THE RELATIONSHIP BETWEEN SEVERITY OF CHILD ABUSE AND DISRUPTIVE BEHAVIOR IN ADOLESCENT MALES AND FEMALES

A thesis presented to the faculty of the Graduate School of
Western Carolina University in partial fulfillment of the
Requirements for the degree of Master of Arts in Psychology

By

Marisa Gloria Malone

Director: Dr. Leonardo Bobadilla
Assistant Professor of Psychology
Psychology Department

Committee Members, Dr. Kia Asberg, Psychology
Dr. Norman Hoffmann, Psychology

October 2013

TABLE OF CONTENTS

LIST OF TABLES

ABSTRACT

THE RELATIONSHIP BETWEEN SEVERITY OF CHILD ABUSE AND DISRUPTIVE BEHAVIOR IN ADOLESCENT MALES AND FEMALES

Marisa Gloria Malone

Western Carolina University (October 2013)

Director: Dr. Leonardo Bobadilla.

Conduct disorder is one of the most frequently diagnosed disorders for boys and girls under the age of 18. Although it is the second most common psychiatric disorder in girls, boys are much more likely to receive a conduct disorder diagnosis than girls. This gender difference in the prevalence rates of disruptive behavior disorders, such as conduct and oppositional defiant disorders, may be due to the underrepresentation of females in studies used to determine the diagnostic criteria of these disorders in the Diagnostic and Statistical Manual of Mental Disorders. Another reason could be because females tend to display more covert forms of aggression and misconduct, whereas males often show more physical or instrumental forms. Males are highly overrepresented, potentially making it less likely for females to receive a diagnosis of conduct or oppositional defiant disorder, even when they display aggressive and delinquent behaviors. As females with CD are susceptible to several comorbid psychological diagnoses, further research is essential for diagnostic and treatment purposes.

The purpose of the current study was to further define any gender differences in aggressive behaviors in males and females and to look at the relationship between the experience of varying levels of child abuse and aggressive and disruptive behavior. The current study used archival data derived from a sample of adolescents in addiction

treatment programs or juvenile detention centers who were evaluated for disruptive behavior disorders and co-occurring conditions using a structured diagnostic interview (Practical Adolescent Dual Diagnosis Interview, Estroff & Hoffmann, 2000). Participants in this sample include 571 adolescents (445 males and 71 females) from juvenile justice settings and 338 adolescents (126 males and 262 females) from addiction treatment programs. Due to differences between the juvenile justice and addiction treatment populations, all analyses were conducted separately by group.

Results suggest that males and females in juvenile justice settings are similar in their presentation of aggressive and disruptive symptoms; however, in the addiction treatment setting, males displayed more disruptive behavior. Results also suggest that greater experience of abuse was related to an increased number of disruptive behavior symptoms, although there were some gender and facility differences. This study further adds to the dearth of literature regarding the relationship between experiencing several types of child abuse and increased externalizing behavior, as well as provides additional information regarding gender differences in the manifestation of disruptive behavior symptoms.

CHAPTER ONE: INTRODUCTION

Conduct disorder (CD) is one of the most frequently diagnosed disorders for boys and girls under the age of 18 (Zoccolillo, 1993). The prevalence of CD is reported to be approximately 1% to 10% in the general population; however, rates in the juvenile justice system are much higher (American Psychiatric Association, 2000). It is estimated that 40% of youth in detention centers have a diagnosis of CD, although some facilities report rates as high as 81%, (Teplin, Abram, McClelland, Mericle, Dulcan, Washburn, 2006). Aside from its effect on individuals, conduct disorder is an extremely costly disorder to society. For example, annual costs for children with CD are estimated to be six times greater than for children without CD in terms of medication, inpatient and outpatient care, general health, juvenile justice, and school costs (Foster & Jones, 2005).

Although there are many risk factors for conduct disorder and juvenile delinquency in general, child abuse, also referred to as child maltreatment, has consistently been shown to increase the likelihood for these behaviors. One study reports that child abuse victims had 47% higher rates of delinquency than non-abused youth (Ryan & Testa, 2005). The current literature also consistently suggests that victims of child abuse, particularly physical abuse, tend to display more aggressive behaviors than their non-victimized peers (Cullerton-Sen, Cassidy, Murray-Close, Cicchetti, Crick, & Rogosch, 2008; Shields & Cicchetti, 1998). However, the relationship between aggression and child abuse is less clear when gender is taken into consideration. Males and females tend to present different conduct disorder symptoms, and are frequently subjected to different types of abuse (Maughan, Rowe, Messer, Goodman, & Meltzer 2004; Trickett & McBride-Chang, 1995). Another reason for discrepancies in the current

literature is that many studies do not consider the number of types of abuse experienced, when examining the implications of victimization in children and adolescents. By taking multiple types of abuse into account, a better understanding of the relationship between disruptive behavior and child abuse in adolescent boys and girls may be achieved. The current study focuses on further identifying the relationship between childhood abuse and disruptive behavior symptoms in juvenile justice and clinical populations of adolescents by taking into consideration the number and types of abuse experienced. This study will also explore gender differences to determine if abused males and females display different subtypes of disruptive behavior, particularly aggressive and non-aggressive symptoms.

CHAPTER TWO: LITERATURE REVIEW

Gender Differences in Aggression

Physical vs. Relational Aggression. Current research suggests that males are more likely to display physical forms of aggression than females, while females tend to be more relationally aggressive than males (Archer, 2004; Card, Stucky, Sawalani, & Little, 2008). Physical aggression, as the name implies, involves overt, physical force. On the other hand, relational aggression can be described as covert, and includes manipulative behaviors such as spreading rumors or excluding others in order to willfully harm relationships (Cullerton-Sen et al., 2008). Therefore, given its overt nature, physical aggression is more noticeable to parents, teachers and clinicians, perhaps making boys more "diagnosable."

Nonetheless, gender differences in aggression have been reported in infants as young as 17 months old. In a study with 2,120 seventeen month old infants, Baillargeon et al. (2007) used a latent class model to test for gender differences in physical aggression using a representative sample from Québec, Canada. The model comprised one latent variable separating infants into non-aggressive, occasionally aggressive, and frequently aggressive classes. Results showed that 17-month old males were five times more likely than females to display frequent physical aggression symptoms. Lahey, Miller, Gordon, & Riley (1999), reported a similar male-to-female ratio of conduct disorder in children and adolescents. Given that these gender differences appear as early as infancy and tend to be stable throughout adolescence, this may account for the higher rates of CD in boys than girls, especially in childhood.

Unlike physical aggression, relational aggression is not often seen at a young age, likely due to less developed language, cognitive and social functioning (Crick et al., 1998). However, once children develop these skills and have increased interactions with their peers, both forms of aggression become prevalent. For example, a study by Crick, Casas, and Mosher (1997) examined relational and physical aggression in 65 preschoolers (3.5 to 5.5 years old) by using teacher and peer ratings of the children's social behavior and social-psychological adjustment (peer acceptance vs. peer rejection). Results indicated that that these behaviors were often distinct from each other and children as young as 3 displayed both forms of aggression. Almost two-thirds of the aggressive children exhibited only one form of aggression and notably, girls were significantly more relationally aggressive than boys, while boys were more overtly aggressive than girls. Of note, both forms of aggression were related to rejection by peers among both genders. This study suggests that relational aggression occurs as early as preschool, and that children with low social-psychological adjustment are more aggressive than their more accepted peers (Crick et al., 1997). In conclusion, the current research suggests that males and females participate in different forms of aggression. Males tend to be physically aggressive, whereas girls display more covert, relational forms of aggression. Some of these differences are apparent as early as infancy, and tend to be stable over time.

Proactive vs. Reactive Aggression. Aggression can also be defined as being proactive or reactive. Proactive, or instrumental, aggression is defined as a type of aggression that is used to obtain a specific goal. It is often premeditated and occurs with little provocation. Reactive aggression, on the other hand, is an emotional response to a

perceived threat due to fear, anger, or frustration (Scarpa, Tanaka, & Haden, 2008). Less is known about gender differences in these forms of aggression as adolescent males and females often exhibit both kinds of aggression. A study in a community sample of 1,220 children found some gender differences in proactive and reactive aggression using peer and teacher reports (Salmivalli & Nieminen, 2002). Boys were significantly more likely than girls to be more reactively aggressive when rated by peers and teachers, and significantly more proactively aggressive when rated by their peers. There were no gender differences in teacher-reported proactive aggression, although Salmivalli and Nieminen suggest that peers may be more accurate in rating proactive aggression than teachers, as this form of aggression is more controlled and easily concealed, whereas reactive aggression is more salient to teachers and peers.

