities Education Act (IDEA). A student who exhibits:

one or more of the following characteristics over a long period of time and to a marked degree that adversely affects educational performance: (A) An inability to learn that cannot be explained by intellectual, sensory, or health factors; (B) An inability to build or maintain satisfactory interpersonal relationships with peers and teachers; (C) Inappropriate types of behavior or feelings under normal circumstances; (D) A general pervasive mood of unhappiness or depression; or (E) A tendency to develop physical symptoms or fears associated with personal or school problems. (Code of Federal Regulations, Title 34, Section 300.7(b)(9);

Federal Individuals with Disabilities Education Improvement Act of 2004)

In some instances, the terms Behaviorally Disordered (BD) and Seriously Emotionally Disturbed (SED) have been used interchangeably with EBD. However, with the amendments to IDEA in 1997, SED is no longer deemed appropriate. Students who exhibit behavior that is classified as conduct disorders (CD) or oppositional defiant disorders (ODD) thus may be identified as EBD and receive special education services at school under the federal law and regulation, IDEA.

Risks and Outcomes for Students with EBD

Although outcomes for students with EBD are less than optimal with regard to education and health, there is continued growth in the number of students requiring special education services. Although girls only comprise one-third of the students in special education (Jans & Stoddard, 1999), it is important to note that upon graduation from special education, all students are “less likely to be employed, earn lower wages and are less likely to enroll in post secondary training or education” than students not in special education (Jans & Stoddard, 1999, p.15). According to Jans and Stoddard, the lower incidences of girls in special education may be due to possible physiological and maturational differences, and/or school biases in identifying boys for special education.

According to a report from the Center for Effective Collaboration and Practice (n.d.), girls identified as EBD present with a complex range of disabilities, from conduct disorders to schizophrenia. It is common for these disabilities to co-occur with behavioral disorders. Additionally, States interpret the federal IDEA definitions of EBD based on their own standards, programs and requirements (McInerney, Kane, & Pelavin, 1992). A student with conduct disorder, a persistent pattern of anti-social, rule-breaking and/or aggressive behavior (Cohen, 1994; Forness, 1992; Forness, Kavle & Lopez, 1993) may be eligible for services in one state but not in another.

Lower identification rates of EBD girls have also been linked to subjective assessment and identification processes (Walker & Fabre, 1988; Wehby, Symons, & Hollo, 1997). School personnel make eligibility decisions based on local behavioral expectations and standards (Gerber 1984; Talbott, 1997; Walker & Severson, 1990). Thus, students placed in a special school setting must first be identified as requiring

special education and then referred to a special school setting by their local school system. Additionally, “Girls and young women are more likely to exhibit internalizing problems...that do not usually interfere with classroom management, while males are more likely to demonstrate the externalizing behaviors that do disrupt the classroom” (Center for Effective Collaboration and Practice, n.d., p. 3).

Risks for Girls with EBD

Potential risks and outcomes for girls diagnosed as emotionally/behaviorally disordered (EBD) are not clear. There is limited research on outcomes among girls with EBD specifically; however, there is more research on the negative outcomes of girls with similar diagnoses such as ODD and CD. Kann and Hanna (2000) assert that for females with EBD as their primary diagnosis, ODD and CD are the most common secondary diagnoses, yet existing studies of ODD and CD seem to practically ignore the female population. There is, however, a research base on underlying constructs associated with delinquent behavior in males. Findings from this research are then generalized to females, overlooking gender specific risk variables (Bannen, 2000; Keenan, Loeber & Green, 1999).

Some evidence suggests that girls diagnosed with EBD or behavioral disorders such as CD, ODD or attention deficit hyperactivity disorder (ADHD) experience different and in some cases more negative, outcomes than boys. Examining gender differences in stress and coping among male and female adolescents with and without CD, Hastings, Anderson and Kelley (1996) found that girls with CD reported higher levels of daily stress, more frequent use of self-injurious behavior and more emotional-focused coping with deficits in active coping behaviors. Emotional-focused coping refers to using

emotional outlets (e.g. crying, withdrawing) and active coping behaviors refer to using constructive strategies to cope (e.g. journaling, talking it out with others). Interestingly when compared with boys, antisocial behavior, depression, interactions with substance abuse, and conduct disorders were predictors of suicidal behavior for girls alone (Wannan & Fombonne, 1998).

Additionally, adolescent females with CD experienced more medical problems, poorer self-reported overall health, lower body mass index, alcohol and /or marijuana dependence, tobacco dependence, sexually transmitted disease and early pregnancy than females without CD (Bardone, et al. 1998). With regard to marijuana dependence, Pederson, Mesticaasa and Wichstrom (2001) found a strong association between students with early conduct problems and subsequent cannabis use. More specifically, while boys with serious conduct problems used cannabis on a moderate level, girls with aggression and covert conduct problems were found to use cannabis on a higher level. Pederson, et al. found that conduct problems are important precursors of early cannabis use, but probably represent gender-specific issues.

Park (2000) found that girls with ADHD and concurrent ODD and/or CD felt less competent and had lower self-understanding and lower perceived competence/global self-esteem scores than girls without disorders. A statistically significant association was found for girls with early onset conduct problems and later risk of teen pregnancy as well as for girls with high levels of disturbance and increased rates of risk taking (Woodward & Fergusson, 1999). In a study on girls and teenage pregnancy, Yampolskaya, Brown and Greenbaum (1999) found an increase in teenage pregnancy among adolescent females with EBD.

In a study of adult outcomes of adolescent girls with antisocial behavior, Pajer (1998) found that antisocial girls manifested higher mortality rates, an increase in the rate of criminality, substantial rates of psychiatric morbidity, dysfunctional and violent relationships, and high rates of multiple service utilization compared to girls without antisocial behavior.

Statement of the Problem

The number of girls identified for special education services is increasing (Talbot & Callahan, 1997) . Outcomes for girls with EBD are alarming with respect to education, employment, health, drug use, pregnancy and suicide. Although historically boys were found to be more aggressive than girls, more recently girls have been found to be more relationally aggressive than boys (Artz, 1998; Crick, et al., 1995). According to Bjorquist (1994), relational aggression is at least as harmful and damaging as direct, overt aggression. The quality of a child's experiences with peer relationships is a strong predictor of a wide range of possible negative outcomes, including aggression, delinquency, depression, academic failure, and school withdrawal (Parker, Rubin, Price & DeRosier, 1995).

If further research substantiates that children with EBD exhibit relational aggression and more specifically girls with EBD are more relationally aggressive than boys with EBD, we can then begin to examine intervention strategies able to address this type of aggression and gender differences. To better serve the growing population of females with EBD, programs must examine gender specific interventions. In order to develop interventions that meet the needs of female students, particularly students who exhibit EBD, we must examine the type of aggression they may typically exhibit. If age

is a strong predictor of the type of aggression exhibited by girls with EBD, we can better plan the timing of our interventions with girls who are aggressive.

Summary

Although there is scant research on outcomes for girls with EBD, as previously noted, girls diagnosed with behavior disorders such as CD, OCD or ADHD are associated with high-risk outcomes. Girls with conduct disorders report high stress levels, more self-injurious behaviors (Hastings, et al., 1996), more medical problems, poorer health, alcohol and/or marijuana dependence, sexually transmitted disease and early pregnancy (Wannan & Frombonne, 1998). Alarming, for girls alone, antisocial behavior, depression interactions with substance abuse and conduct disorders were predictors of suicidal behaviors (Wannan & Fombonne, 1998).

Despite these poor outcomes, identification for service rates for girls are lower than for boys, in part because they are linked to subjective school processes (Walker & Fabre, 1988; Wehby, et al, 1997). Girls and young women exhibit internalizing problems and do not usually interfere with classroom management (Center for Effective Collaboration and Practice). Schools make eligibility decisions based on classroom behavior expectations and standards (Gerber & Semmel, 1984; Talbott, 1997; Walker & Steverson, 1990).

Girls tend to exhibit relational aggression more so than boys, and find this kind of aggression more harmful than overt aggression. Relational aggression has been found to be a predictor for the tendency toward social maladjustment and more so for girls than for boys (Crick & Grotpeter, 1994).

While girls misbehave differently than boys, we continue to intervene in the same way that we intervene with boys. Morris (1987) found that behavioral intervention strategies did not address the relational aggression initiated and experienced by girls. According to researchers (Farmer, 2000; Weiler, 1999), there is a need to look at social interactional processes and gender-specific approaches when developing programs, assessments and interventions.

Additionally, according to Andrews, et al, (1992), a girl's cognitive processing pattern may affect her tendency toward relational aggression. Cognitive processing skills are developed through experience and training, thus age may correlate with relational aggression and may be an important factor to consider in the development of intervention strategies.

Although researchers have examined the incidence of relational aggression among populations of girls and boys with no disabilities, in regular education settings, no one has yet examined relational aggression among girls and boys with EBD. Do girls with EBD in special schools exhibit relational aggression more frequently than boys with EBD as was found in regular school settings? Additionally, the onset of relational aggression appears to be linked to age and cognitive processing skills. These factors may be critical when developing intervention strategies and planning for successful implementation for girls and boys with EBD who might be relationally aggressive.

Research Questions

The purpose of the study is to (a) build on the research conducted by Crick and Grotpeter (1995) using a self-report version of the peer nomination scales in the identification of relational aggression among adolescent girls with EBD as compared to

boys with EBD, and (b) examine relationships between age and relational aggression in girls with EBD, ages 8 years old to 20 years old. It is important to examine the type of aggression exhibited by girls with EBD, so that over time appropriate intervention strategies can be developed and implemented specifically for girls and the type of aggression they exhibit. Examining the relationship between age and type of aggression exhibited can provide useful information regarding the most effective timing for intervention strategies. Additionally, because cognitive abilities (IQ) might be associated to relational aggression, and in order to control for possible effects of IQ, it will be used as a covariate in the analysis process. Based on available research, it is expected that children with EBD will exhibit relational aggression and that girls with EBD will exhibit a higher incidence of relational aggression than boys with EBD. Additionally, it is expected that girls in the 10 - 13 year old age range will exhibit relational aggression more frequently than the 8 - 10 year olds and the 14 - 20 year old age range.

The questions addressed in this study follow:

- 1 Do distinct factors for relational aggression (RA) or overt aggression (OA) emerge in the structure of the Children's Social Behavior Scale –Self Report (CSBS-S) with participants with emotional/behavioral disorders (EBD)?
- 2 Do students with emotional/behavioral disorders (EBD) exhibit relational aggression (RA) or overt aggression (OA)?
- 3 Does gender and/or age predict relational aggression (RA) and/or overt aggression (OA) with students with emotional/behavioral disorders (EBD)?
- 4 Is cognitive ability (IQ) related to relational aggression (RA) or overt aggression (OA) with students with emotional/behavioral disorders (EBD)?

CHAPTER II

Organization of Literature Review

Four aspects of aggression are addressed as a preface to the research study undertaken in this dissertation. First, two types of gender-based aggression are examined, indirect and direct aggression, providing a basis for defining key terms in this dissertation; i.e., relational and overt aggression. Second, gender-based aggression is examined relative to age. Third, studies in which the focus is the potential outcomes of relational aggression for both the aggressor and the target/victim are presented. Finally, the development of the peer nomination instrument used in studies on gender based aggression, specifically relational aggression, is presented.

Published literature from ERIC (EBSCO), ERIC (FirstSearch), and PsycInfo, using the following keywords: girls, female, aggression, emotional disturbance, behavior disorders, gender, relational aggression, age, and adolescents, was searched for relevance to the topic of this paper. Additionally, recent issues of *Journal of the American Academy of Child and Adolescent Psychiatry*, *Sex Roles*, *Aggressive Behavior*, *Developmental Psychology*, *Journal of School Psychology*, *Child Development* and *Journal of Abnormal Psychology* were hand searched for studies pertaining to gender based aggression and research articles obtained through the preliminary search were examined for additional, related literature.

In selecting the studies for this review, research where relational aggression was the primary type of aggression studied were chosen. However, due to the very limited number of empirical studies on relational aggression, studies on indirect aggression and gender-based aggression were included to further provide a strong basis for the current

study. Relational aggression, as will be more fully described in this chapter, is a type of indirect aggression that will be examined in this study.

Historical Overview of Research on Aggression

Prior to the 1970s, researchers primarily studied aggression by conducting observational studies of children's physical and verbal behaviors in classrooms and schoolyards (MacCoby & Jacklin, 1974; Frodi, Macaulay, & Thome 1977; Bjorkquist, 1994). Despite findings from cross-cultural studies where women were found to be more physically aggressive than men (Fry, 1992), in these western-culture studies males were found to be much more aggressive than females (MacCoby & Jacklin, 1974; Frodi, Macaulay, & Thome, 1977). MacCoby and Jacklin (1974), reviewed 28 observational studies on aggression in children and found that boys consistently scored higher in physical aggression categories than girls. In a literature review of 142 observational studies of gender and aggression, Frodi, Macaulay, and Thome (1977) also found that boys were generally more aggressive than girls. Boys appeared to be so much more aggressive than girls that some researchers actually omitted female participants from their studies and deemed the study of female aggression as unnecessary (Buss, 1961; Frodi, et al. 1977).

Bjorkvist's Critique

In the reviews of literature by MacCoby and Jacklin (1974) and Frodi, et al. (1977) on gender and aggression, all of the studies examined used observational measurements. Bjorkquist (1994) questioned the conclusions that boys were more aggressive than girls. Bjorkquist posed that these reviews were based on observational studies alone, conducted with mostly kindergarten aged children and conducted in

schoolyards where rough-play was considered aggression, limiting the definition of aggression to only observable behaviors. As Bjorkquist (1994) stated:

There is no reason to believe that females should be less hostile and less prone to get into conflicts than males. But being physically weaker, they simply have to develop other means than physical ones in order to reach successful results.

Accordingly, one should not expect women to develop and use exactly the same strategies for attaining their goals as men do. If strategies for aggression and conflict resolution are learned, not innate, then women are likely to learn different methods than men. Important aspects are power and capacity, not only physical, but also verbal, and social. (p.178)

Bjorkquist's theory sparked researchers to re-examine the definitions of aggression that were being used in the study of gender and aggression.

Definitions of Aggression

The variety in the definitions used by researchers for direct, indirect, and verbal aggression adds confusion to the process of effectively reviewing studies. In their review of studies on gender and aggression, Frodi, Macaulay, and Thome (1977) found that boys were generally more aggressive than girls. They admitted, however, that a major difficulty they encountered when conducting the review was the way in which indirect and direct aggression were defined by various researchers. MacCoby and Jacklin (1974), in their review of literature on gender based aggression, also found boys to be more aggressive than girls. MacCoby and Jacklin noted, however, that in the studies reviewed, aggression was generally defined as behaviors which could be described by rough-play in schoolyards. Researchers agreed that direct aggression was generally defined as physical

aggression toward a target, whereas indirect aggression took on many forms, to include acts that are now identified as verbal and social aggression.

Definitions of direct and indirect aggression began to evolve as researchers continued to study gender differences in aggression. Consequently, studies emerged with conflicting results. For example, in the following three studies, researchers examined gender based aggression and reported conflicting results perhaps due to the differences in their definitions of indirect aggression and use of instruments to measure aggression. Lindeman, Harakka and Keitikangas-Jarvinen, (1997) examined the relationship between age, gender and aggression. A total of 2,594 children, 1,307 girls and 1,287 boys, at the ages of 11, 14 and 17 years old from Finland participated in this study. A Social Problem Questionnaire was developed from a pilot study and the participants responded to situational descriptions as to the type of aggression they would use. The factor structure of the Social Problems Questionnaire included items for direct aggression, indirect aggression, prosocial strategy and withdrawal.

Lindeman, et al., (1997) found that boys used more aggression, indirect and direct, than girls across all three age groups studied: 11-year-olds, 14-year-olds and 17-year-olds. Carlo, Raffaelli, Laible and Meyer, (1999) also used self-report methods, the Weinberger Adjustment Inventory, to determine whether gender differences in physical aggression could be accounted for by gender differences in personality and social contextual factors. In this study, 46 boys and 43 girls, ages ranging from 12 to 19 years old, with the mean age of 16 and standard deviation age of 1.8, participated. In contrast to Lindeman, et al., Carlo, et al. found that males consistently scored higher than females in aggression measures. Lagerspetz, Bjorkquist and Peltonen (1988) investigated the

prevalence of indirect aggression among school aged children. In this study, indirect aggression included the manipulation of friendship patterns to harm the victim.

Participants included 89 girls and 78 boys, ages 11 to 12 years old, who first rated their peers and then rated themselves on behaviors while angry. Lagerspetz, et al. used discriminate analysis to determine which item was best discriminated between the sexes and found that it was possible to correctly classify the items 95.8% of the time. “Girls preferred more indirect means of aggression. Boys tended to employ direct aggression e.g., physical violence, cursing, and taking things” (p.408).

When comparing studies where definitions of indirect aggression were more clearly aligned, results were more consistent. Pakaslahti and Keitikangas-Jarvinen (1997) examined dominating types of aggressive behavior and sex-related variance and similar to Lagerspetz, et al. (1988) found that girls tended to be aggressive indirectly while boys tended to be aggressive directly. In this study, 839, 14-year old boys and girls were divided into groups based on their peer-assessed total aggressiveness scores. The participants used a peer assessment instrument focusing on four aspects of aggression: (1) intriguing (a form of indirect aggression, secretly or underhandedly plotting, scheming), (2) arguing (direct verbal aggression), (3) fighting, (direct physical aggression), and, (4) bullying (making threatening remarks). Pakaslahti, et al. found that boys preferred to bully their target first and intrigue their target second, followed by fighting or arguing. Girls preferred intriguing their target first, then arguing and fighting as the last choice. Behaviors exhibited by boys reflect what past research has shown to be important to boys’ socialization and within their peer group context, specifically, physical dominance (Boulton, 1993).

Relational Aggression

Crick and Grotpeter (1995) hypothesized that just like boys' tendencies to act out aggressively in a manner which has been shown to be important to boys' socialization, aggression among girls would be focused on relational issues, which are important to girls' socialization and peer interactions. Crick and Grotpeter thus suggested the term relational aggression. Aggression among girls, "would include behaviors that are intended to significantly damage another child's friendships or feelings of inclusion by the peer group (e.g., angrily retaliating against a child by excluding her from one's play group; purposefully withdrawing friendship or acceptance in order to hurt or control the child; spreading rumors about the child so that peers will reject her)" (p.711).

In their study, Crick and Grotpeter (1995) developed a peer nomination instrument that facilitated the exploration of relational aggression and overt aggression. The peer nomination instrument included items on relational aggression, overt aggression, prosocial behavior and isolation. A total of 491 students, 128, 3rd graders (65 girls, 63 boys), 126, 4th graders (56 girls, 70 boys), 126, 5th graders, (51 girls, 69 boys) and 111, 6th graders (57 girls, 54 boys) participated. Approximately 37% of their sample was African-American, 60% was European-American, and 3% was made up of other ethnic groups. Their schools were located in a medium size town in the mid-west where the SES ranged from low to medium with the bulk of the families in the low range. The students in this study were in regular education classrooms in their public schools and were not identified as being EBD.

The number of nominations participants received from peers for each item was summed and standardized for each classroom. Aggressive groups were then classified

into four distinct groups: (1) non-aggressive, (2) overtly aggressive, (3) relationally aggressive, and, (4) combined overtly and relationally aggressive. Although approximately the same number of boys and girls were identified as non-aggressive, girls were significantly more relationally aggressive than boys (17.4% of girls versus 2.0% of boys) and boys were significantly more overtly aggressive than girls (15.6% of boys versus .4% of girls). Additionally, they found relational aggression to be distinct from overt aggression and found a significant main effect for gender for both relational aggression and overt aggression.

Definitions of direct and indirect aggression continued to be explored as gender-based aggression began to be categorized into a variety of direct and indirect groups. Support for Crick and Grotpeter's (1995) findings, was found in subsequent research on relational aggression and gender. Using both a Teacher Assessment instrument and a Peer Assessment instrument, Crick, Casas and Mosher (1997) identified four distinct groups among their participants: (a) nonaggressive, (b) overtly aggressive, (c) relationally aggressive, and (d) relationally plus overtly aggressive. In this study, a total of 65 students, 16 boys and 15 girls ages 3.5 to 4.5 years old, and 18 boys and 16 girls ages 4.5 to 5.5 years old, participated. The teacher reports of aggression yielded a significant effect of gender where boys were significantly more overtly aggressive than girls and girls were significantly more relationally aggressive than boys.

In studies where peers were evaluated as to their perceptions of aggression and gender, boys were viewed by peers as being more overtly aggressive and girls were viewed by peers as being more relationally aggressive (Crick, 1997; Crick, Bigbee & Howes, 1996). Boys also evaluated overtly aggressive behavior in instrumental conflicts

more positively than did girls, and girls evaluated relational aggressive behaviors in relational conflicts more positively than did boys (Crick & Werner, 1998) further supporting the theory that boys will select a form of aggression that fits their socialization tendencies and girls will select a form a aggression that fits with their socialization tendencies.

Researchers continued to include a form of indirect aggression that is based on relational issues in their studies on gender-based aggression, and results were consistent. Crick and Werner (1998) examined and expanded the studies on overt and relational aggression by including a component on social-information processing mechanisms. In this study 1,166, 3rd through 6th graders (9-12 years of age), 578 boys and 588 girls, completed peer nomination instruments to identify overtly aggressive, relationally aggressive and non aggressive children. Additionally, participants completed a social information processing measure. A significant main effect for gender was found where boys evaluated overt aggression in instrumental conflicts more positively than did girls. Additionally, girls evaluated relational aggression used in instrumental (overt) conflicts more positively than did boys. Further, girls evaluated relational aggression in relational conflicts more positively than did boys and boys evaluated overt aggression more positively in relational conflicts. Thus girls prefer the more indirect means of retaliation in a conflict and see this aggression as more socially acceptable and positive than do boys, supporting Crick and Gropeter's (1995) hypothesis that aggression among girls would focus on relational issues, which are important to girls' socialization.

Contrary to the previous findings, researchers in two different studies with second and third graders, found no difference in the types of aggression exhibited between girls

and boys when examining relational aggression and overt aggression. The first study by Hennington, Hughes, Thomspson and Cavell (1998) attempted to “determine gender differences in levels and correlates of relational and overt aggression in children in early elementary grades” (p.458), and to “determine the implication of assessing relational aggression when identifying children for intervention” (p. 459). Teachers in regular education classrooms identified two or three children who behaved aggressively to participate in this study. Of the 904, second and third grade, identified students, 461 were boys and 443 were girls. Through a peer-nominating instrument, the student participants nominated three peers that were considered to be relationally aggressive and three peers that were considered to be overtly aggressive. Interestingly, the distribution of overt aggression in girl’s scores was leptokurtic and positively skewed which was interpreted to reflect that girls are rarely perceived by classmates as being highly, overtly aggressive.

Additionally, and contradicting Crick and Grotpeter’s 1995 results, Hennington et al. (1998) conducted a one-way analysis of variance of data and found that not only did boys exhibit more overt aggression than girls, but boys also exhibited more relational aggression than girls and more of a combination of overt aggression and relational aggression than girls. Thus, in this study boys were more aggressive across all types of aggression than girls. The participants in this study were, however, identified prior to the study by their teachers as being aggressive children. This selection criterion may have affected the results because only children who were already perceived as aggressive by their teachers participated. Girls who may have been relationally aggressive but not identified as aggressive by their teachers, did not participate in the study. The pre-

selection process limited the participant numbers and age, and may have impacted the internal validity of the study.

In their study, Rys and Bear (1997) also reported results that contradicted Crick and Grotmeter's (1995) results. In this study Rys and Beard attempted to replicate the findings of Crick and Grotmeter (1995) in examining gender differences in relational aggression and the association of relational aggression and acceptance and rejection. Students in both 3rd grade and 6th grade completed peer nomination instruments to nominate three of their peers for relational aggression, overt aggression or prosocial categories. When a multivariate analysis of variance was conducted on peer nominations of relational aggression, overt aggression and prosocial behavior, there was a significant multivariate effect for gender only. Additional univariate tests were run and results indicated that boys were more overtly aggressive than girls but there was no difference in relational aggression with respect to gender. However, the authors noted that:

Although we failed to find significant gender differences in mean scores in relational aggression, gender differences in both peer- and teacher-based measures of relational aggression clearly emerged when children were classified as aggressive using Crick and Grotmeter's [1995] method of classification. Rarely were boys high in relational aggression without also being high in overt aggression. In contrast, there were girls, especially in sixth grade, who evidenced high relational aggression with little overt aggression. (p.101)

Although the initial results contradicted Crick and Grotmeter (1995) and others who found girls to be more relationally aggressive than boys, these researchers stated that when they used the standard classification system used by Crick and Grotmeter (1995)

they obtained similar results as Crick and others. Rys and Bear (1997) also identified 6th grade girls as evidencing high relational aggression, drawing attention to the factor of age as an important variable when discussing relational aggression.

Girls, Age and Relational Aggression

The variation and instability of aggression among girls may be explained by the development (in older girls) or lack of development (in younger girls) of social skills and the structure of girls' peer group expectations. Young girls start out using more direct forms of aggression, and as they develop social skills and peer groups, which occurs earlier with girls than with boys, end up using more indirect forms of aggression (Lagerspetz, Bjorkqvist & Peltonen, 1988). As seen in an earlier study, McCabe and Lipscomb (1988) found that older girls used a nonconfrontative verbal aggression almost solely. Further, 29% of all verbal aggressive comments were directed toward someone other than the victims of their hostility. In this way, the aggressor maintained their anonymity as the aggressor from the target. Although researchers in this study did not examine age as it related to aggression, the girls who participated in this study were identified as pre-adolescent. Thus, age may be an important factor when assessing the type of aggression used by girls.

Hyde (1984) examined 143 studies on gender differences in aggression including 63 studies used by Maccoby and Jacklin (1974) in their meta-analysis. Her criticism of the Maccoby and Jacklin review was that their study was not a truly developmental analysis because they limited their review to studies of children six years old and younger. Hyde presented a comprehensive meta-analysis providing estimates of the magnitude of the differences and included the developmental effects for all ages for

which she was able to obtain data. Hyde found a modest negative association between age and magnitude of gender differences. Gender differences in aggression were larger for younger children and smaller for older children. Hyde recommended cautious interpretations of her findings noting that studies on age are confounded by a number of design features, particularly on the kind of aggression being measured in the study.

In assessing whether girls' normative beliefs about aggression changed with age, Crick, Bigbee and Howes (1996) found that when examining girls' responses regarding girls' angry behavior, girls' normative beliefs about angry behavior changed with age. In this study, conducted in the U.S.A., a total of 459 subjects, 239 boys and 220 girls ages 9 to 12 years old were asked a series of open-ended questions related to what they believe girls do when being aggressive and what boys do when being aggressive. Fourth-grade girls viewed relational aggression as the norm for angry behavior and sixth grade girls viewed relational aggression as more normal for girls than did third and fourth-grade girls. Older girls viewed relational aggression as more normal than the younger girls.

Age was also a factor examined by Lindeman, Harakka and Keitikangas-Jarvinen (1997), when they studied girls in three age groups (preadolescence, mid-adolescence and late adolescence), aggression and social cognition. In this study, conducted in Finland, a total of 2,594 subjects, 1,307 girls and 1,287 boys, ages 11, 14, and 17 years old, participated using self-report methods. Fourteen-year-old girls were found to use aggressive methods more than the 11 year olds and the 17 year olds; however, no differentiation was made as to whether the aggressive techniques were direct or indirect. "The most important finding was that aggression developed curvilinear in adolescence:

whereas aggression was the least often used reaction in preadolescence, it was the most often used reaction in mid-adolescence” (p.347).

This phenomenon may be further understood by the possibility that adequate prosocial strategies may not be available in mid-adolescence. “At age 11, prosocial reactions were the most often used reactions whereas at age 14, prosocial reactions were at their lowest level. Furthermore, among girls, the decrease ended at age 14, whereas boys’ prosocial reactions continued to decrease from mid-adolescence to late adolescence” (p.348). Behaving in a prosocial manner is thus more important to 11 year old girls than 14 year old or 17 year old girls, where using indirect, anonymous methods of aggression seemed optimal for the 11 year olds.

In a study of children ages 8, 11, 15 and 18, Bjorkqvist, Osterman and Kaukiainen (1992) found that girls were more relationally aggressive than boys across all except the youngest age group. These findings depicted an increase of relational aggression among girls as they age from the youngest age group, age eight, to the next age group, age eleven. According to Bjorkqvist et al., school-aged girls learned ways of harming others through attacking social reputations or standing without risking themselves to retaliation because they matured earlier and had improved social intelligence in comparison to boys. Crick and Grotpeter (1995) also found that fifth and sixth grade girls viewed relational aggression as a more typical expression of anger toward a peer when compared to third grade girls, supporting the theory that as girls mature, relational aggression becomes the optimum choice in expressing anger.

Using a peer rating method, Lagerspetz et al. (1993) studied the indirect aggression patterns among 11- to 12- year-old boys and girls. As predicted, girls in this

age group preferred more indirect means of aggression while boys preferred more direct forms of aggression. The indirect means of aggression in this study included circumventory behavior that “exploits social relations among peers in order to harm the person at whom the anger is directed” (p.409) which is similar to Crick’s definition of relational aggression. There were significant differences between the boys and the girls in this study where girls more typically chose the indirect means while the boys typically chose the direct means of aggression.

Supporting the idea that age of the participant may play a critical role in predicting aggression type, Henington, Hughes, Cavell and Thompson (1998) wrote that, “Between the ages of 8 and 11, girls appear to increase their reliance on relational aggression, whereas boys decrease their reliance on relational aggression” (p.471). Age eleven appears to be a critical turning point for girls with respect to the type of aggression selected.

Outcomes of Relational Aggression

Relational aggression is thus a form of aggression, primarily used by girls who have developed social skills to be able to successfully implement this indirect form of aggression. Outcomes of such aggression can be detrimental, and according to some researchers can lead to social-psychological maladjustment (Crick & Grotpeter, 1995; Crick, 1996; Crick & Bigbee, 1998), peer rejection (Crick, Casas & Moser, 1997; Henington, Hughes, Cavell & Thompson, 1997), higher distress levels (Crick, 1995), and withdrawal and depression (Hughes, Cavell & Thompson, 1997) for the instigator and/or aggressor. Additionally, the victims or the target of the relationally aggressive acts are primarily girls (Crick & Bigbee, 1998) who also report higher levels of distress,

feelings of being upset, hostile attributions (Crick, 1995), loneliness, social anxiety, submissiveness and peer rejection (Crick & Bigbee, 1998).

Researchers have found that relational and overt aggressions are positively related to peer rejection for both boys and girls, and negatively related to future peer acceptance for girls only (Crick & Grotpeter, 1995; Crick, Casa & Mosher, 1997; Crick, 1996; Crick, 1997; Henington et al. 1998). Additionally, friendships of girls who are relationally aggressive suffer higher levels of conflict, betrayal and exclusivity (Grotpeter & Crick, 1996; Rys & Bear, 1997) than friendships among girls where neither girls is relationally aggressive.