Results from studies of clinical populations have found fewer gender differences in proactive and reactive aggression. One study investigated these differences in aggression with 323 children and adolescents (255 males and 68 females) that were referred to a residential treatment center by their school systems, juvenile justice, or state protection agencies (Connor, Steingard, Anderson, & Melloni Jr., 2003). These participants were assessed for rates of proactive and reactive aggression using the Proactive/Reactive Aggression Scale. There were no gender differences in aggression frequency, severity, or type of aggressive behaviors. Also, among males and females, proactive aggression had similar self-reported drug use, hostility, experiencing maladaptive parenting, and disruptive behavior disorder correlates. There were however, some differences in gender for correlates associated with reactive aggression. Reactive aggression correlated highly with low verbal IQ and early traumatic experiences among

females, whereas the most significant correlate for reactive aggression in males was hyperactive/impulsive behaviors (Connor et al., 2003).

A more recent study by Stickle, Marini & Thomas (2012) examined gender differences in aggression among 150 adolescents at two juvenile detention facilities. More than half of the youth in the sample was arrested due to aggressive acts, such as assault. There were no differences in physical and relational aggression, between genders as both males and females used both forms of aggression in response to being provoked. Callous-unemotional (CU) traits were also assessed, and they were significantly correlated with physical aggression for both genders, and with relational aggression among females. Adolescents in this study who displayed high levels of proactive aggression also displayed elevated levels of reactive aggression. Youth with both forms of aggression were significantly more aggressive than those who were only reactively aggressive. They also had the highest level of callous-unemotional traits and impulsivity, suggesting that this combined form of aggression leads to more severe behaviors than reactive aggression alone. This study also suggests that adjudicated girls with both proactive and reactive tendencies have more CU traits than males with both types of aggression, indicating a higher level of disturbance among girls who engaged in both types of aggression (Stickle et al., 2012).

Another study examined gender differences of combined types of aggression, namely, reactive-physical, reactive-relational, proactive-physical, and proactive-relational (Bailey & Ostrov, 2008). Participants were 165 college students who were assessed for aggressive behavior using the Self Report of Aggression and Social Behavior Measure, which included 39 items that assessed different types of aggression. Males were

significantly more likely to display higher levels of proactive- physical aggression ("I try to get my own way by physically intimidating others") and reactive-physical aggression ("When someone makes me really angry, I push or shove the person") than women. There were no gender differences for proactive-relational aggression ("I have threatened to share private information about my friends with other people in order to get them to comply with my wishes") or reactive-relational aggression ("When I am not invited to do something with a group of people, I will exclude these people from future activities"). Findings from this study are consistent with the general consensus that males are more physically aggressive than females (Archer, 2004; Card et al., 2008). In summary, less is understood about gender differences in proactive and reactive aggression than physical and relation aggression. However, it appears that in community samples, boys tend to display more proactive and reactive aggression than females, while in clinical populations, boys and girls seem present similar levels of both types of aggression.

Definition of Conduct Disorder

The official diagnosis that captures aggressive and antisocial behaviors in childhood is conduct disorder. The Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR; American Psychiatric Association, 2000) defines conduct disorder as "a repetitive and persistent pattern of behavior in which the basic rights of others or major age-appropriate societal norms or rules are violated." At least three criteria must be met in a 12-month period, with at least one criterion present in the past 6 months:

Aggression to people or animals

1. Often bullies, threatens, or intimidates others

2. Often initiates physical fights
3. Has used a weapon that can cause serious physical harm to others
4. Has been physically cruel to people
5. Has been physically cruel to animals
6. Has stolen while confronting a victim
7. Has forced someone into sexual activity

Destruction of property

8. Has deliberately engaged in fire setting with the intention of causing serious damage
9. Has deliberately destroyed others' property (other than fire setting)

Deceitfulness or theft

10. Has broken into someone else's house, building, or car
11. Often lies to obtain goods or favors or to avoid obligations
12. Has stolen items of nontrivial value without confronting a victim

Serious violations of rules

13. Often stays out at night despite parental prohibitions, beginning before age 13 years
14. Has run away from home overnight at least twice while living in parental or parental surrogate home (or once without returning for a lengthy period)
15. Is often truant from school, beginning before age 13 years

Conduct Disorder, Childhood-Onset Type, is diagnosed when at least one criterion of CD is present before the age of 10. Conduct Disorder, Adolescent-Onset Type, is defined as the absence of any CD criteria before age 10.

Gender Differences in the Prevalence of Conduct Disorder

Although conduct disorder is the second most common psychiatric disorder in girls, boys are two to three times more likely to receive a diagnosis of CD than girls (Zoccolillo, 1993). This observed gender difference may be due to the underrepresentation of females in studies used to determine the diagnostic criteria of CD in the DSM-IV-TR (and previous DSM editions). As such, most of the relevant literature focuses only on males or combines data for males and females (Delligatti, Akin-Little, & Little, 2003). Another reason for the difference in the prevalence rate of CD in males and females is that as previously summarized, females tend to display more relational and covert forms of aggression and misconduct, whereas males often show more overt (i.e., easily observable) misconduct. Therefore, males may be are highly overrepresented in clinical samples, potentially making it less likely for females to receive a diagnosis of CD, even when they display aggressive and delinquent behaviors. Given that females with CD are susceptible to suicide, substance abuse and dependence, teenage pregnancy, incarceration, and other psychiatric illnesses, further research is essential for diagnostic and treatment purposes (Kann & Hanna, 2000; Letendre, 2007; Moffitt et al., 2008).

Gender Differences in Onset of Conduct Disorder

One of the best predictors for the severity and duration of antisocial behavior is the age of onset for which these behaviors begin (Silverthorn & Frick, 1999). Individuals who display Conduct Disorder symptoms before the age of 10 (childhood-onset) are more

likely to develop Antisocial Personality Disorder than those who develop symptoms later in adolescence (APA, 2000). These individuals often display physically aggressive and argumentative behaviors, as well as have an increased likelihood of family dysfunction, and neuropsychological impairments (Moffitt, 1993; Moffitt, Caspi, Dickson, Silva, & Stanton, 1996). Individuals with adolescent-onset CD tend to engage in rebellious, as opposed to aggressive behaviors, and have less delinquent symptoms than those with childhood-onset CD (Lahey et al., 1999). These rebellious behaviors often only occur throughout the span of adolescence, and desist in early adulthood. One theory for this short-lived span of disruptive behavior is referred to as the "maturity gap" (Moffitt, 1993). Currently, adolescents reach biological maturity several years before they are considered adults by societal standards and sometimes rebel to establish a sense of autonomy (p.687, Moffitt, 1993). This theory is further evidenced by a study that reported that females who do not menstruate by age 15 tend to exhibit fewer than problem behaviors in adolescence (Caspi & Moffitt, 1991). It should be noted that some researchers argue that early onset and adolescent onset pathways can only be applicable to boys, as the majority of females who display antisocial behavior do not do so until they reach adolescence (Silverthorn and Frick, 1999). Although empirical data are limited, the authors propose that young girls may experience more parental socialization, behavior regulation strategies, and protective factors that delay antisocial behavior until adolescence, even when these girls have expressed difficult or aggressive temperaments in infancy (Silverthorn & Frick, 1999).

Along these lines, results from a 2001 study by Silverthorn, Frick, and Reynolds, corroborates this hypothesis. Seventy-two incarcerated adolescents were assessed for

conduct problems, oppositional behavior, callous and unemotional traits, and impulse control. Although males and females displayed similar number of prior offenses, only 6% of females displayed CD symptoms before the age of 10 compared to 46% of males, suggesting that the overwhelming majority of females do not develop conduct disorder until early adolescence. In this study, every female (mean age = 15.37) had a diagnosis of CD or ODD. While the majority of boys also had a diagnosis of CD or ODD, adolescent-onset boys had *the least* number of ODD symptoms. These results suggest that adolescent-onset boys display less severe conduct problems than males who have childhood-onset CD. These findings are consistent with a larger, cross-sectional study that suggested that males with conduct problems before adolescence have a higher number of symptoms, and are more likely to engage in more serious and aggressive behaviors (Lahey et al., 1999). Of note, two-thirds of the females and one half of the childhood-onset males presented a high level of callous and emotional traits and poor impulse control, suggesting that boys and girls display comparable levels of antisocial behavior, even though girls do not manifest these symptoms until much later in childhood (Silverthorn et al., 2001).