Psychosocial Maladjustments

One of the hypotheses that Crick and Grotpeter (1995) investigated in their study was that relationally aggressive children would be more socially and psychologically maladjusted than nonaggressive children. Using a self-report method, 491, 3rd, 4th, 5th, and 6th grade, boys and girls completed the Asher and Wheeler (1985) Loneliness Scale, the Franke and Hymel (1984) Social Anxiety Scale, the Children's Depression Inventory (CDI) and an adaptation of Crick's (1995) Children's Peer Relations Scale. An analysis of the peer nomination scores yielded a significant main effect of the relational aggression group for peer rejection. Peers disliked relationally aggressive children. Additionally, relational aggressive girls, reported higher levels of loneliness than non-relationally aggressive boys and girls. Loneliness scores for relationally aggressive boys, however, did not differ from their non aggressive peers. Further, relationally aggressive children reported significantly higher levels of depression than non-relationally aggressive peers.

When examining self-perceptions among the 491 participants, Crick and Grotpeter (1995) found that relationally aggressive children perceived themselves as not being accepted by their peers and felt more isolated from their peers with relationally aggressive girls reporting significantly more isolation from peers than both nonaggressive girls and boys. In assessing the relationship between relational aggression and status group membership, Crick and Grotpeter found that rejected children were significantly more relationally aggressive than the children in all other status groups including popular and neglected children. According to Crick and Grotpeter, “relationally aggressive children were significantly more disliked by peers than were their non-relationally aggressive peers” (p. 717). In addition, the self-reports of social-psychological adjustment reflected significant results for loneliness, depression, perceived peer acceptance scores and finally higher isolation scores for children who were identified as relationally aggressive. Findings from this study indicate that independent of overt aggression, relational aggression carries with it significant and important information in the prediction of social maladjustment.

Attempting to examine the relationship between relational aggression and peer rejection, peer acceptance, depressed affect and prosocial behavior in pre-school children, Crick, Casas and Mosher (1997), conducted a study using teacher ratings of social behavior scales and peer report measures of aggression and children’s social-psychological adjustment. In this study, a total of 65 children, 16 boys and 15 girls, ages 3.5 to 4.5 years old, and 18 boys and 16 girls, ages 4.5 to 5.5 years old, participated. The peers’ assessment of relational aggression and rejection reflected that relationally aggressive boys and girls were highly rejected by their peers, however, both peer reports

and teacher reports yielded scores that reflected relational aggression as positively related to peer acceptance for boys but not for girls. Crick and her colleagues concluded that relational aggression adds information to overt aggression in the prediction of maladjustment, more specifically peer rejection for pre-school girls.

To further the research regarding the role of aggression type in predicting social maladjustment, Crick (1997) evaluated the role of aggression type in predicting severity and type of social psychological maladjustment across and within gender and additionally across grade levels. She compared internalizing and externalizing adjustment difficulties experienced by overtly aggressive boys and girls, relationally aggressive boys and girls and nonaggressive boys and girls, separately. The moderating role of grade level was taken into account because some aspects of adjustment (e.g., depression) have been shown to vary with age. In this study, a total of 1,166 subjects, 578 boys and 588 girls, grades 3 to 6, participated. Peer nominating instruments were used to assess overt aggression and relational aggression and teacher reports, the Children's Behavior Check List (CBCL), and self-reports (WAI), the short form Weinberger Adjustment Inventory, were used to assess social-psychological adjustment. Children were grouped into overt aggressive, relational aggressive and nonaggressive groups by gender. The teacher reports of children's adjustment revealed that teachers perceived overtly aggressive and relationally aggressive children as more maladjusted than their non-overtly and non-relationally aggressive peers. Specifically, children who were both overtly and relationally aggressive were seen as significantly more maladjusted than overtly aggressive, relationally aggressive and nonaggressive children. Relationally

aggressive children were seen by teachers as significantly more maladjusted than nonaggressive children. Post hoc analyses showed that,

according to teacher reports, older children who exhibited both relational and overt aggression were significantly more maladjusted than all other groups except that their scores did not differ from younger, overtly aggressive children. Also, younger, overtly aggressive children were significantly more maladjusted than nonaggressive children (younger and older), relationally aggressive children (younger and older), and older, overtly aggressive children. Further, overtly aggressive children (older and younger) were significantly more maladjusted than relationally aggressive children and nonaggressive children. Younger, relationally aggressive children were significantly more maladjusted than older, relationally aggressive children and nonaggressive children. And older, relationally aggressive children were significantly more maladjusted than nonaggressive children. (Crick, 1977, p.614-15)

Children's self-report adjustment scores yielded several significant interaction effects. One interaction involved relational aggression, overt aggression and gender, which indicated that relationally aggressive girls, relationally aggressive plus overtly aggressive girls and nonaggressive boys experienced significantly more maladjustment than nonaggressive girls. Additionally, boys reported "significantly more self-restraint problems than psychological distress difficulties, whereas girls exhibited the opposite pattern" (p. 615). Crick (1997) concluded that her finding show that "relationally aggressive children may exhibit externalizing problems such as impulsivity, defiant behavior or other blaming tendencies in addition to internalizing problems such as

sadness, anxiety or somatic complaints” (p. 616). Thus, relationally aggressive girls may exhibit behaviors that coincide with behaviors associated with children with EBD.

Hennington et al. (1998) found that for girls, withdrawn/depressed nominations were significantly and positively associated with relational and overt aggression; however, these scores were significantly higher for girls than for boys. As part of their study on gender differences in aggression and the prevalence of relational aggression in boys and girls, Hennington, et al. examined whether there was an association between relational aggression, overt aggression and peer perception of liking, disliking and other social behaviors. In this study, a total of 904 subjects, 461 boys and 443 girls, in grades 2 and 3, participated.

Hennington et al. (1998) found that “girls who exhibited high levels of overt aggression with or without high levels of relational aggression were most likely to be rejected (75% of overtly aggressive girls and 47% combined aggressive girls)” (p.468). Girls who were classified as relationally aggressive were rejected (25% of relationally aggressive girls) and some were even perceived as popular (16% of relationally aggressive girls). “Both types of aggression explained a similar amount of variance in peer rated liking, disliking and social behaviors “(p.471). Further, for both boys and girls the strength of the association between overt aggression and relational aggression and peer-rated variables was similar, except for a much stronger association between relational aggression and peer-rated withdrawal/depression for girls ($r=.22$) as compared to boys ($r=.03$). Thus, there is a greater chance that girls who are relational aggressive will be viewed by their peers as shy, withdrawn or sad.

Researchers have documented that relationally aggressive children, especially girls, exhibit concurrent social adjustment issues such as peer rejection, indicating that relational aggression is associated with the risk of social maladjustment. In assessing the future social adjustment of relationally aggressive children, Crick (1996), examined whether repeated exposure to relational aggression would become more aversive to peers and result in future peer rejection for the initiator.

Crick and Dodge (1996) showed evidence that relational aggression is predictive of future social maladjustment. In this study, Crick assessed the association between relational aggression and subsequent social maladjustment in a classroom setting over the course of one year. Her study included 245 students, 22 girls and 50 boys in grade 3, 24 girls and 38 boys in grade 4, 26 girls and 22 boys in grade 5, and 34 girls and 29 boys in grade 6. A peer- and teacher- based assessment was used to determine children's use of relational aggression, overt aggression and prosocial behavior and a peer-based assessment was used to determine peer rejection and peer acceptance. The measures were administered three times in one school year: time one assessments were administered six weeks into the school year, time two assessments were administered one month later and time three assessments were administered six months after time one.

Crick and Dodge (1996) found that “for boys, relational aggression did not add significantly to overt aggression in the prediction of future adjustment. However, prosocial behavior significantly added to aggression in the prediction of future peer acceptance, $F(1,134)$ change=42.3, $p<.001$, and future peer rejection, $F(1,134)$ change=20.9, $p<.001$ ” (p.2322). For girls, relational aggression did significantly add to overt aggression in the prediction of future peer rejection and relational aggression was

positively related to peer rejection. Also, prosocial behavior also added significantly to aggression in the prediction of future peer acceptance and peer rejection.

The teacher-based scores supported the peer based reports for both boys and girls. Crick found that for girls, “relational aggression added significantly to overt aggression in the prediction of future peer rejection” (p.2322) and that over time, in the school year, relational aggression added significantly in predicting additional negative changes in peer rejection (being more rejected as the year progressed). Teacher-rated relational aggression and prosocial behavior added to overt aggression in the prediction of peer acceptance, and to the prediction of negative changes in peer acceptance. Both the teacher reports and the peer assessments were related and provided important information in the prediction of the future risks facing children. Because social standing and relationships are more important to girls’ socialization and peer interactions when compared to boys, the outcomes of relational aggression may also be more devastating for girls than boys.

Friendships

Friendships with relationally aggressive girls are reported as having more incidents of betrayal, higher levels of exclusivity and more conflict than friendships with non-relationally aggressive girls. Grotper and Crick (1996) examined friendships among relationally aggressive girls in a pilot study of 171 participant girls in grades 3, 4, 5 and 9, and found that girls who were friends with relationally aggressive girls reported more relational aggression in their friendships, more intimacy and more conflict and betrayal. Additionally, girls reported that there were higher levels of exclusivity in the relationship, with increased levels of divulging personal information.

Rys and Bear (1997) also explored the association between various behaviors, including friendship and social outcomes. The behaviors examined in this study were: physical aggression, relational aggression and prosocial behaviors including friendships. The social outcomes examined in this study were: peer rejection, acceptance and reciprocal friendships. Specifically, when examining relational aggression and popularity, Rys and Bear found that “among girls, negative nominations [peer rejection] was more strongly associated with relational aggression than with overt aggression. However, the difference in magnitude of correlation coefficients for these two variables was statistically significant only in 6th grade ($z=2.42$, $p<.01$) and only when aggression was assessed by peers” (p.97). Thus, being friends with a relationally aggressive girl may cause higher levels of distress and uneasiness and instills fear of being rejected or targeted by the aggressor. The target or victim of the relationally aggressive act can also experience negative consequences.

In examining children’s feelings of distress for both instrumental (overt) and relational provocation, Crick and Grotpeter (1995) asked 252 children in grades 3, 4, 5 and 6, to respond to intent attribution measures described through stories. The stories presented to the children represented each provocation type, instrumental and relational and the children were asked to answer how they would feel if the story really happened to them. The children’s scores could range from 5 to 15 for each of the 10 stories. Although Crick reported considerable overlap, children’s responses to both provocations were moderately related, responses to relational and overt provocation were also situationally specific. She found that relationally aggressive children held significantly more hostile attributions for and felt significantly more upset with relational provocation

than the nonaggressive group. Additionally, “girls reported significantly more distress for relational provocation than did boys” (p.318), supporting the theory that relational aggression tends to be the most powerful aggression choice for girls targeting other girls.

Interestingly, younger children also reported more angry feelings than older children. In her discussion of findings, Crick (1995) stated, “The results obtained here also indicate that emotional factors may play a role in the enactment of relationally aggressive behaviors. That is, the relatively high levels of distress felt by relationally aggressive children in relational conflict situations may contribute to the social information-processing and behavioral difficulties of these children”(p.319).

Research by Crick and Bigbee (1998) provided additional evidence that the targets of relational aggression experience negative outcomes. Crick and Bigbee focused their study on the targets of relationally aggressive acts rather than on the initiators, to determine the impact of these acts. Peer reports of rejection, acceptance and submissiveness were used to assess peer relationship problems with 383 subjects, 194 boys and 189 girls in the 4th and 5th grade. Additionally, self-reports of loneliness, social anxiety, avoidance, emotional distress and self restraint were used to determine internalizing difficulties. First, peer reports of victimization revealed that girls were primarily the targets of relationally aggressive acts and boys were the targets of overt plus relationally aggressive acts. Additionally, when examining the relationship between rejected children and relational aggression, Crick and Bigbee found that,

Perhaps most important, all of the 17.3% of rejected children identified through the addition of relational forms of aggression-victimization were girls, a proportion that represents 37.5% of rejected girls. These findings provide support

for the importance of studying relational forms of aggression and victimization for understanding rejected sociometric status among young girls. (p.342)

The scores from the peer reports of adjustment reflected that the self- and peer- identified and the peer- identified relational aggression victims were significantly more rejected, and submissive than self-identified relational victims and non-victims. However, self-identified relational victims were significantly more rejected and submissive than non-victims.

Further, self- and peer- identified relational aggression victims reported significantly more loneliness and higher emotional distress levels than their peer-identified relational victims and non-victims. However, self-identified relational victims reported more loneliness and emotional distress than peer-identified relational victims. Thus, children who identified themselves as victims of relational aggression perceived themselves as more rejected, submissive with higher levels of emotional distress and loneliness than their peers perceived of them.

For girls and boys, relational victimization was negatively related to peer acceptance, and positively related to peer rejection, feelings of loneliness, social anxiety and emotional distress, providing evidence that victims of relational aggression experience “signs of social-psychological adjustment problems” (Crick & Bigbee, 1988, p. 345). Thus psychosocial adjustment issues are prevalent with both the initiators of relational aggression and the targets of relational aggression. The difficulty lies in the ability to accurately measure and assess relational aggression among children.

Instrumentation

Most studies on aggression have been conducted using observational techniques in school-yards, where only physical aggression can be distinguished (Bjorkquist & Niemela, 1992). With the introduction of indirect types of aggression, researchers saw a need for a different technique in assessing the prevalence of aggression. Indirect aggression, however, was still ambiguously conceptualized and not clearly defined (Bjorkquist, 1994). Bjorkquist and her colleagues began to investigate female aggression types. Through extensive interviews with adolescent girls, they formulated specific behaviors identified by girls as being typical aggressive conflicts with each other. Based on these interviews, Bjorkquist and her colleagues developed a peer nomination technique to measure indirect aggression, the Direct and Indirect Aggression Scales (DIAS) (Bjorkquist, Lagerspetz & Osterman, 1992).

Peer Nomination Measures

Peer nominating techniques have been found to be valid and reliable in many studies on aggression (Huesmann & Eron, 1984; Huesmann, Eron, Lefkowitz & Walder, 1984). “Since indirect means of aggression are used exactly in order to cover one’s harmful intentions from the target person, self-reports of indirect aggression are not likely to be honest” (Bjorkquist, 1994, p. 183). Because indirect aggression is not visible through observations alone and indirect aggression is covert, where the aggressor can remain anonymous to the target child to avoid counterattack, observational studies are not considered as effective as peer-nomination. The DIAS developed by Bjorkquist and her colleagues, measures both direct and indirect aggression using a peer nomination method where participants identify classmates who behave in various aggressive ways (Bjorkquist,

1994). Although the DIAS measures both direct and indirect aggression, it does not differentiate between various types of indirect aggression.

Crick and her colleagues defined relational aggression, a type of indirect aggression, as an attempt by a child to harm others by damaging another child's friendships or feelings of inclusion in the group, and/or purposefully withdrawing friendship or acceptance, spreading rumors about a child so others will reject that child (Crick & Grotpeter, 1995). The harm comes to the target child through the purposeful manipulation and damage of peer relationship(s) (Crick & Grotpeter, 1995). The DIAS does not specifically address relational aggression in the way described here. Additionally, Crick and Grotpeter found that the peer rating scales used by Lagerspetz, Bjorquist and Peltonen (1988) confounded relational aggression with non-verbal aggression. One of the goals for Crick and Grotpeter's study was to develop a reliable measure of relational aggression which did not confound relational aggression with any other type of indirect aggression. They developed a peer nomination scale, the CSBS-P to specifically measure relational aggression among other types of aggression. The CSBS-P asks participants to identify three peers that behave in ways described on the 15 item instrument.

The CSBS-P is made up of six subscales that include: relational aggression, physical aggression, prosocial behavior, verbal aggression, inclusion and loneliness. Crick (1998) reported that a factor analysis of the peer nomination measure confirmed two distinct factors for relational aggression and overt aggression, both having eigen values greater than 1.0 and high factor loading ranging from .73 to .91. Crick (1998) also reported the correlation between the overt aggression and relational aggression scales to

be moderate ($r=.54$ to $.57$), thus providing researchers with a valid peer nominating instrument for assessing overt and relational aggression.

In studies where peer nomination instruments were used to assess the prevalence of indirect and direct aggression among girls and boys, girls were identified as exhibiting more indirect aggressive behaviors (i.e., intriguing, verbal aggression, spreading of rumors) while boys were identified as exhibiting more direct means of aggression (i.e., bullying, fighting) (Lagerspetz, Bjorkqvist & Peltonen, 1988; Pakaslahti, Keitikangas-Jarvinen, 1997; Archer & Westerman, 1981; Cairns, Cairns, Neckerman, Ferguson & Garipey, 1988).

Self-Report and Teacher Report Measures

In addition to using a peer-nomination instrument, researchers have implemented various combinations of types of instruments in measuring or rating aggression. Crick and Grotpeter (1995) created both a self-report version (CSBS-S) and a teacher-report version (CSBS-T) of the Children's Social Behavior Scale - Peer Nomination (CSBS-P) to ask the participant about his or her own behavior and to ask the teachers about student behavior. For example, the CSBS-P asks the student to "Write down the names of three students in your class that tell lies about a classmate so that the other kids won't like the classmate anymore." The CSBS-S asks the student about things they do at school, for example, "Some kids tell lies about a classmate so that the other kids won't like the classmate anymore. How often do you do this?" providing the student with a Likert scale for response. In the CSBS-T, the teacher version, the teacher is asked to complete a report for each participating child. The report provides the teacher with a statement, for example, "This child tries to get others to dislike certain peers by telling lies about the

peers to others” and a Likert scale for responses. With permission from Crick, Marsee (2003) added two items to the CSBS-T and identified the measure as the Revised Children’s Behavior Scale (RCSB). The two items that were added state “This child is well liked by peers of the same sex” and “This child is well liked by peers of the opposite sex”.

Addressing the CSBS scales, Crick and Werner (1998) stated, “These scales have been found to be internally consistent with Cronbach’s alpha ranging from .82 to .89 for relational aggression, and from .94 to .97 for overt aggression. The measure has been shown to have high test-retest reliability over a four week interval ($r=.82$ for the relational aggression scale; $r=.90$ for the overt aggression scale; Crick, 1995, 1996; Crick & Grotpeter, 1995)” (p. 1632).

Several researchers have administered only self- reports (Crick & Bigbee, 1998; Crick, Bigbee & Howes, 1996; Carlo, Rafaelli, Laible & Meyer, 1999), or only teacher-reports (Crick & Dodge, 1996) or a combination of peer-nomination with self-reports (Lagerspetz, Bjorkquist & Peltonen, 1988; Crick & Werner, 1998), and combinations of peer-nomination with teacher reports (Crick & Casas, 1997; Crick, 1997; Crick, 1996; Henington, Jughes, Cavell & Thompson, 1997) in measuring aggression. Self-reports included open-ended questions, such as “What do most boys do when they are mad at someone?” (Crick, et al, 1996) and survey questions such as “How often does another kid say they won’t like you unless you do what they want you to do?” (Crick & Bigbee, 1998). The study where only teacher-reports were administered implemented an instrument developed by Dodge and Coie (1987) and consisted of questions such as, “When this child has been teased or threatened, he or she gets angry easily and strikes

back” and responses on a Likert scale of 1 being never true of this child, and 5 being always true about this child. The internal consistency for this instrument was reported as high with an alpha of .90.

A combination of peer nomination and self-report instruments was administered by researchers in a study on aggression by Lagerspetz, Bjorkquist and Peltonen, (1988). Researchers asked participants to evaluate others in their class and themselves on various questions, for example, “What do they/I do when angry with another boy/girl in the class?” Lagerspetz et al. (1988) found that “the correlation was higher for direct than for indirect aggression for the total sample” (p.412) The correlations (Pearson’s r) between the peer- and the self-ratings for indirect and direct aggression were .34 and .60 respectively.

In another study, Marsee (2003) administered Crick’s CSBS-S, self-report and a modified version of the CSBS-T. Marsee added two items to the original 15 asking about how well liked the child is by peers of the same and opposite sex, and named this instrument the Revised Childrens Social Behavior scale (RCSB). In her study, the internal consistency for the CSBS-S was satisfactory, with Cronbach alphas of .69, .69 for relational aggression and overt aggression, and for the RCSB was high with alphas equal to .92 and .93 for relational aggression and overt aggression. In this study, where only a self-report measure and a teacher-report measure were used to measure relational and overt aggression, participants were clustered into aggression groups, and a significantly higher number of girls fell in the high relational aggression (RA) /average overt aggression (OA) cluster group than boys. The sample consisted of 202 students (87

male and 115 female) and 28.6% of the girls and 18.4% of the boys were clustered into the high RA/average OA group.

It is clear that a variety of methods have been used to assess indirect, relational and overt aggression. The development of the DAIS peer nomination instrument by Bjorquist, Lagerspetz and Osterman, (1992) and subsequently the CSBS-P, the CSBS-S and the CSBS-T, have enabled researchers to examine indirect and direct aggression and in some cases more specifically relational aggression, more effectively.

Current Study

Research on gender-based forms of aggression, and more specifically relational aggression, is scant. It is also clear that both boys and girls are aggressive, yet tend to exhibit distinct forms of aggression (Crick & Grotpeter, 1995; Rys & Bear, 1997; Lagerspetz et al. 1988). Additionally, relational aggression, a form of aggression used primarily by girls, is significantly associated with social-psychological adjustment problems and warrants further study (Crick & Grotpeter, 1995).

Age, specifically pre-adolescence, appears to be a turning point for girls when examining changes in aggressive tendencies. The development of aggression appears to be curvilinear, where in preadolescence, aggression was a least likely reaction and in mid-adolescence, aggression was the most likely reaction, and after adolescence, aggression becomes a least likely reaction again (Lindeman, Harakka, & Keltikangas-Jarvinen, 1997).

In the current study, relational and overt aggression among a population of male and female students with EBD, from pre-adolescence to late-adolescence was examined using the Children's Social Behavior Scale - Self Report (CSBS-S), (Crick & Grotpeter,

1995) (see Appendix A). Initially, an attempt was made to gain permission from school administrators to administer the Children's Social Behavior Scale - Peer Nomination scale (CSBS-P). Out of the 27 schools contacted only two schools were willing to approve the study using the CSBS-P. At these two schools parents were sent a letter from the principal, and a parent permission form. The response rate was very low and continued to stay low even after additional letters from the principals were sent home and flyer reminders were sent home with the students. The response from the first school (162 students), resulted in only 12 returned parent permission forms allowing their child to participate. The response from the second school's (85) students, resulted in only 5 returned parent permission forms allowing their child to participate. A decision was made to replace the CSBS-P with the Children's Social Behavior Scale - Self Report (CSBS-S) (Crick & Grotpeter, 1995), a reliable measure of relational and overt aggression.

Based on the research reviewed, it was hypothesized that, 1.) Distinct factors would emerge for relational aggression and overt aggression with the CSBS-S when administered to students with EBD, 2.) Students with EBD would exhibit both relational and overt aggression, 3.) More girls than boys with EBD would be identified as relationally aggressive and, 4.) Age and cognitive ability would be significantly related to relational aggression with both boys and girls with EBD.

The questions that were addressed in this study are:

- 1 Do distinct factors for relational aggression (RA) and overt aggression (OA) emerge in the structure of the Children's Social Behavior Scale - Self-Report (CSBS-S) with participants with emotional/behavioral disorders (EBD)?

- 2 Do students with emotional/behavioral disorders (EBD) exhibit relational aggression (RA) or overt aggression (OA)?
- 3 Does gender and/or age predict relational aggression (RA) or overt aggression (OA) with students with emotional/behavioral disorders (EBD)?
- 4 Is cognitive ability (IQ) related to relational aggression (RA) or overt aggression (OA) with students with emotional/behavioral disorders (EBD)?

CHAPTER III

This chapter presents the methodology of the current study including a description of the participants, setting, and procedures for data collection. Additionally, a description of the instrument is presented along with information on the administration procedures for the instrument.

Participants and Setting

It was determined that a minimum of 52 participants were required for a correlation or regression. Harris (1985) suggested that with five or fewer predictor variables (in the current study there are two, age and gender), the number of participants should be greater than the number of predictors by at least 50. For a factor analysis a lenient rule of thumb is 50 participants per factor (Pedhazur & Schmelkin, 1991). In order to obtain a sufficient sample of students with EBD, seven, co-educational, non-public, special education schools serving students with EBD or students with a combination of EBD and learning disabilities (LD) in the Washington, D.C. metropolitan area agreed to participate.

In the current study, “students with EBD” refers to students who have been identified as emotionally and/or behaviorally disordered by their local school system and have a current Individual Education Plan (IEP). Students participating in the current study met the criteria and exhibited one or more of the following characteristics which adversely affected their educational performance in their prior placement in the public school system:

- A. An inability to learn that cannot be explained by intellectual, sensory, or health factors;
- B. An inability to build or maintain satisfactory interpersonal relationships with peers and teachers;
- C. Inappropriate types of behavior or feelings under normal circumstances;
- D. A general pervasive mood of unhappiness or depression; or
- E. A tendency to develop physical symptoms or fears associated with personal or school problems.

(Code of Federal Regulations, Title 34, Section 300.7(b)(9))

One or more of these characteristics were observed and documented by school personnel over at least one school semester.

Students were referred to non-public school placements by their school/home team of specialists, either an Individualized Education Planning (IEP) team or Education Management Team (EMT). The team was comprised of the school psychologist, special education teacher, regular education teacher, school administrator, parent or guardian, disability specialists and in some cases, the student. Each IEP/EMT team member from the school system determined the appropriate assessments for each referred student on a case-by-case basis.

The IEP team determined the level of services to be provided for each student and the best placement in the Least Restrictive Environment (LRE), based on the level services required by each student. Prior to being placed in a special school setting the staff at the public school implemented positive behavioral support for the student in the

classroom without success. The participants in the current study required a higher level of services than the public school could provide on a daily basis.

The public school system categorizes services into the following intensities:

- I. Student receives indirect services, consultation only.
- II. Student receives up to five hours of special education and related services per week.
- III. Student receives between five to fifteen hours of special education and related services per week.
- IV. Student receives more than fifteen hours of special education and related services per week.
- V. Student receives more than fifteen hours of special education and related services per week and requires a more intensive education program than intensities I through IV.
- VI. Student receives services in a residential special education program.

In the current study, all students required and received more than 15 hours of special education and related services per week and required a more intensive education program than could be provided in the public school system, placing them into intensity level V. The Least Restrictive Environment (LRE) for students in the intensity V level was determined to be placement outside of the public school and in a therapeutic school. Therapeutic schools provide individual and group therapy as well as access to a crisis team for crisis intervention and access to a psychiatrist for medication management.

Students in the current study required a minimum of 1 hour of group therapy, 25 hours of special education classes per week and full-day access to a crisis team to assist

in conflict resolution. In addition to the above characteristics, the students in the current study received a wide range in cognitive ability test scores (Wechsler Intelligence Scale for Children (WISC-III)) with minimum and maximum scores of 55 and 139 respectively. Each participant's full scale, verbal and performance scores of the Wechsler Intelligence Scale for Children (WISC-III) was collected when available. The WISC-III is a battery of tests for children six to 17 years old and is a tool used to evaluate intellectual abilities. The WISC-III consists of two scales, the Verbal and the Performance, and each scale consists of several subtests. The Verbal Scale and the Performance Scale scores are the summary measures of verbal and performance skills and the Full Scale IQ is an index of general intellectual functioning (Searls, 1985). The schools in this study were located in neighboring counties that consistently used the WISC-III for determining cognitive ability levels to be used by the IEP team for appropriate planning and placement. Local school systems are required to re-examine the level of services and placement of each child in special education triennially and thus, the WISC-III was administered to every participant for the initial evaluation process. Full Scale IQ scores were available for all 130 participants. Nine of the Full Scale IQ scores were not collected from the student files by this researcher but provided by the school principal. Verbal IQ and Performance IQ scores were unavailable for 19 participants. The mean Full Scale IQ score was 90.76, the standard deviation was 14.93, and the range was 55 to 139 for the 130 participants in the current study.

Students were performing well below average as measured by state mandated achievement tests in the public school system, depicting a marked degree of poor educational performance. Students came to the special school settings from various

school systems (Anne Arundel County, Prince George's County, Montgomery County and Washington, D.C.) and the type of achievement test data available was varied, inconsistent and not comparable and thus is not reported here.

Two of the schools were high school level, serving students who were 14 to 20 years old; two schools were middle school level, serving students who were 12 to 14 years old; one school was an elementary/middle school level, serving students who were 6 to 15 years old; one school was an elementary school level, serving students who were 6 to 12 years old; and one school was an elementary/middle/high school level, serving students who were 6 to 20 years old. Each of the selected schools provided students with a therapeutic environment. Group counseling and individual counseling was provided by Licensed Clinical Therapists or Social Workers (as mandated by each student's IEP), and a crisis intervention team was available as needed. Classroom teachers were either certified or provisionally certified special education teachers and each classroom had a teacher's aide for small group instruction and classroom behavior management assistance. Students at the elementary and middle schools were in self-contained subject area classes and in some cases had mixed grades within one classroom. Students at the high school level rotated between subject area classes, and also had mixed grades within one classroom.

The participating schools were located in suburban settings in two neighboring counties. Three of the seven schools were located in business park areas, in Prince George's County, a very large county, in the state of Maryland. The family education level was estimated to range from no high school diploma to master degree level with most families at the high school diploma level. Family education data was informal

information obtained from the school secretary at each of the schools and based on information gathered from either the student files or the applications for the free and reduced lunch program. The remaining four schools were located in large neighborhoods, in Anne Arundel County, a small county in the state of Maryland. The family education level was also estimated to range from no high school diploma to master degree level with most families at the bachelor degree level. This information was obtained informally from the principals or program directors at each school and was gathered from student files or the applications for the free and reduced lunch program. The socioeconomic status (SES) of the families of the participating children was estimated to range from lower SES to middle SES, with most families at the lower end of this continuum. Socioeconomic status and family education level was estimated on the basis of informal information provided by the school principals.

Parents of 337 eligible students were contacted and 44.2% (149) of the parents responded allowing their children to participate. 187 parents did not respond and one parent turned in the permission form declining participation (see Appendix B for permission and assent forms). Out of the 149 potential participants, 17 students were absent on the day of administration and two refused to participate leaving a total of 130 (97 boys, and 33 girls) participants; 38.6% of the eligible students. Approximately 62.3% of the sample was African American and 37.7% was Caucasian. The participants' ages ranged from seven to twenty years old.

Instrumentation: The CSBS-S

The Children's Social Behavior Scale - Self Report (CSBS-S), (Crick & Grotpeter, 1995), was used to measure relational aggression within this sample. The

instrument used and developed by Crick and Grotpeter was found to be a reliable measure of relational aggression that did not confound relational aggression with other forms of aggression. A peer nomination version of the CSBS was going to be used to measure relational aggression, however, many local special schools for students with EBD rejected the proposal to use the peer nomination instrument. The schools' concerns were of the possible repercussions when students are identifying their peers as exhibiting aggressive behaviors. The self-report version of the CSBS posed no such risks and the proposal was accepted by the six participating schools.

The CSBS-S consists of 15 items and included six subscales assessing relational aggression (5 items), physical aggression (2 items), prosocial behavior (4 items), verbal aggression (1 item), inclusion (2 items), and loneliness (1 items) (Crick & Grotpeter, 1995). The physical aggression items were combined with the verbal aggression item as was done in previous research to identify overt aggression. Responses to these items are summed and compared to the mean score for these items. Participants who score one standard deviation above the mean are identified as exhibiting overt aggression on a higher level. The relational aggression items were used to identify relational aggression in the same way and participants who score one standard deviation above the mean score for these items are identified as exhibiting relational aggression on a higher level. The prosocial behavior, inclusion and loneliness items were not used in this study.