On the contrary, Côté, Zoccolillo, Tremblay, Nagin, and Vitaro (2001), provide support for the manifestation of conduct disorder symptoms in young females. A large sample (n= 929) of females attending kindergarten in Quebec were assessed for disruptive behavior symptoms yearly until 6th grade and then again in adolescence. Three trajectories of disruptive behavior in elementary school were discovered. The majority of the girls (57.4%) fell into the "low" disruptive behavior symptoms category, 31.6% were in the "medium" group, and 11% were in the "medium-high/high" group, displaying the

highest number of disruptive behavior symptoms. A slight decrease of symptoms between the ages of 6 to 12 was present in all groups. When assessed for a diagnosis of CD in adolescence, girls in the two highest disruptive behavior symptom groups were over four times more likely to have a diagnosis of CD than girls in the lowest trajectory. This study suggests that females may display symptoms of CD at a young age, and the trajectory of these symptoms remains stable throughout childhood and adolescence. However, caution needs to be taken in interpreting these findings. In this study over one-fourth of the girls selected to participate were chosen based on their high levels of disruptiveness. Therefore, the results may overestimate the prevalence of child-onset CD symptoms in females. Nonetheless, contrary to Silverthorn et al. (2001), these findings suggest that some young girls may display some antisocial symptoms in childhood. As the available data on antisocial behavior in young girls is limited, further research must be conducted to establish a better understanding of the pattern of disruptive behavior in females.

Gender Differences in the Manifestation of Conduct Disorder

It has been well defined that males and females tend to exhibit different forms of aggression (Archer, 2004; Bailey & Ostrov, 2008; Crick et al. 1997). Recent literature is less consistent in identifying gender differences in specific conduct disorder symptoms. Given that females often use more covert forms of aggression and are more likely to have internalizing symptoms, they may appear to have less aggressive disruptive behavior symptoms (Berkout, Young, & Gross, 2011; Gorman-Smith & Loeber, 2005; Lahey et al., 2000). Understanding these gender differences in conduct disorder symptoms could provide a greater understanding of antisocial behavior in girls.

Along these lines, one study identified age and gender differences in conduct disorder symptoms using a large, representative sample of children and adolescents from England, Scotland, and Wales (Maughan et al., 2004). Boys and girls ages 5-15 years old were assessed for disruptive behavior symptoms. Similar to the findings of Silverthorn et al. (2001), males displayed symptoms of CD in young childhood, whereas symptoms in females were not prevalent until adolescence. Teenage females tended to have lower symptom counts and lower levels of aggressive symptoms than males of the same age. However, 13-15 year old males and females who met criteria for conduct disorder were similar in their endorsement of aggressive criteria. Fighting, for example, was reported by 52% of females and 51% of males who met diagnostic criteria for CD (Maughan et al., 2004). Similar findings for fighting were found in a study by Gelhorn et al. (2009) that used item response theory analysis to determine any gender differences in specific conduct disorder symptoms using a community sample of adolescents. Indeed, for the most aggressive symptoms (including fighting) there were no significant differences in item severity between genders, suggesting that females may display aggressive CD symptoms similarly to males. In fact, males and females were generally similar in the CD criteria they endorsed, although sex differences in item severity were reported for the "destruction of property," "steal without confrontation," and "runaway" criteria, suggesting that females more commonly endorse the latter two criteria (Gelhorn et al., 2009). Results from this study were slightly different than Maughan et al. (2004), since there was no significant gender differences in less aggressive symptoms of CD reported, however, it is important to note that these differences could be the result of different samples (clinical vs. community). Nonetheless, contrary to the idea that females tend to

display more covert aggression, both studies suggest that females may be just as likely as males to display physical acts of aggression, and therefore endorse aggressive CD symptoms.

It should be noted that conduct disorder can present in many different ways, as only 3 of 13 positive criteria are needed for a diagnosis. This makes true gender differences difficult to identify as there can be considerable variance in the symptoms endorsed in both genders. For example, a male who stays out past curfew, steals without confrontation, and runs away from home can receive the same diagnosis of CD as a female who initiates physical fights, bullies others, and skips school, and vice versa. Although some trends of differential manifestations of CD between the genders have been determined (e.g., Gelhorn et al., 2009; Maughan et al., 2004), there is not enough research regarding gender differences in the endorsement of specific CD criteria to make concrete conclusions.

There are also some discrepancies in the current literature regarding the age of onset of CD in males and females. Although males consistently show symptoms of CD at young ages, there is some disagreement regarding the age of onset of the disorder for females. One reason for the inconsistencies in the current research is that some studies focus on adjudicated individuals, whereas many others use non-clinical populations. Even fewer studies specifically focus on females, or differences between the genders. More studies using both clinical and community samples are needed to further define any gender differences in the severity and symptomatology of CD.

Definition of Oppositional Defiant Disorder

A second official diagnosis that captures aggressive and antisocial behavior (although in theory to a lesser degree) is oppositional defiant disorder (ODD). The DSM-IV-TR (APA, 2000) defines ODD as "a pattern of negativistic, hostile, and defiant behavior." At least four criteria must be present in a 6-month period:

1. Often loses temper
2. Often argues with adults
3. Often actively defies or refuses to comply with adults' requests or rules
4. Often deliberately annoys people
5. Often blames others for his or her mistakes or misbehavior
6. Is often touchy or easily annoyed by others
7. Is often angry and resentful
8. Is often spiteful or vindictive

Gender Differences in the Manifestation of Oppositional Defiant Disorder

Although several lines of research report some gender differences in conduct disorder, there is less evidence that any differences exist in individuals with ODD. A large study by Lahey et al. (2000) reported no significant gender differences in parent reports of oppositional behavior in 9-17 year olds. In a similar fashion, Maughan et al. (2004) also reported no sex differences in parental reporting of oppositional behaviors, however, boys in this study were significantly more likely than females to meet criteria for ODD when teacher reports were also used.

A study by Trepat de Ancos & Ascaso (2011) found some gender differences in oppositional behavior in a clinical sample of children and adolescents in Barcelona. Boys

were significantly more likely than girls to endorse the symptoms "deliberately annoy" and "accuse others". On the other hand, girls with ODD often displayed more internalizing symptoms, such as anxiety, depression, and somatic complaints, suggesting that they may not be as likely to display as many externalizing disruptive behaviors as boys (Trepat de Ancos & Ascaso, 2011). Similarly to conduct disorder, the current literature does not provide enough evidence to distinguish clear gender differences in oppositional defiant disorder. Also, as ODD and CD are often comorbid with each other and other disorders, it is difficult to determine gender differences specific to each particular disorder. Both disorders also tend to co-occur with child abuse, as victimization has been seen to influence aggressive and delinquent behaviors (Trickett & McBride-Chang, 1995). Further identifying this relationship between abuse and disruptive behaviors may provide more clarity in understanding any gender differences in the endorsement of specific CD and ODD symptoms.

Childhood Abuse

Childhood abuse refers to the experience of physical, sexual, or emotional abuse before the age of 18. One widely used measure defines physical abuse as being pushed, shoved, slapped, hit, or hit so hard that bruises, marks or injury is caused by a parent or other adult living in the household (Afifi, McMillan, Asmundson, Pietrzak, & Sareen, 2011). Emotional abuse is defined as being swore at, insulted, saying hurtful things, or threatened to be hit or injured by parent or other adult. Lastly, sexual abuse is defined as sexual touching, attempted intercourse or actual intercourse by any adult when the youth either did not want the act to occur, or was too young to understand what was happening (Afifi et al., 2011).

The U.S. Department of Health and Human Services reported that in 2011, 676,569 children ages 0-17 were victim to child abuse or neglect throughout the United States that year (U.S. Department of Health and Human Services, 2012). Of those victimized, 17.6% experienced physical abuse, 9.1% experienced sexual abuse, and 78.5% were victims of neglect (U.S. Department of Health and Human Services, 2012). Emotional abuse statistics were not reported. In 2009, the U.S. Department of Justice reported that by age 17, 32.1% of individuals from a nationally representative sample have suffered from some form of abuse at least once in their lifetime (Finkelhor, Turner, Ormrod, Hamby & Kracke, 2009). Multiple victimizations often co-occur. The Department of Justice estimates that a child that has been physically assaulted is 6 times as likely to experience sexual abuse and five times as likely to experience emotional abuse or neglect in their lifetime than a child that has not been physically abused (Finkelhor et al., 2009).

There are several risk factors that may contribute to the likelihood a child will become a victim of abuse. One longitudinal study of 644 families from upstate New York reports several risk factors for physical and sexual abuse (Brown, Cohen, Johnson, & Salzinger, 1998). In this study, physical abuse was associated with low maternal education, maternal youth, welfare dependence, maternal dissatisfaction, maternal sociopathy, poor marital quality, serious maternal illness, low father or maternal involvement, and low father warmth. Sexual abuse was associated with maternal youth, maternal sociopathy, negative life events, presence of a stepfather, child gender, and child handicap. In addition, the likelihood of child abuse was associated with the number of risk factors present. When no risk factors were present, child abuse was reported in only

3% of children. When four or more risk factors were documented, 24% of youth were victim of abuse or neglect. These findings suggest that certain risk factors may be more indicative of different forms of abuse, and that a greater number of factors increase the probability that a child will become victim of one or multiple forms of abuse (Brown et al., 1998).