Crick and Grotpeter, 1995, found the factor loading for the items of the subscales of the assessment instruments to be reliable with the subscale alphas for relational aggression and overt aggression in the CSBS-S, self report, equaling .69 and .69 respectively. Computation of Cronbach's alpha showed all scales to be highly reliable

with alpha equal to .94, .83, for overt aggression and relational aggression respectively. Cronbach's alphas were used in this study to assess the reliability of the CSBS-S as administered to participants with EBD.

The CSBS-S is made up of questions about student behavior and participants are asked to circle a number that corresponds to how often they behave in the way described. The Likert scale ranges from one to five with one meaning "never", two meaning "Almost Never", three meaning "Sometimes", four meaning "Almost All The Time", and five meaning "All The Time". Students are asked to think about their relationship with peers and how often they do certain things when they are with them. The questions asked are phrased in the following way: "Some kids tell lies about a classmate so that the other kids won't like the classmate anymore. How often do you do this?", and they are asked to circle the number that most closely corresponds to their behavior.

In the current study, students were asked to complete the survey in the classroom. Students were informed that although the classroom teacher collected the surveys, they were immediately placed in an envelope and sealed. The sealed envelopes were then delivered to the main office and were picked-up by this researcher. Students were informed that no one except this researcher would be able to see their responses.

Classroom teachers read the instructions, each question, the number and corresponding meaning aloud to their class if they had poor readers and younger children present; up to 25 minutes was required to administer the instrument. Classroom teachers did not read the instructions aloud to the stronger readers and older children, requiring less than 15 minutes to administer the instrument. The classroom teacher was permitted to provide individual help as needed in the manner described in the administrative

procedures of the instrument. Teachers were allowed to define words, re-read the item, and re-explain the instructions.

Design and Analysis

In this study, gender was a nominal independent variable, age was a continuous independent variable and IQ was a continuous independent variable. Relational aggression and overt aggression were the dependent variables.

A principal components factor analysis with VARIMAX rotation was used to determine if the factor structure of the CSBS-S replicated with participants with EBD. Cronbach's alphas were calculated for the relational aggression (RA) items and the overt aggression (OA) items to examine internal consistency and reliability. Descriptive analysis and multiple regression were used to determine if gender predicts relational aggression and/or overt aggression for students with EBD and if there are differences in relational aggression and overt aggression by age while controlling for possible effects that IQ may have on the dependent variable.

Factor Analysis of the CSBS-S

In order to conduct a principal components factor analysis of the CSBS-S, a correlation value (r) was computed for each item as it related to each of the other items in the instrument. A correlation value will always be between -1.0 and +1.0, with positive values indicating that a positive relationship exists and negative values indicating a negative relationship exists. A correlation matrix was created using these correlation values. The significance of the correlations was determined using the significance level of alpha equal to 0.05.

A principal components factor analysis was completed in this study using VARIMAX rotation to yield uncorrelated factors that can account for the variance in the dependent variables. Factor analysis techniques are used to reduce the number of variables and to detect structure in the relationships between variables, allowing variables to be classified. Principal components factor analysis is applied as a data reduction or structure detection method (Everett & Dunn, 1991). Conducting a factor analysis helped to determine the number and nature of factors that influence the relational aggression and overt aggression items in the CSBS-S. If there are correlations among the five relational aggression items and the three overt aggression items, then there are common factors in place influencing the outcomes of the instrument.

Descriptive Analysis

Descriptive analysis procedures similar to those used by Crick and Grotpeter (1995) were used in this study. First, student responses for the relational aggression (RA) items and student responses for the overt aggression (OA) items were summed, providing a total score for RA and a total score for OA for each participant. Each participant's total RA score and total OA score was compared to the means and standard deviations provided by Crick and Grotpeter (1995) for non-aggressive participants in a regular school setting. The participants in Crick and Grotpeter's study differed in their demographics to the participants in this study. In Crick and Grotpeter's study, a total of 491, 8 to 12 year olds in grades three to six participated. Their sample included 235 girls and 256 boys. Approximately 37% of their sample was African-American, 60% was European-American, and 3% was made up of other ethnic groups. Their schools were located in a medium size town in the mid-west where the SES ranged from low to

medium with the bulk of the families in the low range. The students in this study were in regular education classrooms in their public schools and were not identified as being EBD.

Every participant whose relational aggression total score was one standard deviation above the relational aggression mean obtained from Crick was identified as exhibiting relational aggression (ERA). Every participant whose overt aggression total score was one standard deviation above the overt aggression mean obtained from Crick was identified as exhibiting overt aggression (EOA).

Second, the percentage of the total sample identified as ERA and EOA was determined. The number of participants who were identified as ERA was summed and divided by the total number of participants to calculate the percentage of participants ERA. The same procedure was followed to obtain the percentage of participants who were identified as EOA.

Third, the percentages of males and females identified as ERA and EOA was determined to examine gender differences in each type of aggression. The number of females who were identified as ERA was summed and that number was divided by the total number of females in the sample to determine the percentage of females identified as ERA. The total number of males identified as ERA was summed and that number was divided by the total number of males in the sample to determine the percentages of males that ERA. The same procedure was followed to obtain the percentages for each gender and participants identified as EOA.

Multiple Regression Analysis

In order to learn more about the relationship between the predictor variables, (gender, age and cognitive ability/IQ), and the criterion variables (relational aggression and overt aggression), a multiple regression analysis was conducted for each of the criterion variables. A multiple regression analysis was conducted for RA, with age and gender serving as the predictor variables, the participants' total scores for RA serving as the criterion variable and IQ serving as the covariate. A multiple regression analysis was also conducted for OA, with age and gender serving as the predictor variables, the participants' total scores for OA serving as the criterion variable and IQ serving as the covariate. The general purpose of multiple regression analysis is to learn more about the relationship between several independent or predictor variables and a dependent or criterion variable.

This procedure determined if gender was a predictor for relational aggression and/or overt aggression and if there were differences in relational aggression and overt aggression by age while controlling for possible effects that IQ may have on the criterion variable.

CHAPTER IV

Results

The data in this study were analyzed using SAS 9.1 (SAS 1999). In this chapter, the results of the analyses of the collected data are presented in order of the research questions. The chapter was divided into three sections with each section addressing one or more research questions. The first section describes the analysis of the Children's Social Behavior Scale - Self Report (CSBS-S) (Crick & Grotpeter, 1995), instrument to address the first question: Do distinct factors for relational aggression (RA) and overt aggression (OA) emerge in the CSBS-S with students with emotional/behavioral disorders (EBD)? The second section describes the descriptive analysis to address the second question: Do students with EBD exhibit RA or OA? The third section describes the correlation and multiple regression analysis to address the third and fourth questions: Does gender and/or age predict RA and/or OA for students with EBD? Is there a relationship between cognitive ability (IQ) and RA or OA with students with EBD?

It was hypothesized that: 1. Two distinct factors, relational aggression (RA) and overt aggression (OA) would emerge in the Children's Social Behavior Scale - Self Report (CSBS-S) (Crick & Grotpeter, 1995) with students with emotional/behavioral disorders (EBD). 2. Students with EBD would exhibit RA and they would exhibit OA. 3. Both gender and age would predict RA and OA for students with EBD and the percentage of girls with EBD who are RA would be higher than the percentage of boys with EBD and that approximately equal percentages of each gender would be OA. 4. There would be a relationship between IQ and RA and OA with students with EBD.

Do distinct factors for relational aggression (RA) and overt aggression (OA) emerge in the CSBS-S with students with emotional/behavioral disorders (EBD)?

An assessment of the Children's Social Behavior Scale -Self Report (CSBS-S) was conducted in order to determine if the factor structure of the CSBS-S replicated with participants with EBD and specifically if separate relational aggression (RA) and overt aggression (OA) factors emerged. Three statistical methods were used to analyze the CSBS-S: Pearson's r correlation, Cronbach's alpha and principal components factor analysis.

Pearson's R Correlation

A correlation value (r) was computed for each RA item as it related to each OA item and a correlation matrix was created using these values. The relation between RA and OA, measured by a correlation coefficient, was low to moderate. The Pearson r value for the relation between RA and OA was .56, $p < .05$. These findings are very close in magnitude as those found by Crick and Grotpeter (1995). The correlation value (r) reported by Crick and Grotpeter (1995) for the relation between RA and OA was .54, $p < .05$. According to Crick and Grotpeter, "The moderate magnitude of this correlation is what one would expect for two constructs that are hypothesized to be different forms of the same general behavior" (p.715).

Cronbach's Alpha

In order to examine internal consistency reliability (alpha) of the individual RA and OA subscales on the CSBS-S, Cronbach's alpha was calculated. The results, .71 and .75 for RA and OA respectively, indicated acceptable reliability for research purposes.

Principal Components Factor Analysis

A principal components factor analysis with VARIMAX rotation, (orthogonal rotation) was conducted to confirm the existence of factors, determine construct validity, and pinpoint correlated factors. This process was conducted to determine if the factors loadings on the CSBS-S for children with EBD in a special school setting were similar to the factor loadings for children in a regular, public school setting as described by Crick and Grotpeter (1995).

This analysis yielded two factors with eigen values over 1.00 (see Table 1 for item loadings). Examination of the scree plot confirmed interpretation of the first two factors, which together accounted for approximately 57% of the item variance. The first factor (eigen value = 3.51) accounted for approximately 44% of the item variance and consisted of two relational aggression items and three overt aggression items. The second factor (eigen value = 1.08) accounted for approximately 13% of the item variance and consisted of two relational aggression items. The two factors cross loaded on three items (see Table 2). The first and second factors cross loaded on the first item with values of 0.42 and 0.40 respectively, on the second item with values of 0.62 and 0.37 respectively and on the third item with values of 0.61 and 0.40 respectively. Values less than 0.3 were not included in this analysis.

Table 1

Eigen Values from a Principal Components Factor Analysis of the CSBS-S

| Factor | Eigenvalue | Proportion | Cumulative |
|--------|------------|------------|------------|
| 1 | 3.51 | 0.44 | 0.44 |
| 2 | 1.08 | 0.13 | 0.57 |
| 3 | 0.89 | 0.11 | 0.68 |
| 4 | 0.69 | 0.09 | 0.77 |
| 5 | 0.65 | 0.08 | 0.85 |
| 6 | 0.50 | 0.06 | 0.91 |
| 7 | 0.38 | 0.05 | 0.95 |
| 8 | 0.32 | 0.04 | 1.00 |

Table 2

Factor Loading for the CSBS-S Using Orthogonal Rotation

| CSBS-S Item | Scale ^a | Factor 1 | Factor 2 |
|--|--------------------|----------|----------|
| 1. Some kids tell lies about a classmate so that the other kids won't like the classmate anymore. | RA | 0.42 | 0.40 |
| 2. Some kids try to keep certain people from being in their group when it is time to play or do an activity. | RA | - | 0.87 |
| 4. When they are mad at someone, some kids get back at the person by not letting the person be in their group anymore. | RA | - | 0.78 |
| 10. Some kids tell their friends that they will stop liking them unless the friends do what they say. | RA | 0.62 | 0.37 |
| 12. Some kids try to keep others from liking a classmate by saying mean things about the class mate. | RA | 0.71 | - |
| 5. Some kids hit other kids at school. | OA | 0.74 | - |
| 8. Some kids yell at others and call them mean names. | OA | 0.61 | 0.40 |
| 9. Some kids push and shove other kids at school. | OA | 0.82 | - |

Note. Values less than 0.3 are omitted.

^aScale label from original factor analysis: RA = Relational Aggression; OA = Overt Aggression.

Since the two factors identified in this analysis cross loaded on three items, a principal components factor analysis with PROMAX (oblique rotation) was conducted. This analysis yielded two factors with a better simple structure. The first factor (eigen value = 3.51) consisted of two RA items and three OA items and the second factor (eigen value = 1.08) consisted of two RA items. The two factors cross loaded on one relational aggression item, however, both values were < 0.40 (see Table 3).

Table 3

Factor Loading for the CSBS-S using Oblique Rotation

| CSBS-S Item | Scale ^a | Factor 1 | Factor 2 |
|--|--------------------|----------|----------|
| 1. Some kids tell lies about a classmate so that the other kids won't like the classmate anymore. | RA | 0.37 | 0.33 |
| 2. Some kids try to keep certain people from being in their group when it is time to play or do an activity. | RA | - | 0.90 |
| 4. When they are mad at someone, some kids get back at the person by not letting the person be in their group anymore. | RA | - | 0.79 |
| 10. Some kids tell their friends that they will stop liking them unless the friends do what they say. | RA | 0.59 | - |
| 12. Some kids try to keep others from liking a classmate by saying mean things about the class mate. | RA | 0.73 | - |
| 5. Some kids hit other kids at school. | OA | 0.80 | - |
| 8. Some kids yell at others and call them mean names. | OA | 0.57 | - |
| 9. Some kids push and shove other kids at school. | OA | 0.83 | - |

Note. Values less than 0.3 are omitted.

^aScale label from original factor analysis: RA = Relational Aggression; OA = Overt Aggression.

The first factor consisted of five items on the CSBS-S that included both physical and verbal types of aggression where the child is either saying something to be aggressive or being physically aggressive. These five questions were: 1.) “Some kids tell their friends that they will stop liking them unless the friends do what they say. How often do you tell friends this?” 2.) “Some kids try to keep others from liking a classmate by saying mean things about the classmate. How often do you do this?” 3.) “Some kids hit other kids at school. How often do you do this?” 4.) “Some kids yell at others and call them mean names. How often do you do this?” 5.) “Some kids push and shove other kids at school. How often do you do this?” This factor was identified as verbal/physical aggression (VPA) for this study.

The second factor identified in this study consisted of the two items on the CSBS-S that were exclusion types of aggression. These two questions were: 1.) “Some kids try to keep certain people from being in their group when it is time to play. How often do you do this?” 2.) “Some kids try to keep certain people from being in their group when it is time to play or do an activity. How often do you do this?” This factor was identified as exclusionary aggression (EXA) in the current study.

In the current study, two distinct factors did emerge in the CSBS-S when implemented with students with EBD, however, they were identified as verbal/physical aggression (VPA) and exclusion type aggression (EXA), not RA and OA as hypothesized. The analysis to follow will be conducted as proposed with relational aggression (RA) and overt aggression (OA) as the two criterion variables. When possible, the analysis will also include the two new, criterion variables identified in this study, VPA and exclusion type aggression EXA.

Do students with EBD exhibit RA and do they exhibit OA?

It was of interest to first assess if children with EBD in a special school setting exhibit relational aggression and/or overt aggression using the CSBS-S. In order to assess if children with EBD exhibit RA and/or OA, descriptive analysis was conducted using Crick and Grotpeter's (1995) scoring method to calculate the percentage of participants with EBD who exhibit RA or OA. Each participant's total score was summed for each of the subscales. Each participant's subscale score was compared to the mean and standard deviation scores for each subscale obtained by Crick and Grotpeter.

According to Crick, the only means and standard deviations available for a regular education population of students were for her two groups of participants, non-aggressive and aggressive. As recommended by Crick, the means and standard deviations for the non-aggressive group were used in this study. In the Crick and Grotpeter (1995) study, participants included a total of 491, 8 to 12 year olds in grades three to six. Their sample included 235 girls and 256 boys. In their sample, 37% of the participants were African-American, 60% were European-American, and 3% were made up of other ethnic groups.

In this study, a total of 130, seven to 20 year olds in grades 3 to 12 participated. However, there were only two seven year olds, three eight year olds and two 18 year olds, one 19 year old and one 20 year old, with the majority of participants in the 9 to 17 year old age range (see Table 4 the participants in this study 26% were girls and 74% were boys and 62% were African-American and 38% Caucasian (see Table 5). There were no other ethnic groups represented in this study.

Table 4

Number of Participants by Age and Gender

| Age | Gender | | Total |
|-----|--------|--------|-------|
| | Male | Female | |
| 7 | 2 | 0 | 2 |
| 8 | 1 | 2 | 3 |
| 9 | 8 | 0 | 8 |
| 10 | 17 | 1 | 18 |
| 11 | 11 | 4 | 15 |
| 12 | 16 | 5 | 21 |
| 13 | 10 | 4 | 14 |
| 14 | 5 | 3 | 8 |
| 15 | 9 | 7 | 16 |
| 16 | 7 | 3 | 10 |
| 17 | 7 | 4 | 11 |
| 18 | 2 | 0 | 2 |
| 19 | 0 | 1 | 1 |
| 20 | 1 | 0 | 1 |

Table 5

Proportion of Participants by Ethnicity and Gender

| Group | Total | % |
|------------------|-------|-------|
| African American | 81 | 62.31 |
| Caucasian | 49 | 37.69 |
| Female | 34 | 26.15 |
| Male | 96 | 73.85 |

Crick and Grotpeter's (1995) scoring procedure was implemented to obtain descriptive statistics. The scoring procedure required that each participant's total subscale score for RA and OA be compared to Crick and Grotpeter's mean RA and mean OA score. Participants whose RA score was one standard deviation above the RA mean were identified as RA and participants whose OA score was one standard deviation above the OA mean were identified as OA.

After this scoring process, percentages of students identified as RA or OA were examined. The results suggested that children with EBD in a special school setting do exhibit relational aggression and overt aggression. The percentages calculated in this study showed that 26.15% of the total participants scored one standard deviation above the mean in the relational aggression (RA) subscale and 23.08% of the total participants scored one standard deviation above the mean in the overt aggression (OA) subscale. The overall mean and standard deviation for RA scores in this study was approximately 9.8 and 3.8 respectively. The overall mean and standard deviation for OA scores in this study was approximately 7.5 and 3.0. In Crick and Grotpeter's (1995) study, the mean and standard deviation for their non-aggressive group for RA was 9.1 and 3.4 respectively and for OA 7.2 and 2.9 respectively. For the girls in this study, the mean and standard deviation for RA and OA was 9.2 (3.1) and 7.4 (3.1) respectively. For the boys in this study, the mean and standard deviation for RA and OA was 9.6 (3.9) and 7.6 (2.9) respectively. The means for boys with EBD were higher than the means for girls with EBD in both the RA and OA categories (see Table 6).

Table 6

Means and Standard Deviations for Dependent Variables (RA and OA) by Gender

| Gender | Score | | | |
|--------|-------|-----|------|-----|
| | RA | | OA | |
| | Mean | SD | Mean | SD |
| Female | 9.2 | 3.1 | 7.4 | 3.1 |
| Male | 9.6 | 3.9 | 7.6 | 2.9 |

It was hypothesized that the percentage of girls with EBD who are RA would be higher than the percentage of boys with EBD and that approximately equal percentages of each gender would be OA. In this study, the percentage of boys who were RA was not significantly higher than the percentage of girls (30.21% of the boys vs. 14.71% of the girls) with a chi square ($n = 130$) = 3.12, $p = .08$. The percentage of boys who were OA was not significantly lower than the percentage of girls (22.92% of boys vs. 23.53% of girls) with a chi square ($n = 130$) = .01, $p = .94$. Contrary to the findings in Crick and Grotperter (1995), the difference between the percentage of boys with EBD and the percentage of girls with EBD that scored one standard deviation above the mean for RA and for OA was not significant.

Does gender and/or age predict RA and/or OA for students with EBD? Is there a relationship between cognitive ability (IQ) and RA or OA with students with EBD?

In order to address research question three, “Does gender and/or age predict RA and/or OA for students with EBD?” and question four, “Is there a relationship between cognitive ability (IQ) and RA or OA with students with EBD?” two analysis were conducted. First, Pearson - r was calculated for each criterion variable RA, OA, VPA and

EXA as it relates to each predictor variable, age and IQ. Second, multiple regression analysis was conducted to examine if the predictor variables age, gender and IQ are independently related to the criterion variables, RA, OA, VPA and EXA.

Pearson-r with OA and RA criterion variables

To examine if age, gender or IQ had a relationship to RA or OA, a correlation coefficient was determined for each predictor variable as it related to each of the criterion variables. The Pearson-r correlation coefficients and their levels of significance are presented in Table 7 for each of the criterion variables (RA and OA). The significant Pearson-r correlation coefficients achieved were $r = -0.175$ ($p = 0.047$) depicting a negative relationship between age and OA, $r = -0.281$ ($p = 0.001$) depicting a negative relationship between IQ and RA, and $r = -0.177$ ($p = 0.044$) depicting a negative relationship between IQ and OA. The relationship between age and RA ($r = -0.05$, $p = 0.60$) was not significant. The three significant relationships identified in this analysis were negative relationships between age and overt aggression (OA), IQ and relational aggression (RA) and IQ and overt aggression (OA).

Table 7

Pearsons-r Correlation Coefficients and Significance Levels for Age and IQ and RA and OA Scores

| Predictor Variables | Criterion Variables | |
|---------------------|----------------------|----------------------|
| | RA | OA |
| Age | -0.047 p = 0.598 | -0.175 p = 0.047* |
| IQ | -0.281 p = 0.001* | -0.177 p = 0.044* |

* p < 0.05 significance level

Pearson-r for VPA and EXA criterion variables

To examine if either age or IQ had a relationship with the two new criterion variables, VPA and EXA, a Pearson-r correlation coefficient was determined for each predictor variable as it related to each of the new criterion variables. Two correlations were significant. The relationship between IQ and VPA with $r = -0.235$ ($p = 0.007$) was significant and negative. The relationships between IQ and EXA with $r = -0.170$ ($p = 0.053$), the relationship between age and VPA with $r = -.0125$ ($p = 0.157$) and between age and EXA with $r = -0.007$ ($p = 0.940$) were not significant (see Table 8).

Table 8

Pearson -r Correlation Coefficients and Significance Levels for VPA and EXA and RA and OA Scores

| Predictor Variables | Criterion Variables | |
|---------------------|----------------------|---------------------|
| | VPA | EXA |
| Age | -0.125 p = 0.157 | -0.007 p = 0.940 |
| IQ | -0.235 p = 0.007* | -0.170 p = 0.053 |

* p < 0.05 significance level

Multiple Regression with RA and OA criterion variables

The data was further examined for relationships between the predictor variables gender, age, and IQ and the criterion variables RA and OA using multiple regression analysis. Multiple regression analysis was conducted with RA designated as the criterion variable and gender, age and IQ designated as the predictor variables and the data was examined for their combined effect. With RA as the criterion variable, there was a significant main effect with approximately 9.1 % of the variability accounted for by the combined predictor variables gender, age and IQ (R-square = 0.091, p = 0.007, F = 4.21, DF = 3) (see Table 9). Multiple regression analysis was conducted with RA designated as the criterion variable and gender, age and IQ designated as the predictor variables and the data was examined for their independent effects. There was no significant effect for gender or age (p = .32 and p = .60 respectively). However, there was a significant main effect for IQ and RA with approximately 7.95% of the variability in RA accounted for by

IQ ($p=.001$). In this relationship, the coefficient $b=-.073$ designates an inverse relationship between IQ and RA (see Table 10).

Table 9

R² Achieved Through Simultaneous Multiple Regression Analysis: RA and OA as Criterion Variables; Age, Gender and IQ as Predictor Variables

| Predictor Variables | Criterion Variables | | | |
|--------------------------|---------------------|--------------|----------------|--------------|
| | RA | | OA | |
| | R ² | Significance | R ² | Significance |
| Age, Gender, IQ Combined | .091 | .007 | .056 | .064 |
| Age | .002 | .598 | .031 | .047 |
| Gender | .008 | .317 | .000 | .811 |
| IQ | .080 | .001 | .031 | .044 |

Table 10

Results of Multiple Regression Analysis for Criterion Variable RA

| Predictor Variable | R ² | p | b | t | sig t |
|--------------------|----------------|-------|---------|-------|-------|
| Age | .0022 | .5979 | -.06336 | -.53 | .5979 |
| Gender | .0078 | .3168 | -.75245 | -1.01 | .3168 |
| IQ | .0795 | .0012 | -.07082 | -3.33 | .0012 |

Multiple regression analysis was conducted with OA as the designated criterion variable and gender, age and IQ the designated predictor variables and the data was examined for their combined effect. There was no significant main effect ($p = .064$) when the criterion variables were combined for the analysis (see Table 9). Multiple regression analysis was conducted with OA as the criterion variable and gender, age and IQ as the predictor variables and the data was examined for their independent effects. There was no significant main effect for gender and OA ($p = .81$). There was a significant main effect for age and OA with approximately 3.1% of the variability in OA accounted for by age ($p = .047$). There also was a significant main effect for IQ and OA with approximately 3.1% of the variability in OA accounted for by IQ ($p = .044$). In these relationships, the coefficient $b = -0.19$ for age and $b = -0.04$ for IQ designates an inverse relationship between OA and each of the predictor variables (see Table 11).

Table 11

Results of Multiple Regression Analysis for Criterion Variable OA

| Predictor Variable | R ² | p | B | t | sig t |
|--------------------|----------------|-------|---------|-------|-------|
| Age | .0305 | .0470 | -.18699 | -2.01 | .0470 |
| Gender | .0004 | .8109 | -.14216 | -.24 | .8109 |
| IQ | .0314 | .0438 | -.03509 | -2.04 | .0438 |

Multiple Regression with VPA and EXA criterion variables

Multiple regression analysis was conducted with the new variable physical/verbal aggression (VPA) as the criterion variable and gender, age and IQ as the predictor variables, and the data was examined for their combined effect. There was no significant main effect ($p = .064$) when the criterion variables were combined for the analysis. There was a significant main effect (R-square = 0.067, $p = 0.033$, $F = 3.00$, $DF = 3$) for the three predictors with approximately 7% of the variability of VPA accounted for by the variables gender, age and IQ combined (see Table 12). There was no significant effect for gender or age, however, there was a significant main effect for IQ and VPA ($p=.010$). In this relationship, the coefficient $b=-0.013$ designates an inverse relationship between IQ and VPA.

Table 12

R² Achieved Through Simultaneous Multiple Regression Analysis: VPA and EXA as Criterion Variables; Age, Gender and IQ as Predictor Variables

| Predictor Variables | Criterion Variables | | | |
|--------------------------|---------------------|--------------|----------------|--------------|
| | VPA | | EXA | |
| | R ² | Significance | R ² | Significance |
| Age, Gender, IQ Combined | .0667 | .0331 | .0419 | .1426 |
| Age | .0156 | .1567 | .0000 | .9396 |
| Gender | .0020 | .6144 | .0095 | .2705 |
| IQ | .0556 | .0072 | .0289 | .0530 |

Multiple regression analysis was conducted with VPA as the criterion variable and gender, age and IQ as the predictor variables and the data was examined for their independent effects. There was no significant effect for gender or age ($p = .16$ and $p = .61$ respectively). However, there was a significant main effect for IQ and VPA with approximately 5.56% of the variability in VPA accounted for by IQ ($p=.007$). In this relationship, the coefficient $b=-.014$ designates an inverse relationship between IQ and VPA (see Table 13).

Table 13

Results of Multiple Regression Analysis for Criterion Variable VPA

| Predictor Variable | R ² | p | B | t | sig t |
|--------------------|----------------|-------|---------|-------|-------|
| Age | .0156 | .1567 | -.03968 | -1.42 | .1567 |
| Gender | .0020 | .6144 | -.08873 | -.51 | .6144 |
| IQ | .0550 | .0072 | -.01379 | -2.73 | .0072 |

A multiple regression analysis was conducted with the new variable exclusion type aggression (EXA), designated as the criterion variable and gender, age and IQ designated as the predictor variables and the data was examined for their combined effect. There was no significant main effect (R-square = 0.042, $p = 0.143$, $F = 1.84$, $DF = 3$) for the three predictors combined (see Table 12).

Multiple regression analysis was conducted with EXA designated as the criterion variable and gender, age and IQ designated as the predictor variables and the data was examined for their independent effects (see Table 14). There was no significant effect for gender or age or IQ ($p = .27$, $p = .94$ and $p = .05$ respectively).

Table 14

Results of Multiple Regression Analysis for Criterion Variable EXA

| Predictor Variable | R ² | p | B | t | sig t |
|--------------------|----------------|-------|---------|-------|-------|
| Age | .0000 | .9396 | -.00236 | -.08 | .9396 |
| Gender | .0095 | .2705 | .19380 | -1.11 | .2705 |
| IQ | .0289 | .0530 | -.01107 | -1.95 | .0530 |

CHAPTER V

In this chapter, an overview of the research design and findings is provided. The limitations of this study are then described. Finally, conclusions are presented followed by recommendations for future research.

Overview

In this study, relational and overt aggression, among adolescent boys and girls with emotional/behavioral disorders (EBD) in special school settings, were measured by the Children's Social Behavior Scale -Self Report (CSBS-S) (Crick & Grotpeter, 1995). First, an analysis of the instrument was conducted to determine if two distinct factors for relational aggression (RA) and overt aggression (OA) emerged with students with EBD. Second, a descriptive analysis was conducted to determine if students with EBD exhibited RA and/or OA. Third, correlation and multiple regression analysis were conducted to examine any relationships between the dependent variables, RA and OA and the independent variables, age, gender and cognitive ability (IQ).

Study Design

Parents of 337 eligible students in seven, non-public, co-educational, special education schools were contacted and 149 (44.2%) responded allowing their children to participate. Out of the 149 potential participants, 130 (87.2%) (97 boys and 33 girls) actually participated by completing the CSBS-S during the school day. Gender, birth date, IQ scores, achievement scores (when available) and ethnicity information was collected from the student files or provided by the school principals.

To determine if the factor structure of the CSBS-S replicated with students with EBD, Pearson's r correlation, Cronbach's alpha and a principal components factor analysis using VARIMAX and then PROMAX rotation were conducted. To determine if students with EBD exhibited RA and/or OA, descriptive analysis procedures similar to those used by Crick and Grotpeter (1995) were used in this study. In order to learn more about the relationship between the predictor variables (gender, age and IQ) and the criterion variables (relational aggression and overt aggression), a multiple regression analysis was conducted for each of the criterion variables.

Findings

Analysis of the CSBS-S

The principal components factor analysis with both VARIMAX (orthogonal rotation) and PROMAX rotation (oblique rotation) revealed that RA and OA did not emerge as two distinct factors in the CSBS-S for students with EBD. The VARIMAX rotation yielded two factors which together accounted for 57% of the item variance; the two factors, however, cross loaded on three items (see Table 3). Because the two factors identified in this analysis cross loaded on three items, a principal components factor analysis with PROMAX rotation was conducted. The PROMAX rotation also yielded two factors; while the two factors cross loaded on one item, both values were <0.40 (see Table 4), which presented a better simple structure. These findings are not consistent with Crick and Grotpeter's (1995), Crick and Werner's (1998) or Marsee's (2003) findings, where two distinct factors for RA and OA emerged with Eigen values greater than one. Upon examining the items that loaded on each of the two factors in the current study, it was determined that one of the factors included items that exhibited physical and verbal

aggression, and the other factor included items that exhibited exclusionary types of behavior. Thus, two, new, dependent variables were identified, verbal/physical aggression (VPA) and exclusion type aggression (EXA). When possible, the analysis included these two, new, variables.

The findings reported here suggest that the CSBS-S does not measure RA and OA among boys and girls with EBD in a special school setting because the factor structure described by previous research was not replicated in the current study. It is important to note, however, that in the previous studies the participants were students in a regular school setting, not in a special school setting for behavior/emotional disorders and were not identified as EBD. Also, since the two factors RA and OA did not emerge in the factor analysis in this study, the data with regard to RA and OA was not useable. Alternatively, it may be that the lower number of participants and wider age range of the participants in the current study impacted the factor structure of the CSBS-S. Additionally, it may be that students with EBD in a special school setting do not distinguish between relational aggression and verbal aggression and/or physical aggression.