Childhood Abuse and Aggression

High levels of child victimization has been associated with long term aggressive and non-aggressive behaviors in children and adolescents that often continue into adulthood (Trickett & McBride-Chang, 1995).Several studies suggest that physical abuse in particular, may influence aggressive behavior in these individuals. One study examined gender differences in aggressive behaviors of children at a summer camp in an urban setting. A total of 410 children, ages 6-12 years, participated in this study, 211 of which have experienced at least one type of abuse (Cullerton-Sen et al., 2008). Aggressive behaviors were assessed by peer ratings, peer nominations (children "nominated" their most physically or relationally aggressive peers), and counselor reports. The results indicated that abused boys were significantly more physically aggressive than abused girls and non-abused boys and girls. On the other hand, the females in this study who reported physical abuse were significantly more relationally aggressive than abused boys and non-abused boys and girls. Sexual abuse was a predictor of relational aggression for females only. In explaining the findings, Cullerton-Sen et al. (2008), suggest that children who are victims of abuse display different forms of aggression based on their gender and type of abuse experienced.

Similar findings were reported in Ford, Fraleigh, & Connor's (2010) study which examined gender differences in proactive and reactive aggression in abused children and adolescents. Participants in this study were 397 children and adolescents (6-19 years of age) who reside at a residential in-patient treatment facility. All individuals had at least one psychiatric diagnosis and were classified as seriously emotionally disturbed. The participants were assessed for physical and sexual abuse and proactive and reaction aggression. Children and adolescents who experienced physical abuse were 12 times more likely to be classified as reactively aggressive after controlling for age, gender, proactive aggression and intellectual disability. Physically abused females were equally likely to be reactively aggressive as females who did not experience physical abuse. Physically abused males, on the other hand, were significantly more likely to display reactive aggression than males who were not physically abused. Notably, there were no associations between physical abuse and proactive aggression for either gender. Finally, there was no association between sexual abuse and proactive or reactive aggression, suggesting that this form of abuse may lead to internalizing, less visibly aggressive, behaviors (Ford et al., 2010). These results corroborate with another study that suggests that physically abused children, have a higher risk of developing reactive aggression than non-abused children, suggesting that these children tend to respond to perceived threats in an aggressive manner (Shields & Cicchetti, 1998).

A review by Trickett and McBride-Chang (1995) suggests that behaviors of sexual abuse victims are variable, inconsistent, and can change throughout developmental periods of childhood. In infancy and early childhood (ages 0-6 years), sexual abuse is associated with internalizing problems, specifically anxiety. In middle childhood (ages

6-11 years), sexually abused children tend to exhibit isolated and withdrawn behaviors. By adolescence, both internalizing and externalizing problems are associated with this form of abuse (Trickett & McBride-Chang, 1995). Therefore, it appears that risk factors, age of victim, and gender may all factor into the differences in behavior of sexual abuse victims.

Less is known about the behavioral effects of emotional abuse. This is likely because emotional (or psychological) abuse is not as well defined as other types of abuse or neglect (Crittenden, Claussen, & Sugarman, 1994). It is also difficult to separate this form of abuse from other types of maltreatment regardless of how it is defined, because they very often co-occur (Claussen & Crittenden, 1991; Finkelhor et al., 2009). One study of 100 physically and/or emotionally abused children and adolescents (ages 6-17 years) reports that only 8% of individuals experienced emotional abuse with no evidence of physically abuse (Crittenden et al., 1994). Adolescents in this study were significantly more likely than the younger children to have detrimental outcomes, depression, and conduct disorder diagnoses. Another study found that emotional abuse predicted sexual aggression perpetration and victimization in a sample of college students, even when physical abuse, sexual abuse, and social desirability were controlled for, suggesting that emotional abuse may in fact be linked in aggressive tendencies in males and females (Zurbriggen, Gobin, & Freyd, 2010).

A drawback of many studies in this area is that they focus on effects of one or two forms of child victimization and often do not consider the combined effects of multiple abuse and victimization experiences. One study, using a nationally representative sample of 2-17 year olds in the United States (n=2,030), identified five domains of victimization

and adversity experienced by youth and their association with depression and aggressive behavior (Turner, Finkelhor, & Ormrod, 2006). The domains included: sexual abuse, child abuse (physical abuse and neglect), witnessing familial violence, being exposed to other violence, and other factors such as gender, race, age, parental education, and household income. For this study, victimization exposure was assessed by the Juvenile Victimization Questionnaire (Hamby, Finkelhor, Ormrod, & Turner, 2004) and depression and anger/aggression were assessed by the Trauma Symptom Checklist. Similarly to Brown et al. (1998), risk factors of victimization such as low parental education, low household income, and single parents or stepfamilies were associated with an increased level of child abuse in this sample. The number of victimizations experienced was positively correlated with depression and anger/aggression. Young children (ages 2-9) who reported no victimization endorsed an average of 1.6 items for depression scale and 2.7 items on the anger/aggression scale, whereas young children who experienced at least four types of victimization endorsed 5.9 and 10.1 items on depression and anger scales respectively. Older children (10-17 years) who reported no victimization had a mean score of 1.9 items for depression and 2.4 items for anger/aggression. Children of the same age had a mean score of 6.3 items for the depression scale and 7.9 on the anger scale. This study by Turner et al. (2006) suggests that child abuse often co-occurs with other types of victimization, such as witnessing or experiencing violence, and that the combined effects can create substantial internalizing and externalizing problems. The study also provides additional information to the current body of literature regarding child abuse as it includes other related factors, such as violence exposure. It is evident that abused children have an increased likelihood to be

subjected to several detrimental and violent experiences. However, more research regarding multiple forms of child abuse and its correlates is necessary before substantial conclusions of its effects can be made.

Theories Underlying Child Abuse and Aggressive and Disruptive Behavior

General Strain Theory. The literature has provided substantial evidence for the association between child abuse and aggressive and delinquent behavior. One theory for this relationship is general strain theory which argues that certain stressors or strains increase the chances of experiencing negative emotions such as depressions, fear, and anger (Agnew, 1992). Some of these emotions, particularly anger, are linked to criminal and delinquent behavior in adolescents. Strain can be further defined as objective and subjective. Objective strain refers to events that most members of a group would perceive as negative, such as physical assault, or neglect. Subjective strain refers to individual evaluation of a particular stressor and can be different from person to person (Agnew, 2001).

According to Agnew, strainful events that increase the likelihood of criminal behavior are perceived as unjust, high in magnitude, associated with low social control, and create incentive for criminal coping (2001). Specific strains that result in aggressive and criminal behaviors include parent rejection, excessive discipline, poor secondary school experience, homelessness, negative peer relationships, criminal victimization, child abuse, and neglect (Agnew, 2001).

Few studies have specifically used general strain theory to better understand the relationship between child abuse and delinquent behavior. One study reported that child maltreatment, defined by physical punishment, emotional abuse, and parental withdrawal

of love, was significantly associated with delinquent behaviors such as theft, fighting, vandalism, running away from home, and substance use (Hollist, Hughes, & Schaible, 2009). Consistent with general strain theory, anger was the most consequential negative emotion associated with these behaviors.

Another study of general strain theory and delinquency specifically accounted for gender differences. De Coster & Zito (2010) reported that males displayed more delinquent behavior than females, even though both genders in this sample were equally likely to report anger. Both genders reported depression, although females had a higher rate of endorsement than males. The authors suggest that although anger is often implicated in delinquency alone, the combination of anger and depression results in different expressions of externalizing behavior depending on the gender of the individual. Whereas females tend to internalize their feelings of depression, males tend to externalize them, making them even more likely to exhibit aggressive and disruptive behavior (De Coster & Zito, 2010).

Social Role Theory. Another theory for gender differences in the presentation of certain emotions and behaviors is the social role theory, which suggests that gender roles and social status often result in different patterns of behavior for males and females (Archer, 2004). Research has shown that females tend to talk about their anger rather than act on it because the expression of anger is perceived as a masculine trait (Campbell & Muncer, 2008; De Coster & Zito, 2010). Depressive symptoms, on the other hand, are seen as more feminine, which is why males with depression sometimes try to express these symptoms outwardly in delinquent or aggressive ways (De Coster & Zito, 2010). Historically, males have often encouraged or required to participate in physically

aggressive roles, such as the military or athletics. Women, on the other hand, were limited to domestic, docile roles, and discouraged from externalizing anger and aggression. Although societal roles have vastly shifted, many gender expectations have stayed the same.