It is also important to note that the CSBS-S consisted of 15 items and included six subscales assessing relational aggression (5 items), physical aggression (2 items), prosocial behavior (4 items), verbal aggression (1 item), inclusion (2 items), and loneliness (1 item) (Crick & Grotpeter, 1995). In four of the subscales, there were two or less items. These are very small numbers to comprise an entire subscale attempting to measure concepts that are already moderately correlated. According to Devaellis, R. (2003), “psychometrics has evolved as the subspecialty concerned with measuring

psychological and social phenomena”, (p. 3) the common measurement procedure is using the questionnaire where the variables of interest are usually a part of a larger theoretical framework. The CSBS-S is a questionnaire and the variables RA and OA are part of a larger theoretical framework, aggression.

Also, according to Clark and Watson (1995), scale developers need to make sure that the concepts are well represented in the initial pool of items that comprise the questionnaire. If there are only one or two items covering a particular concept, then the chances of this content being included in the final questionnaire are reduced (Clark & Watson, 1995). It is recommended that the proportion of items for each subscale be proportional to the importance of the concept that is targeted by the items (Loevinger, 1957). In the CSBS-S, it appears that the proportion of items for some of the subscales is quite small, and in this study only nine items from three subscales (relational aggression, verbal aggression and physical aggression) were scored and analyzed. This may have affected the validity of the instrument in this study.

VPA and EXA Variables

According to Crick and Grotpeter (1995), relational aggression is a distinct type of aggression, and is exhibited more by girls than boys. Crick and Grotpeter developed an instrument, the CSBS-S, which was a reliable and valid measure of RA and OA with a population of students in a regular school setting. Although the factor structure did not replicate in this study with students with EBD, two distinct factors, identified here as verbal/physical aggression (VPA) and exclusion type aggression (EXA) did emerge. These two variables can expand the scope of our understanding how students with EBD experience aggression.

Upon examining the items that were associated with the two new factors, it was clear that the physical and verbal items were grouped as one factor (VPA) and exclusion type items were grouped as another other factor (EXA) (see Table 3). It may be that students with EBD in a special school setting do not differentiate between verbal and physical aggression but do view exclusionary types of aggression as different. Three RA items where the behavior was described as keeping a person out of the play group loaded on the EXA variable, and three RA items and three OA items where the behavior was described as verbally or physically acting out anger loaded on the VPA variable. The one RA item that loaded on both the EXA and VPA variable described a behavior of telling lies about another child so that others won't like that child. This item appears to be both verbal and exclusionary in nature. The delineation of items under the VPA and EXA factors supports the theory that students with EBD in a special school setting may not differentiate between relational aggression and overt aggression but instead differentiate between verbal/physical aggression and exclusionary aggression.

The ability to see the differences in aggression types and ultimately make better choices between these aggression types, can benefit students with EBD. Further research examining the way in which students with EBD view and differentiate between aggressive behaviors could provide a more in-depth understanding of students with EBD. VPA and EXA describe two different aggressive types of behavior that are overt and covert, respectively, and were identified in the current study with students with EBD.

Pearson's r

The Pearson's r correlation between RA and OA in the current study yielded an r value of .56, $p < .05$. This value was similar to the r values found by Crick and Grotpeter

(1995), where the r value was determined to be .54, $p < .05$. In this study, the Cronbach's alpha for RA and OA was determined to be .71 and .75, respectively. These values indicated an acceptable reliability for research purposes, and were similar to Crick and Grotmeter's (1995) alphas of .69 for RA and .69 for OA. However, the alphas in this study were a little lower than the alphas determined by Crick and Werner (1998). Crick and Werner's alphas ranged between .82 and .89 for RA and between .94 and .97 for OA. Again, the alphas from the current study were also a little lower than those found by Marsee (2003). Her alphas were .92 for RA and .93 for OA. Although the alphas and the Pearson- r values in the current study were similar to those in previous research, there was no validity of RA and OA with this instrument and this population. Therefore, the two variables RA and OA are not useable in the current study.

Students with EBD and RA or OA

Crick and Grotmeter's (1995) scoring procedure was implemented to obtain the descriptive statistics. The following results are based on the data collected on the CSBS-S which in this study, with students with EBD, did not yield two distinct factors, RA and OA. Thus, it is not clear that these findings provide meaningful results. In this study, 26.15% of students scored one standard deviation above the mean in the RA subscale and 23.08% scored one standard deviation above the mean in the OA subscale. The overall mean and standard deviation for RA scores were approximately 9.8 and 3.8 respectively, and the overall mean and standard deviation for OA scores was approximately 7.5 and 3.0 respectively. These means and standard deviations were very similar to those obtained by Crick and Grotmeter (1995), where the mean and standard deviation for RA

scores were 9.1 and 3.4 respectively and the mean and standard deviation for OA scores was 7.2 and 2.9 respectively.

In the current study, the percentage of boys who were RA was higher (30.21%) than the percentage of girls who were RA (14.71%). However, the difference was not significant with chi square ($n=130$) = 3.12, $p = .08$; the percentage of boys who were OA (22.92) was almost the same as the percentage of girls who were OA (23.53%), and the difference was not significant with chi square ($n=130$) = .01, $p = .94$. For girls, the mean and standard deviation for RA and OA was 9.2 (3.1) and 7.4 (3.1) respectively. For the boys, the mean and standard deviation for RA and OA was 9.6 (3.9) and 7.6 (2.9) respectively. These findings are contrary to those found by Crick and Grotpeter (1995), where significantly more girls than boys were found to be RA. In Crick and Grotpeter's (1995) study, the percentage of boys who were RA was approximately 2.0% and the percentage of girls who were RA was approximately 17.4% and the percentage of boys that were OA was 15.6% and the percentage of girls that were OA was approximately 0.4%. However, these findings are not contrary to Hennington, Hughes, Thompsom and Cavell's (1998) study where researchers attempted to "determine gender differences in levels and correlates of relational and overt aggression in children in early elementary grades" (p.458). Teachers in regular education classrooms identified two or three children who behaved aggressively to participate in this study. Of the 904, second and third grade, identified students, 461 were boys and 443 were girls. Through a peer-nominating instrument, the student participants nominated three peers that were considered to be relationally aggressive and three peers that were considered to be overtly aggressive.

The results indicated that there were no difference between boys and girls with respect to relational aggression or overt aggression.

The conflicting results may be attributed to the CSBS-S, which did not replicate with students with EBD. These results were obtained using the CSBS-S instrument and in the current study the two factors, RA and OA did not emerge as two distinct factors. These findings are thus limited due to the validity of this instrument with students with EBD in this study. Additionally, in the current study, approximately 26% of the participants were girls and 74% were boys, and the age range was 7 to 20 years old, much larger than the age range in Crick and Grotpeter's (1995) study. In Crick and Grotpeter's study, approximately 48% of the participants were girls and approximately 52% of the participants were boys, and the age range was approximately 8 years old to 11 years old. Approximately 37% of their sample was African-American, 60% was European-American, and 3% was made up of other ethnic groups, and none of the sample was identified as EBD. In the current study, approximately 62.3% of the sample was African-American and 37.7% was caucasian and all students were identified as EBD. Their schools were located in a medium size town in the mid-west where the SES ranged from low to medium with the bulk of the families in the low range. The students in this study were in regular education classrooms in their public schools and were not identified as being EBD.

A possible implication of these results is that aggressive boys and girls who are identified as EBD and recommended for special school settings maybe identified mainly because of overtly aggressive behaviors. Because OA and RA are related, children in special school settings may be exhibiting overt aggression and relational aggression on a

more equal basis from the on-set. If this is the case, then the population in this study is starting out as equally aggressive in both the RA and OA categories. As described earlier, students who are placed into a special school setting are exhibiting behaviors that could not be supported in a regular school setting and are observed over a long period of time. RA behaviors are not as readily observable as OA behaviors, thus it may be that students who only exhibit RA are not being placed into special school settings. Although RA is distinct from OA, they are related and girls and boys who are in a special school setting may be exhibiting both overt behaviors (OA) and relationally aggressive behaviors (RA) on a more equal basis.

Gender, Age, IQ and RA and OA

It was hypothesized that gender would be a predictor for RA and OA for students with EBD. Several researchers reported that in a regular school setting, boys were significantly more OA than girls and girls were significantly more RA than boys (Crick & Grotpeter, 1995; Crick, 1997; Crick, Bigbee & Howes, 1996). It was also hypothesized that age would also be related to RA and OA. Various researchers examined how age impacted aggression and found that older girls viewed RA as more normal than younger girls, and that aggression was more often used in mid-adolescence than pre-adolescence (Crick, Bigbee & Howes, 1996; Lindeman, Harakka and Keltikangas-Jarvinen, 1997). Additionally, it was hypothesized that IQ would be related to RA and OA.

Pearson's r was calculated to examine if age, gender or IQ had a relationship to RA, OA, VPA and EXA. Five significant relationships identified in this analysis were inverse relationships between age and OA, IQ and RA, IQ and OA, and IQ and VPA, and IQ and EXA (see Table 7). To further examine relationships between the predictor

variables, age, gender and IQ, and the criterion variables RA, OA, VPA and EXA, multiple regression analysis was conducted.

Multiple regression analysis was conducted for the criterion variables (RA, OA, VPA and EXA) and the data were examined for their independent and combined effects of the predictor variables. Examining for the independent effects of the predictor variables, there were five significant relationships. However, the percent of the variability accounted for by the predictor variables were small, all under 10% (Cohen, 1988). There was a significant effect for IQ and RA with approximately 7.95% of the variability in RA accounted for by IQ ($p = .001$). There was a significant effect for IQ and OA with approximately 3.1% of the variability in OA accounted for by IQ ($p = .044$). There was a significant effect for IQ and VPA with approximately 5.56% of the variability in VPA accounted for by IQ ($p = .007$), and there was a significant effect for IQ and EXA where 2.9% of the variability in EXA was accounted for by IQ ($p = 0.41$). Additionally, there was a significant main effect for age and OA with approximately 3.1% of the variability in OA accounted for by age ($p = .047$). The coefficient $b = -0.19$ for age designates an inverse relationship between age and OA, interpreted to signify that as age increases, OA decreases.

Multiple regression analysis was conducted for each criterion variables (RA, OA, VPA and EXA) and the data was examined for the combined effect of the predictor variables (gender, age, IQ). There were two significant relationships identified, however, the percent of the variability accounted for by these two predictor variables was small, both under 10% (Cohen, 1988). There was a significant main effect with approximately 9.1% of the variability accounted for by the combined predictor variables, age, gender

and IQ and RA (R-square = 0.091, $p = 0.007$, $F = 4.21$, $DF = 3$). There was a significant main effect with approximately 7% of the variability accounted for by the combined predictor variables and VPA (R-square = 0.067, $p = 0.033$, $F = 3.00$, $DF = 3$).

The outcomes of the multiple regression analysis suggest that IQ independently has a relationship with all of the aggression types examined in the current study (RA, OA, VPA, EXA). The relationships were inverse with all four aggression types suggesting that as IQ increases, aggression decreases. IQ accounted for 7.95% of the variability in RA suggesting that IQ was a stronger predictor for RA than for the other three aggression types. Because IQ did predict for all four aggression types in the current study, further research on the relationship between cognitive ability and aggression, specifically RA, could enhance current research. Schlossman and Cairns (1993) reported that as girls age, there is an increase in their ability to process more complex social relationships depicting an increase in social intelligence. Research that examines the relationships between social intelligence and aggression could expand our understanding of students with EBD and aggressive behavior.

Age was also found to be independently and inversely related to OA suggesting that as children become older, they participate in overt aggression less frequently. It is possible that as children age they learn to minimize their overt behaviors and implement less obvious behaviors when aggressive. Henington, Hughes, Cavell and Thompson (1998) reported that girls between the ages of 8 and 11 appear to increase their reliance on relational aggression, explaining the inverse relationship found in the current study between age and overt aggression. Future research studies on age, developmental stages and aggression are necessary to understand these relationships. Future studies, similar to

the current study, should involve a greater number of participants in each age group to help identify the ages at which overt behaviors transition into covert behaviors. This type of research could assist in the development of aggression prevention strategies for children of all ages and throughout their developmental stages.

Limitations

A limitation of this study was the number of participants and further, the number of participants in each age group. Although 130 students with EBD was an adequate sample size to conduct a factor analysis, a larger number of participants may have altered the factor structure of the CSBS-S. Additionally, the small number of participants in each age group may have impacted the ability to measure the relationship between age and the criterion variables in the multiple regression analysis. In some age groups there was only one participant. In age group 7, 8, 18, 19, and 20, there were 2, 3, 2, 1, and 1 participant(s), respectively. The greatest numbers of participants were in the 10, 11, 12, 13, 15, and 17 age groups, with 18, 15, 21, 14, 16, and 11, respectively. Also, students who participated in the current study had obtained permission from their parent or guardian to participate. There may be differences that existed between the participants who were given permission and those that were not given permission or did not assent. This difference may have impacted the results of this study.

Another limitation in the current study is that the CSBS-S consists of 15 items, 5 make-up the subscale for RA, and only 3 make-up the subscale for OA. Re-examining the CSBS-S and developing more items to increase the robustness of the instrument may improve its ability to replicate with participants with EBD. Additionally, the questions in the survey, as worded by Crick, may not be appropriate and recognizable students from

an urban setting. In addition to adding more questions for each subscale, the questions could be re-worded using the language that is familiar to students from urban areas. Additionally, Crick's study takes place in 1995 and this study takes place in 2005, a ten year difference. Girls may have become more overtly aggressive and more like boys over this ten year period, explaining the similar scores for boys and girls.

Finally, there may be a need to more fully explore the differences between students with EBD who come to the special school setting and participated in this study and the students in the regular education classroom that participated in Crick and Grotmeter's (1995) study. The students in the special school setting may have already been identified for behaviors that are being measured by the CSBS-S. This is a limitation of this study and may partially explain the findings in this study and why they contradict Crick and Grotmeter's (1995) findings. On the other hand, students who are identified as EBD may exhibit many other disorders which may not be aggressive in nature. Students who are suffering from depression or school phobia could also be identified as EBD. Research has confirmed that although more boys are identified as EBD, many aggressive behaviors are also problems of girls (Talbot & Callahan, 1997). This may explain why only one quarter of the sample, for both boys and girls, was above the normative range when compared to Crick and Grotmeter's (1995) data.

Teachers were asked to read aloud the questions to their class and then collect the response sheets. The class sizes were generally small, eight to ten students in a classroom. The class size and the teacher participation may have impacted the validity of the instrument. Some students may have completed the instrument impacted by the fear of losing anonymity. Results from this study may reflect this limitation.

Conclusion

The purpose of this study was to (a) determine if the CSBS-S replicated with students with EBD, (b) determine if boys and girls with EBD exhibit RA and/or OA, (c) determine if girls exhibited RA more than boys, (d) examine if there was a relationship between the independent variables gender, age and IQ and the dependent variables RA and OA. It may be concluded that (a) the CSBS-S did not replicate with students with EBD in a special school setting, (b) RA and OA among students with EBD could not be measured with confidence, (c) gender differences could not be measured with confidence and (d) the only significant relationships between the independent and dependent variables were between age and the dependent variable OA, and IQ and all of the dependent variables (RA, OA, and the new dependent variables VPA and EXA).

The CSBS-S requires additional refinement and further testing. In total, the CSBS-S consists of 15 items and only 8 items were examined in this study. Additional items should be added to improve the robustness of the instrument and improve the validity of the instrument, especially with students with EBD. There are contradictory findings, as discussed in the literature review of this paper, when using the CSBS-S, however one of the many possible reasons for these contradictory findings maybe the poor psychometric qualities of this instrument.

Additionally, the language used in the CSBS-S items should be changed to improve the instrument. The items, as they currently are, tend to ask questions using language that some students may not recognize. For example, the items refer to play groups and peer groups and the language could be changed to more current student language, for example, using the phrase “those you hang out with” instead of play group.

Understanding the way in which students interpret various types of aggression and choose to engage in various types of aggression is important in developing interventions and preventions for aggressive behaviors. However, this study does not provide any insight in to the development of preventative measures or appropriate interventions.

Aggression, according to Lindeman, Harakka and Keltikangas-Jarvinen (1997), was least often used in preadolescence, and it was most often used in mid-adolescence. Crick, Bigbee and Howes (1996) found that, for girls, normative beliefs about angry behavior changed with age. In the current study, age was not a predictor for RA, VPA or EXA. Age was, however, a predictor variable for OA and accounted for 3.1% of the variance in OA. As the age of participants increased, overt, physical aggression decreased.

Andrews, et al, (1992) stated that a girl's cognitive processing pattern may affect her tendency toward relational types of aggression however this may be the case with more than just relational types of aggression. The findings in this study showed that cognitive ability (IQ) was a predictor for all four types of aggression, RA, OA, VPA and EXA. In each case, as IQ increased, the various aggression types decreased. An inverse relationship existed between IQ and relational aggression, overt aggression, physical/verbal aggression and exclusionary type aggression. In each case, as the participants IQ increased, the aggressive behaviors decreased. A future research goal might be to examine social/cognitive processing skills of students with EBD to explore how students with EBD perceive social cues.

One goal of future research would be to examine if students with EBD differentiate between and identify various types of aggression. Students with EBD who

can identify the types of aggressions that they are engaged in can be better helped with more appropriate interventions that specifically address their type of aggression. Future research should replicate the current study with a larger population of students with EBD. With a larger sample size, the CSBS-S may replicate with students with EBD and it could be determined if students with EBD exhibit RA as a distinct behavior from OA. If students with EBD do exhibit RA, future research can examine the impact of RA on boys compared to girls. If it is found that students with EBD do not differentiate between RA and OA, it may be that other factors are identified. The new factors may describe the types of aggression that students with EBD engage in and are able to identify. Once practitioners understand the way in which students with EBD understand aggression, appropriate interventions can be developed. Ultimately, if there are more participants in each age group, future research could help assess if age is a predictor of RA and/or OA or other types of aggression. If research findings identify age ranges where certain types of aggressions transition into others, then appropriate and timely interventions could provide students with EBD effective support.

Another goal for future research would be to examine if intelligence, cognitive or social, predicts the type of aggression students with EBD exhibit. The current study outcomes suggest that IQ does predict RA, OA, VPA and EXA. Research in which cognitive and social intelligence are predictor variables and aggression types are criterion variables could help practitioners understand the student with EBD and the behavior areas that require skill building.

Finally, future research examining the differences in aggression between boys and girls with EBD, specifically, if girls and boys differ in the way they perceive aggression

and in turn exhibit aggression, could further enhance our understanding of students with EBD. There was no significant difference between boys and girls and the incidence of RA or OA in the current study. However, this data is not useable. The CSBS-S did not replicate and two distinct factors, for RA and OA, did not emerge. A similar study with a larger sample size could help to determine the nature of the relationship between gender and aggression type. Additionally, this study should include observations, focus groups and individual interviews in order to more accurately capture the differences in types of aggressions exhibited by girls and boys. These methods could also provide insight for intervention and prevention. By determining what variables impact aggressive behaviors, appropriate and effective interventions and ultimately, preventative measures can be developed to help support students with EBD.

In the current study, the two new factors identified were Verbal/Physical Aggression (VPA) and exclusion type aggression (EXA). A further look at the exclusion type of aggression, which may be related to ostracism, is important. Was it that years ago, girls were able to achieve ostracism through relational aggression covertly and currently girls can ostracize overtly? This behavior can be examined more fully, and include age as a variable in future research with girls. As noted in the literature review of this paper, girls have long been absent from this kind of research.

APPENDIX A

CSBS-S v. Crick & Grotmeter, 1995

Children's Social Behavior Scale – Self Report

The following measure is the Children's Social Behavior Scale. This measure was adapted from the CPRS which was first described as follows:

Crick, N.R. (April, 1991). *Subgroups of Neglected and Rejected Children*. Paper presented at the biennial meeting of the Society for Research in Child Development, Seattle.

And further modified and presented in:

Crick, N. R., & Grotmeter, J. K. (1995). Relational aggression, gender, and social-psychological adjustment. *Child Development*, 66, 710-722.

After publication of the above article, the newest version of the CPRS was renamed CSBS-P to more accurately reflect its unique orientation.

In this measure children are asked to report how often they engage in various aggressive and prosocial behaviors.

Subscales:

Relational Aggression: Items #1, 2, 4, 10, 12

Physical Aggression: Items #5, 9

Prosocial Behavior: Items #3, 6, 7, 14

Verbal Aggression: Items #8

Inclusion: Items #11,15

Loneliness: Items # 13

Internal Uses:

School Buddies

Things I Do At School

We are interested in how kids get along with one another. Please think about your relationship with other kids and how often you do these things while you're with them.

1. Some kids tell lies about a classmate so that the other kids won't like the classmate anymore. How often do you do this?

| | | | | |
|------------|-------------------|----------------|--------------------------|-------------------|
| Never 1 | Almost Never 2 | Sometimes 3 | Almost All The Time 4 | All The Time 5 |
|------------|-------------------|----------------|--------------------------|-------------------|

2. Some kids try to keep certain people from being in their group when it is time to play or do an activity. How often do you do this?

| | | | | |
|------------|-------------------|----------------|--------------------------|-------------------|
| Never 1 | Almost Never 2 | Sometimes 3 | Almost All The Time 4 | All The Time 5 |
|------------|-------------------|----------------|--------------------------|-------------------|

3. Some kids try to cheer up other kids who feel upset or sad. How often do you do this?

| | | | | |
|------------|-------------------|----------------|--------------------------|-------------------|
| Never 1 | Almost Never 2 | Sometimes 3 | Almost All The Time 4 | All The Time 5 |
|------------|-------------------|----------------|--------------------------|-------------------|

4. When they are mad at someone, some kids get back at the person by not letting the person be in their group anymore. How often do you do this?

| | | | | |
|------------|-------------------|----------------|--------------------------|-------------------|
| Never 1 | Almost Never 2 | Sometimes 3 | Almost All The Time 4 | All The Time 5 |
|------------|-------------------|----------------|--------------------------|-------------------|

5. Some kids hit other kids at school. How often do you do this?

| | | | | |
|------------|-------------------|----------------|--------------------------|-------------------|
| Never 1 | Almost Never 2 | Sometimes 3 | Almost All The Time 4 | All The Time 5 |
|------------|-------------------|----------------|--------------------------|-------------------|

6. Some kids let others know that they care about them. How often do you do this?

| | | | | |
|------------|-------------------|----------------|--------------------------|-------------------|
| Never 1 | Almost Never 2 | Sometimes 3 | Almost All The Time 4 | All The Time 5 |
|------------|-------------------|----------------|--------------------------|-------------------|

7. Some kids help out other kids when they need it. How often do you do this?

| | | | | |
|------------|-------------------|----------------|--------------------------|-------------------|
| Never 1 | Almost Never 2 | Sometimes 3 | Almost All The Time 4 | All The Time 5 |
|------------|-------------------|----------------|--------------------------|-------------------|

8. Some kids yell at others and call them mean names. How often do you do this?

| | | | | |
|------------|-------------------|----------------|--------------------------|-------------------|
| Never 1 | Almost Never 2 | Sometimes 3 | Almost All The Time 4 | All The Time 5 |
|------------|-------------------|----------------|--------------------------|-------------------|

9. Some kids push and shove other kids at school. How often do you do this?

| | | | | |
|------------|-------------------|----------------|--------------------------|-------------------|
| Never 1 | Almost Never 2 | Sometimes 3 | Almost All The Time 4 | All The Time 5 |
|------------|-------------------|----------------|--------------------------|-------------------|

10. Some kids tell their friends that they will stop liking them unless the friends do what they say. How often do you tell friends this?

| | | | | |
|------------|-------------------|----------------|--------------------------|-------------------|
| Never 1 | Almost Never 2 | Sometimes 3 | Almost All The Time 4 | All The Time 5 |
|------------|-------------------|----------------|--------------------------|-------------------|

11. Some kids have a lot of friends in their class. How often do you have a lot of friends in your class?

| | | | | |
|------------|-------------------|----------------|--------------------------|-------------------|
| Never 1 | Almost Never 2 | Sometimes 3 | Almost All The Time 4 | All The Time 5 |
|------------|-------------------|----------------|--------------------------|-------------------|

12. Some kids try to keep others from liking a classmate by saying mean things about the classmate. How often do you do this?

| | | | | |
|------------|-------------------|----------------|--------------------------|-------------------|
| Never 1 | Almost Never 2 | Sometimes 3 | Almost All The Time 4 | All The Time 5 |
|------------|-------------------|----------------|--------------------------|-------------------|

13. Some kids wish that they had more friends at school. How often do you feel this way?

| | | | | |
|------------|-------------------|----------------|--------------------------|-------------------|
| Never 1 | Almost Never 2 | Sometimes 3 | Almost All The Time 4 | All The Time 5 |
|------------|-------------------|----------------|--------------------------|-------------------|

14. Some kids say or do nice things for other kids. How often do you do this?

| | | | | |
|------------|-------------------|----------------|--------------------------|-------------------|
| Never 1 | Almost Never 2 | Sometimes 3 | Almost All The Time 4 | All The Time 5 |
|------------|-------------------|----------------|--------------------------|-------------------|

15. Some kids have a lot of classmates who like to play with them. How often do the kids in your class like to play with you?

| | | | | |
|------------|-------------------|----------------|--------------------------|-------------------|
| Never 1 | Almost Never 2 | Sometimes 3 | Almost All The Time 4 | All The Time 5 |
|------------|-------------------|----------------|--------------------------|-------------------|

APPENDIX B

Revised on September 13, 2004

PARENTAL PERMISSION FORM **Relational Aggression Among Girls and Boys with** **Emotional and/or Behavioral Disorders in a Special School Setting**

I state that I am over 18 years old, and I give my permission for my child _____ to participate in a study that is being conducted by Zina B. Sutch in the Department of Special Education at the University of Maryland, College Park. I understand that I am free to choose for my child not to participate. I understand that my child is free to choose not to answer any item on the survey or not to complete the survey at all, without penalty.

The purpose of this research is to help improve social abilities among girls and boys with emotional and/or behavioral disorders (EBD). A form of indirect aggression where the aggressor damages a child's relationship among peers while maintaining anonymity will be examined. Examples of this behavior include the exclusion of a child from the play group, or the spreading of rumors so others will reject a child. My child will complete a survey about their own behavior and we will mail the completed survey and permission form in the self-addressed, stamped envelope provided. The survey questions are attached to this form and are written in the following way: "Some kids try to keep certain people from being in their group when it is time to play or do an activity. How often do you do this?" My child will circle a number from 1 to 5 representing the answers "Never", "Almost Never", "Sometimes", "Almost All The Time", or "All The Time".

The procedure involves one 20 minute session at home, during which time my child will complete a self-report survey which consists of a two page survey question sheet.

I also understand that my child's school records will be examined in order to obtain the following information:

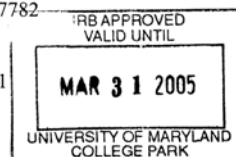
| | | |
|-----------------------|---|----------------|
| Date of Birth | Hours receiving individual therapy | Race/ethnicity |
| Cognitive Ability | Achievement Scores in Reading and Mathematics | Grade Level |
| Gender | Date of entry into Special Education Services | |
| Socio-economic status | Date of Disability Identification | |

All information collected in this study is confidential. I understand that a classroom teacher will fill out a similar survey about my child without ever seeing my child's responses. I understand that the data provided will be grouped with data others provide for reporting and presentation and that my child's name will not be used in any written documents or presentations. My child's responses will not be shared with school staff. When all surveys are completed and mailed back, Zina Sutch will analyze them at the University of Maryland where they will be locked up and destroyed once the study is completed. All information will be confidential to the extent permitted by law.

Participation in this study poses no more than minimum risk. I can ask teachers and school therapists to conduct careful debriefing sessions with my child if I feel there is a need to debrief. By signing below, I indicate that I give permission for my child to participate in the study of children's peer relationships. I am aware that I have the right to ask questions or to withdraw my child or my child's data from the study at any time without penalty.

Karen R. Harris, Ph.D. (301) 405-6488
University of Maryland
B08 Benjamin Building
College Park, MD 20742-1121

Zina B. Sutch, MA (301)405-7782
University of Maryland
0108 Cole Field House
College Park, MD 10742-1121



NAME OF CHILD _____

NAME OF PARENT OR LEGAL GUARDIAN _____

SIGNATURE OF PARENT OR LEGAL GUARDIAN _____ DATE: _____

Modified September 15, 2004

STUDENT ASSENT FORM II
For 10 - 17 year old participants

Relational Aggression Among Girls and Boys with
Emotional and/or Behavioral Disorders in a Special School Setting

My name is _____ I am under 18 years of age, in good physical health, and wish to participate in a program of research being conducted by Zina B. Sutch from the University of Maryland, College Park under the direction of Professor Karen Harris. I understand that even after I consent to participating in this study, I am free to ask questions, choose not to answer any item or withdraw from participation at any time and without penalty.

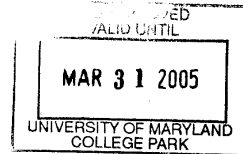
I agree to complete a self report survey that describes certain behaviors, and mark my answers on the form. The survey questions are written in the following way: "When they are mad at a person, some kids ignore the person or stop talking to them. How often do you do this?" I will then select one of the following options to circle: Never, Almost Never, Sometimes, Almost All the Time, All the Time.

There is no more than minimal risk involved in completing this survey, which means that by filling out this survey I am not putting myself in danger, however, if I ask, my classroom teacher and/or school therapist can spend time talking with me about my experience and my feelings.

All information collected in this study is confidential. The information collected in this study, which includes my answers or my name will not be shared with other students, any teachers or any other staff at any school. I understand that my name and my school name will not be used in reporting and presentation and that the forms and data will not be shared with my school staff.

NAME OF PARTICIPANT _____

DATE _____



STUDENT ASSENT FORM I
For 8 and 9 year old children

Relational Aggression Among Girls and Boys with
Emotional and/or Behavioral Disorders in a Special School Setting

My name is _____ I am under 18 years of age and I am healthy. I, want to participate in this research study being conducted by Zina B. Sutch from the University of Maryland, College Park under the direction of Professor Karen Harris. I understand that even after I agree to participate in this study, I can ask questions, choose not to answer any question or change my mind about filling out the answers at any time and I will not get in trouble.

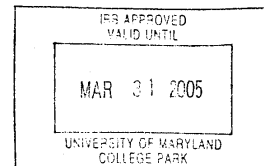
I agree to fill out an answer sheet where I will pick three students I know that act in a way described on the question sheet. Students will be given a number and I will write down the number that is next to the student's name on the answer sheet. The researcher will provide the student's numbers. The questions are written in the following way: "Now find the numbers of three kids who, when they are mad at a person, ignore the person or stop talking to them". Filling out this form should only take me about 45 minutes.

Normally, there is no more than minimal risk involved in completing this survey, which means that by filling out this survey I am not putting myself in danger, however, my classroom teacher and/or school therapist will spend time talking with me immediately after we finish the survey, about my experience and my feelings. I will be given a chance to discuss how I feel after filling out the survey and talk about anything that I am afraid of after writing down the number of other students on the answer sheet.

All information collected in this study is confidential so no one will see what I write down except the researcher. The information collected in this study, which includes my answers or my name will not be shared with other students, any teachers or any other staff at any school. I understand that my name and my school name will not be used in reporting and presentation and that the forms and data will not be shared with my school staff.

NAME OF PARTICIPANT _____

DATE _____



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