In terms of aggression, social role theory provides one explanation why females often display relational, as opposed to physical aggression. Females are taught from a young age to inhibit aggressive behaviors and are often encouraged by their female caretakers to develop strong, empathetic relationships, while boys are encouraged to be goal-directed and autonomous (Letendre, 2007). Although it has been shown that a strong focus on interpersonal relationships can mediate aggressive behavior in girls (Carlo, Raffaelli, Laible, & Meyer, 1999), these relationships are often subject to harm when aggressive behavior is expressed. As stated previously, girls use more covert methods in dealing with anger and aggression, such as gossiping, taunting, and manipulating relationships in order to manage conflict (Letendre, 2007).

Social Learning Theory. Another theory underlying aggressive and disruptive tendencies in child abuse victims is social learning theory, which suggests that children learn by observing actions and behaviors of others, particularly their caregivers. Parents and other important people in the child's life serve as models for appropriate and inappropriate behaviors that children often imitate. Although the majority of children who experience abuse do not commit violent crimes, a significant percentage of those who do, have been the victim of some form of child abuse, suggesting that experiencing abuse have some aggressive repercussions (Prather & Golden, 2009). However, child abuse alone likely does not result in criminal behavior. Social learning theory suggests

that children model their parent's behavior, not just parents' actions towards the child. Often, these children witness aggressive or criminal behavior and imitate it regardless of whether it was directed towards them (Prather & Golden, 2009). Therefore, aggression and delinquency is likely a result of the parent-child relationship as a whole, rather than direct child abuse, alone.

In accordance with social learning theory, research has found that some types of abuse are associated with specific offenses. One study of incarcerated adult males found that those who have experienced physical abuse as a child were significantly more likely to commit violent crime, such as homicide, assaultive violence, and robbery, than non-violent crimes (Felson & Lane, 2009). Similar results were reported in an adolescent sample of physically abused males (Tarter, Hegedus, Winsten, & Alterman, 1984). According to Felson & Lane, sexual abuse victims were significantly more likely to commit sexual offenses than non-violent crime. Findings from these studies suggest that abused individuals model the behaviors that they once experienced as children.

Summary of Theories Underlying Child Abuse and Aggression

In conclusion, social learning theory frames how experience of abuse, witnessing violence, and negative parent-child interactions can, in part, explain the link between child abuse and juvenile delinquency, as well as adult antisocial behavior. Both general strain theory and social role theory provide support for gender differences in the manifestation of aggressive symptoms, as well as the emotional response to the experience of child abuse. Although males and females experience similar emotions in response to particular strains, including child abuse, their management of these emotions and their behavior in response to them differ greatly.

Child Abuse and Maladaptive Non-Aggressive Outcomes

Childhood abuse can often lead to detrimental outcomes other than aggression in childhood, adolescence, and adulthood. For example, physical abuse has been associated with lower social competence, peer rejection, and increased behavior problems in children (Salzinger, Feldman, Hammer & Rosario, 1993; Feldman, Salzinger, Rosario, Alvarado, Caraballo, & Hammer, 1995; Trickett & McBride-Chang, 1995). Sexual abuse has been associated with poor self-esteem, inappropriate sexual behaviors, eating disorders, suicide ideation, and academic problems (Chandy, Blum, & Resnick, 1996; Nelson et al., 2002). As females are significantly more likely than males to experience sexual abuse, less is known about any gender differences in outcome behaviors in these individuals. One study reported that sexually abused adolescent males were significantly more likely than females to experience below average school performance, a greater likelihood of dropping out of school, more sexual risk taking, and delinquent behaviors (Chandy et al., 1996). Sexually abused females were significantly more likely to develop an eating disorder and have a higher risk of suicide than abused males. In regards to substance use, abused females were more likely to use alcohol than males; however, alcohol-using males reported more extreme drinking behaviors (Chandy et al., 1996).

Another study specifically focuses on the interaction between child abuse and behavioral problems in a small sample (n=49) of clinically-referred adolescent females, ages 13 to 17 (Green, Russo, Navratil, & Loeber, 1999). In this sample, 30.6% of girls reported physical abuse only, 26.5% reported physical and sexual abuse and 6.1% reported sexual abuse only. The results also suggest that girls who experienced physical and sexual abuse were significantly more likely to exhibit more internalizing behaviors

than those who experienced only physical abuse, or no abuse. These individuals were also significantly more likely engage in truancy. Although there were no other significant differences between groups, running away and conning, two non-aggressive symptoms of conduct disorder, were the second and third most common symptoms of conduct disorder endorsed in this sample. This suggests that, regardless of abuse history, girls tend to endorse non-aggressive CD symptoms at a higher rate than aggressive symptoms. Females who reported any amount of abuse were more likely to have diagnoses of conduct disorder and depression than those who reported no experience of abuse. Girls who experienced physical and sexual abuse were significantly more likely to have somatoform pain disorder than girls in the physically abused and non-abused groups, as well as a higher number of internalizing symptoms. Lastly, 46% of girls who experienced both types of abuse had at least four psychological diagnoses, including anxiety, depression, CD, ODD, somatoform pain disorder, or ADHD (Green et al., 1999). This study provides further evidence that abused females experience more severe internalizing and externalizing problems in comparison to non-abused girls. As only 6% of the females experienced sexual abuse in the absence of physical abuse, differences between the two types of abuse could not be assessed.

Posttraumatic Stress Disorder and Aggression

Posttraumatic Stress Disorder (PTSD) is defined by the DSM-IV-TR as a stress reaction that occurs when a person has "experienced, witnessed, or been confronted with an event or events that involve actual or threatened death or serious injury, or a threat to the physical integrity of oneself or others," and "the person's response involved intense fear, helplessness, or horror" (APA, 2000). Symptoms include re-experiencing the

traumatic event, avoidance, numbing, and hyper-arousal (symptoms of disorganized or agitated behavior may be expressed by children (APA, 2000). Of note, some criteria for PTSD have been changed for the DSM-5. The criterion "response [to the event] involved intense fear, helplessness, or horror" has been removed. Also, three additional symptoms have been added: persistent and distorted blame of self or others, persistent negative emotional state, and reckless or destructive behavior (APA , 2013).

Symptoms of PTSD have been linked to aggression in adults (Taft, Creech, & Kachadourian, 2012), and adolescents (Allwood & Bell, 2008). In adolescents, hyper-arousal, emotional detachment, avoidance, and intrusions, have all been linked to violent and aggressive behavior, especially in juvenile offenders (Allwood & Bell, 2008; Erwin, Newman, McMackin, Morrissey, & Kaloupek, 2000). One study reported that 32% of adjudicated adolescents met criteria for PTSD and 20% more who did not qualify for a diagnosis, endorsed several PTSD symptoms, far exceeding rates in non-clinical adolescents (Steiner, Garcia, & Matthews, 1997). This suggests that many adolescents who commit serious crimes have suffered from a traumatic life event, such as child abuse, and may be reacting in aggressive ways (Erwin et al., 2000).

Gender differences in PTSD have not been clearly defined as studies have found conflicting evidence regarding prevalence and symptoms endorsed in male and female adolescents (Reebye, Moretti, Wiebe, & Lessard, 2000). One reason for these discrepancies may be due to the comorbidity between PTSD and CD, another disorder in which gender differences have not been clearly distinguished (Erwin et al., 2000). It is presumed that many aggressive youth in clinical settings have one or both diagnoses, as both disorders have higher prevalence rates in clinical, rather than community,

populations. As CD and PTSD have both been implicated in aggression, both disorders should be assessed for when determining potential causes for disruptive behavior in youth.

Purpose for the Current Study

Previous research has shown a relationship between childhood abuse and aggression in adolescents. However, less is known regarding differential effects that abuse may have on individuals depending on their gender. Many of these studies combine males and females or only focus on one gender. Also, few studies have examined how childhood abuse and gender interact to influence aggressive behavior in adolescents, as well as other forms of disruptive behavior including CD and ODD symptoms. The purpose of this study is to better understand the relationship between child abuse, gender and their effect on aggressive and other disruptive behaviors in adolescents. The current study employs samples from juvenile detention centers and addiction treatment programs to achieve these aims.

CHAPTER THREE: HYPOTHESES

Based on previous research, the following hypotheses have been identified:

Hypothesis 1: Although there are some inconsistent findings in the literature, there is evidence that individual types of abuse are correlated with externalizing behaviors in adolescents (Trickett & McBride-Chang, 1995). Therefore, it is hypothesized that individuals who have experienced any type of childhood abuse will express more disruptive behavior symptoms than non-abused individuals.

Hypothesis 2: Research suggests that child abuse is correlated with externalizing behaviors in adolescents (Trickett & McBride-Chang, 1995). Research also suggests that victims of multiple forms of abuse have more externalizing behavior symptoms than individuals who experienced less abuse (Turner et al., 2006). Therefore, it is hypothesized that individuals who have experienced multiple types of abuse will display more disruptive behavior symptoms than individuals who have experienced lesser or no abuse.

Hypothesis 3: Consistent with findings that the combination of several forms of child abuse is correlated with aggressive and disruptive behavior (Turner et al., 2006), it is hypothesized that individuals who have experienced multiple forms of abuse will have an increased number of aggressive CD and ODD symptoms relative to those who have experienced fewer forms or have not experienced abuse.

Hypothesis 4: It is hypothesized that males and females will endorse different symptoms of CD and ODD. Although there is some evidence that both males and

females in clinical settings endorse aggressive disruptive behavior symptoms, males are generally more physically aggressive than females and therefore may display more aggressive symptoms (Archer, 2004). Also, previous studies have found some gender differences in less aggressive CD and ODD symptoms (Maughan et al., 2004; Gelhorn et al., 2009; Trepat de Ancos & Ascaso, 2011).

CHAPTER FOUR: METHOD

Participants

The participants in this study are a sample of adolescents in addiction treatment programs or juvenile detention centers. Participants in this sample include 516 adolescents (445 males and 71 females) from juvenile justice settings and 388 adolescents (126 males and 262 females) from addiction treatment programs. The majority of participants in this sample are Caucasian (77.4%), followed by Native Americans (9.4%). Participants ranged from 13-18 years of age at time of assessment; however, the majority was between the ages of 15-17 (84.8%).

Measures

Participants were evaluated using the Practical Adolescent Dual Diagnosis Interview (PADDI; Estroff & Hoffmann, 2001). The PADDI is a structured diagnostic interview, conducted by licensed individuals, that evaluates the treatment needs for individuals in the juvenile justice system and addiction treatment programs, and also provides demographic information. The measure assesses for disruptive behavior disorder symptoms and several other Axis-I co-occurring conditions, as well as evaluates for physical, sexual, and emotional abuse. Although the PADDI is sufficient in identifying these disorders, some CD and ODD symptoms are omitted or combined. Symptoms including: has been physically cruel to people (CD), often bullies, threatens or intimidates others (CD), often stays out at night despite parental prohibitions (CD), and often blames others for his or her mistakes or misbehavior (ODD) are not included in the PADDI, and the three CD criteria regarding stealing are combined into two criteria:

stealing in general and breaking in to steal. Lastly, there is one item on the PADDI that captures the essence of aggressive behavior but is not a criterion in the DSM-IV for CD (Have you ever beaten someone up for no good reason, or just because he or she is different?).

Analyses

Analysis of Variance. A factorial analysis of variance (ANOVA) was used to test for an interaction between gender and any experience of abuse for disruptive behavior symptoms (Hypothesis 1). A factorial ANOVA was also used to determine any interaction between gender and the experience of multiple types of abuse for disruptive behavior symptoms (Hypothesis 2). One way ANOVAs were used to determine the relationship betwwen disruptive behavior symptom count and the experience of multiple types of abuse in males and females, separately (Hypothesis 2).

Correlations. Exploratory correlations were conducted to determine the relationship between number of types of abuse experienced and aggressive disruptive behavior symptoms (Hypothesis 3). Aggressive and non-aggressive symptoms have been determined by a recent study, utilizing the PADDI, that factor analyzed CD and ODD symptoms into a two-factor solution of aggressive and non-aggressive symptoms (Table 1, Miller, 2013).

Regression Analyses. Given the relationship between PTSD and aggression (Allwood & Bell, 2008), multiple regressions were used to explore how the extent of PTSD symptoms moderate the relationship between abuse and the aggressive symptoms of CD and ODD, as identified by Miller (2013). Predictors included PTSD symptom count and number of abuse experienced for each gender (Hypothesis 3).

Cross-Tabulation Analyses. Cross tabulation analyses were used to examine the rate of endorsement, by gender, of each CD and ODD symptom identified by the PADDI. Pearson's Chi-square tests of independence were then used to determine significant differences in symptom endorsement by gender.

CHAPTER FIVE: RESULTS

Preliminary Analyses

Given that participants from this sample come from two different types of facilities (juvenile justice and substance use treatment centers), preliminary analyses were conducted to determine if the samples were similar enough to combine. The variables of interest were: experience of any type of abuse, number of types of abuse experienced, and disruptive behavior symptom count. Independent samples t-test were used to determine if participants from each group had similar endorsements of each variable. Analyses were conducted separately for males and females. Results indicated that males in the clinical sample reported significantly higher levels of experience of abuse, number of types of abuse, and disruptive behavior symptoms (see Table 1). Females in the clinical sample reported higher levels of any experience of abuse and number of types of abuse experienced.

Table 1

Any Abuse Experience, Number of Types of Abuse, and Disruptive Behavior Symptom Count means for Clinical and Juvenile Justice Males

	Sample			
	Clinical	Juvenile Justice	*t*	*df*
Any Abuse	.60	.50	2.01*	204.34
	(.49)	(.50)		
# of Types of Abuse	.95	.73	2.46**	569
	(.93)	(.86)		
Disruptive Behavior Symptoms	9.79	8.20	3.94***	569
	(3.94)	(4.03)		

Note. * = p< .05, ** = p <.01, *** p < .001. Standard deviations appear in parentheses below means.

There was no significant difference between samples for disruptive behavior symptom count (see Table 2). Given the significant differences between groups for both genders, the following analyses are conducted separately by group.

Table 2

Any Abuse Experience, Number of Types of Abuse, and Disruptive Behavior Symptom Count means for Clinical and Juvenile Justice Females

	Sample			
	Clinical	Juvenile Justice	*t*	*df*
Any Abuse	.85	.70	2.50*	94.03
	(.36)	(.46)		
# of Types of Abuse	1.90	1.24	4.57***	331
	(1.10)	(1.05)		
Disruptive Behavior Symptoms	7.81	8.38	-1.13	331
	(3.81)	(3.71)		

Note. * = p< .05, *** p < .001. Standard deviations appear in parentheses below means.

Hypothesis 1

It was predicted that individuals who have experienced any type of childhood abuse will express more disruptive behavior symptoms than non-abused individuals. Factorial ANOVAs were conducted separately in each population to determine the interaction between gender and experience of abuse (no abuse coded "0", any abuse coded "1"), on disruptive behavior symptoms. Given that total number of disruptive behavior disorder symptoms was of interest and not symptoms from each disorder specifically, conduct disorder and oppositional defiant disorder symptoms were combined into one variable.

Clinical Sample. There was a main effect for gender, F (1, 384) = 29.39, p =.000, indicating that males display significantly more disruptive behavior symptoms than females. There was also a main effect for child abuse, F (1, 384) = 23.88, p = .000, indicating that individuals who have experienced any form of abuse also display

significantly more disruptive behavior symptoms than non-abused individuals. However, the interaction effect was non-significant, F (1, 384) = .000, p = .993.

Juvenile Justice Sample. There was a main effect for child abuse, F (1, 512) = 11.25, p = .001, indicating that individuals who have experienced any form of abuse also display significantly more disruptive behavior symptoms than non-abused individuals. There was no effect for gender, F (1, 512) = .27, p =.601, on the number of disruptive behavior symptoms endorsed between boys and girls in this sample. The interaction effect was non-significant, F (1, 512) = .76, p = .384.

Hypothesis 2

It was predicted that individuals who have experienced multiple types of abuse will display more disruptive behavior symptoms than individuals who have experienced lesser or no abuse. Separate factorial ANOVAs were conducted to determine the interaction between gender and experience of multiple types of abuse for disruptive behavior symptoms in each population. Additional ANOVAs were then conducted for males and females in each setting to determine if there were differences between specific levels of abuse, and number of disruptive behavior symptoms. Once again, CD and ODD symptoms were combined into one variable. For this hypothesis, the abuse variable consisted of four levels (zero, one, two, or three types of abuse).

Clinical Sample. There was a main effect for gender, F (1, 380) = 45.51, p = .000, indicating that males display significantly more disruptive behavior symptoms than females in this population. There was also a main effect for number of types of abuse, F (3, 380) = 10.89, p = .000, indicating that individuals who have experienced multiple

types of abuse also display significantly more disruptive behavior symptoms than non-abuse individuals. However, there was no interaction, F (3, 380) = .53, p = .664.

One-way ANOVAs were then conducted for each gender separately to test for disruptive behavior symptom count among individuals with different levels of abuse experience. For males, there was a statistically significant difference between groups, F (3, 122) = 6.00, p = .001. Tukey post-hoc test comparisons indicated that individuals who have experienced two types of abuse (M= 11.43, SD= 3.13, p= .003) and three types of abuse (M= 13.00, SD= 3.92, p= .014) had significantly more disruptive behavior symptoms than individuals who have no experience of abuse (M= 8.40, SD= 4.041). However, there were no significant differences in behavior symptom count between the two and three types of abuse groups.

Among females, there was a statistically significant difference between groups, F (3, 258) = 11.416, p = .000. Tukey post-hoc test comparisons indicated that individuals who have experienced three types of abuse (M= 9.24, SD= 3.45) had significantly more disruptive behavior symptoms than individuals who have no experience of abuse (M= 5.85, SD= 3.29, p= .000), have experienced one type of abuse (M= 6.67, SD= 3.97, p= .000), and have experienced two types of abuse (M= 7.55, SD= 3.73, p= .018).

Juvenile Justice Sample. There was a main effect for number of types of abuse, F (3, 508) = 4.68, p = .003, indicating that individuals who have experienced multiple types of abuse display significantly more disruptive behavior symptoms than non-abuse individuals. There was no effect for gender, F (1, 508) = .27, p = .602, indicating that males and females display a similar number of disruptive behavior symptoms in this population. The interaction effect was non-significant, F (3, 508) = .89, p = .445.

One-way ANOVAs were then conducted for each gender separately to test for disruptive behavior symptom count among individuals with different levels of abuse experience. For males, there was a statistically significant difference between groups, F (3, 441) = 5.71, p = .001. Tukey post-hoc test comparisons indicated that individuals who have experienced two types of abuse (M= 9.45, SD= 3.93) had significantly more disruptive behavior symptoms than individuals who have no experience of abuse (M= 7.52, SD= 3.88, p= .003). For females, there was a marginally significant difference between groups, F (3, 67) = 2.71, p = .052.

Hypothesis 3

It was predicted that individuals who have experienced multiple forms of abuse will have an increased number of aggressive CD and ODD symptoms relative to those who have experienced fewer forms or have not experienced abuse. Correlations were used to determine the strength of the relationship between aggressive disruptive behavior symptoms (as defined by Miller, 2013; see Appendix A) and the experience of each specific type of abuse, as well as the number of types of abuse experience. Analyses were conducted separately for gender in both facilities. Multiple regressions were then conducted only if multiple forms of abuse were correlated with aggressive disruptive behavior symptoms to determine if posttraumatic stress disorder symptoms moderate this relationship.

Clinical Sample. For males in the clinical setting, only emotional abuse and number of types of abuse experienced were correlated with aggressive disruptive behavior symptoms. For females in this setting, aggressive disruptive behavior symptoms were correlated with physical, sexual, and emotional abuse, as well as number

of types of abuse (see Table 3). A multiple regression analysis was used to determine if PTSD symptoms significantly predicted aggressive disruptive behavior symptoms in females. Predictors for the regression were number of types of abuse experienced and number of PTSD symptoms. The multiple regression model with both predictors produced R^2= .09, F(2, 259)= 13.10, p= .000. Number of types of abuse significantly predicted aggressive disruptive behavior symptoms (β= .22, *p*= .002). Number of PTSD symptoms were not a significant predictor of aggressive symptoms (β= .12, *p*= .103).

Juvenile Justice Sample. For males in this setting, physical abuse and number of types of abuse experienced were correlated with aggressive disruptive behavior symptoms. For females, there were no significant correlations for any specific type of abuse and aggressive disruptive behavior symptoms (see Table 3). Given that the hypothesis that multiple types of abuse is correlated with aggressive disruptive behavior symptoms was not confirmed, multiple regressions were not conducted for this sample.

Table 3

Correlations between Abuse and Aggressive Disruptive Behavior Symptoms

	Physical Abuse	Sexual Abuse	Emotional Abuse	Number of Types of Abuse
Clinical				
Males	.17	.11	.32**	.29**
Females	.23**	.19**	.23**	.18**
Juvenile Justice				
Males	.13**	.08	.08	.15**
Females	.13	.04	.18	.16

Note. ** = p<.01

Hypothesis 4

It was predicted that males and females will endorse different CD and ODD symptoms, as identified by the PADDI. Cross-tabulation was conducted in the clinical and juvenile justice populations separately to examine the relationship between gender and each individual disruptive behavior symptom. Chi-square tests of independence were then used to determine significant differences between the genders for each symptom.

Clinical Sample. Of the CD symptoms, males were significantly more likely than females to be truant, start physical fights, use a weapon in a fight, vandalize, set fires, hurt animals, force sex, and break in to steal. Females were significantly more likely than males to run away from home. There were no significant gender differences for arrests or being placed in a juvenile detention center, beating someone up, lying to get things, and stealing (see Table 4).

For ODD symptoms, males were significantly more likely than females to argue with authority, refuse requests from authority and be vengeful. There were no significant gender differences for annoy others on purpose, easily annoyed, angry/resentful, and lose temper (see Table 4).

Table 4

Gender Differences for Specific Disruptive Behavior Symptoms: Clinical Population

Symptom	Males (N= 126)	Females (N= 262)	p-value
Conduct Disorder			
Truancy	76 (60.3)	100 (38.2)	.000
Get Arrested	108 (85.7)	230 (87.8)	.337
Ran Away	53 (42.1)	184 (70.2)	.000
Start Physical Fights	97 (77.0)	142 (54.2)	.000
Beat Someone Up	34 (27.0)	74 (28.2)	.447
Use Weapon in Fight	55 (43.7)	51 (19.5)	.000
Vandalism	62 (49.2)	77 (29.4)	.000
Set Fires	41 (24.4)	34 (13.0)	.000
Animal Cruelty	27 (21.4)	12 (4.6)	.000
Lie to Get Things	95 (75.4)	191 (72.9)	.347
Force Sex	11 (8.7)	4 (1.5)	.001
Steal	98 (77.8)	198 (75.6)	.366
Break in to Steal	96 (76.2)	123 (46.9)	.000
Oppositional Defiant Disorder			
Argue Often	84 (66.7)	136 (51.9)	.004
Refuse Requests	61 (46.4)	82 (31.3)	.001
Annoy on Purpose	69 (54.8)	122 (46.6)	.080
Lose Temper	67 (53.2)	113 (43.1)	.040
Easily Annoyed	83 (65.9)	188 (71.8)	.144
Angry/Resentful	58 (46.0)	125 (47.7)	.420
Vengeful	67 (53.2)	89 (34.0)	.000

Note. Parentheses indicate percentages.

Juvenile Justice Sample. Of the CD symptoms, males were significantly more likely than females to use a weapon in a fight, vandalize, steal, and break in to steal. Females were significantly more likely than males to run away from home. There were no significant gender differences for truancy, getting arrested or placed in a juvenile detention center, start fights, beat someone up, and lied to get things, set fires, hurt animals and force sex (see Table 5).

For ODD symptoms, females were significantly more likely than males to lose temper, be easily annoyed, and angry/resentful. There were no significant gender

differences for annoy others on purpose, argue with authority, refuse requested from authority, and vengeful (see Table 5).

Table 5

Gender Differences for Specific Disruptive Behavior Symptoms: Juvenile Justice Population

Symptom	Males (N= 445)	Females (N= 71)	p-value
Conduct Disorder			
Truancy	211 (47.4)	31 (43.7)	.323
Get Arrested	433 (97.3)	70 (98.6)	.446
Ran Away	192 (43.1)	50 (70.4)	.000
Start Physical Fights	264 (59.3)	42 (59.2)	.539
Beat Someone Up	81 (18.2)	13 (18.3)	.547
Use Weapon in Fight	99 (22.2)	7 (9.9)	.009
Vandalism	156 (35.1)	17 (23.9)	.042
Set Fires	61 (13.7)	8 (11.3)	.366
Animal Cruelty	40 (9.0)	3 (4.2)	.128
Lie to Get Things	254 (57.1)	48 (67.6)	.060
Force Sex	7 (1.6)	1 (1.4)	.697
Steal	347 (78.0)	43 (60.6)	.002
Break in to Steal	362 (81.3)	36 (50.7)	.000
Oppositional Defiant Disorder			
Argue Often	263 (59.1)	45 (63.4)	.292
Refuse Requests	174 (39.1)	33 (46.5)	.148
Annoy on Purpose	235 (52.8)	38 (53.5)	.507
Lose Temper	233 (52.4)	46 (64.8)	.033
Easily Annoyed	296 (66.5)	60 (84.5)	.001
Angry/Resentful	172 (38.7)	42 (59.2)	.001
Vengeful	202 (45.4)	32 (45.1)	.532

Note. Parentheses indicate percentages.

CHAPTER SIX: DISCUSSION

The present study aimed at determining the relationship between child abuse and disruptive behavior in adolescents. Specifically, it was of interest whether individuals who have experienced multiple forms of child abuse were more disruptive than individuals who experienced lesser abuse. It was also of interest whether these individuals displayed the more aggressive symptoms of these disorders. A third aim of this study was to determine any gender differences in symptom manifestation of conduct and oppositional defiant disorders regardless of experience of abuse. Given the dearth of studies that examine the effect of combined child abuse, as well as the competing findings concerning disruptive behavior in females, this study was intended to provide more information regarding these under researched bodies of literature.

The present findings revealed that, in agreement with previous studies, child abuse is significantly associated with disruptive behavior in adolescents. Abused adolescents in both the juvenile justice and substance use facilities displayed more disruptive behavior than non-abused individuals. These findings are consistent with general strain theory, which suggests that negative stressors, such as abuse, lead to anger, which often results in externalizing behavior in males and females (Agnew, 1992). There were some gender differences between facilities for disruptive behavior count. Consistent with social role theory, which suggests that males are more likely than females to display physical aggression, males in the clinical setting displayed significantly more disruptive behavior symptoms than females in this setting (Archer, 2004). Gender differences might also, in part, be due to fact that males are more likely to experience

physical abuse than sexual abuse, which occurs more to females. Physically abused males might be more aggressive than non-physically abused males because they are modeling behavior that they have learned from their aggressor (Prather & Golden, 2009). There were no gender differences in the endorsement of disruptive behavior symptoms in the juvenile justice settings. The lack of gender differences in disruptive behavior symptom count in these facilities might be because these individuals likely displayed similar externalizing behaviors that led to arrest. Many disruptive behavior symptoms, especially those of conduct disorder, often lead to misconduct which can ultimately result in incarceration. Females in this setting are potentially not adhering to the non-aggressive social standards that many young females are taught, and therefore display an atypical number of disruptive behavior symptoms for their gender. Although this study differs from others as it combined symptoms of conduct and oppositional defiant disorder into one entity, these results, in part, corroborate with Silverthorn et al.'s (2001) findings that suggest that incarcerated adolescent males and females with conduct disorder display similar levels of antisocial behavior.

Given that many studies have not taken into consideration the relationship between the experience of multiple types of abuse and disruptive behavior, this study aimed to determine if combined abuse indicated higher disruptive behavior symptom count. It was revealed that the experience of multiple types of abuse predicted higher levels of disruptive behavior for individuals in both settings. For males in both settings, those who experienced two types of abuse had more disruptive behavior symptoms than those who have experienced lesser abuse. Males in the clinical settings who have experienced three types of abuse also expressed significantly more disruptive behavior

symptoms than those who have experienced lesser abuse. Females showed a different pattern of combined abuse and disruptive behavior. In the clinical setting, only females who experienced three types of abuse had significantly more disruptive behavior symptoms than females who experienced zero, one, or two types of abuse. There were no significant differences in disruptive behavior count for females in the juvenile justice setting, regardless of level of abuse experienced. Generally, these findings are consistent with results from Turner et al.'s 2006 study of the effects of combined victimization in adolescents and can in part be explained by general strain theory. It appears that for most individuals, a greater experience of strain (in this case, abuse) is related to higher disruptive behavior. The only exception seems to be for juvenile justice females, who generally display a similar level of disruptive behavior symptoms regardless of experience. One reason for this could be that although females are showing some aggression, they may be coping with their abuse experience with internalizing behaviors as well.

It was hypothesized that individuals who experienced multiple types of abuse would display an increased number of aggressive disruptive behavior symptoms (see Appendix A for list of symptoms). Of note, these aggressive symptoms (as identified by Miller, 2013), are composed of mostly covert, or indirect symptoms of aggression, such as being vindictive, and refusing requests. Although combined abuse predicted increased disruptive behavior symptoms in juvenile justice males and clinical males and females, only females in the clinical setting showed a positive relationship between multiple types of abuse and aggressive disruptive behavior symptoms, suggesting that their aggressive tendencies are both physical (or overt) and covert. Given the relationship between PTSD

and aggression (Allwood & Bell, 2008), further analyses were conducted to determine if PTSD symptoms increased the rate of aggression in these females. Findings revealed that PTSD symptoms were not a significant predictor of aggressive symptoms, suggesting that aggression was predicted by the high level of abuse experienced, not the traumatic effects.

The final aim of the present study was to determine any gender differences in specific disruptive behavior symptoms. Previous research has provided conflicting results regarding gender differences in these behaviors. For instance, it has been suggested that females tend to use covert forms of aggression and therefore do not display as many disruptive behavior symptoms, especially the ones epitomizing aggression, such as starting fights and beating others up (Berkout, Young, & Gross, 2011; Gorman-Smith & Loeber, 2005; Lahey et al., 2000). Other studies, such as one conducted by Gelhorn et al. (2009), suggest that males and females equally endorse several disruptive behavior symptoms, including aggressive symptoms. For this hypothesis, every conduct and oppositional defiant disorder symptom were compared separately by gender. Every individual in the sample was included, regardless of whether or not they had a disruptive behavior disorder diagnosis to determine general gender differences in these behaviors.

Findings revealed that there were many gender differences in disruptive behavior symptoms for individuals in the clinical sample. For CD symptoms, males were significantly more likely than females to be truant, start physical fights, use weapon, vandalize, set fires, hurt animals, and break in to steal. They were also significantly more likely to force sex, but there were not enough individuals who endorsed this item to make

substantial implications. There were no gender differences for the getting arrested, beating someone up, lying to get things, and stealing without confrontation symptoms. The only symptom that females endorsed greater than males was running away from home. One reason for this can be attributed to the trend that females are socialized to not display aggression, and therefore might choose to run away rather than confront the situation. Also, females are more likely than males to become victims of sexual abuse, which also may contribute to a female's desire to run away, especially if she experiences this type of abuse repeatedly (MacMillian, Tanaka, Duku, Vaillancourt &Boyle, 2013). For ODD symptoms, males were more likely than females to argue with authority, refuse requests from authority, and to be vengeful. There were no gender differences for the remaining ODD symptoms. One reason why males might endorse these specific symptoms, such as arguing and being vengeful, could potentially be in response to their abuse experiences. This might make them less likely to trust adults in positions of adults, and therefore react negatively to them. In general, these results suggest that males tend to endorse the most overt forms of aggression and confirm the substantial findings that males are more physically and overtly aggressive than females.

Results were slightly different for individuals in the juvenile justice settings. Males were more likely to endorse the following conduct disorder symptoms: use a weapon in a fight, vandalize, steal without confrontation, and break in to steal. Similar to the females in the clinical setting, juvenile justice females were significantly more likely than males to run away. There were no other gender differences, suggesting that males and females in the juvenile justice system are equally likely to start physical fights and beat others up, two of the most aggressive conduct disorder symptoms. However, for

ODD symptoms in this setting, females were more likely than males to endorse the symptoms: lose temper, be easily annoyed, and angry/resentful. There were no gender differences for the remaining ODD symptoms. This suggests that juvenile justice females express ODD symptoms equally or more extensively than males. One theory for these unexpected results is that incarcerated females express their emotions both verbally and physically aggressively, making them more similar to males in terms of disruptive behavior count. Whereas males might express more CD, females express more ODD, and when combined, there are no significant gender differences in disruptive behavior symptom count for males and females in this juvenile justice setting.

Many studies have found that experiencing child abuse often results in externalizing behavior in males and females. The present study confirmed those findings and extended them by suggesting, a general trend for males: more abuse was related to more externalizing behavior. There were fewer differences for females; the mere experience of abuse was related to an increase in externalizing behavior. In general, female abuse victims also exhibit many internalizing symptoms, such as depression, which could account for the reason that higher levels of abuse don't necessarily result in more aggression (Chandy, et al., 1996; Green et al., 1999).

This study also aimed to provide information regarding gender differences in disruptive behavior symptom manifestation for females, an area of research that has so far provided many discrepancies. The present study found that females in juvenile justice were more likely than females in a clinical setting to go against gender norms and show physical aggression at a level equal to males. Lastly, the study provided further information regarding gender differences in oppositional defiant disorder symptoms.

Depending on setting, males and females were almost completely opposite in which symptoms they endorsed. Only one symptom, annoy on purpose, did not result in gender differences between the groups. For the other symptoms, it appears that there is not a consistent trend in gender endorsement across groups. Unlike conduct disorder, which has subgroups of symptoms such as aggression to people or destruction of property, there are no distinctive subgroups for symptoms of oppositional defiant disorder, making it even more difficult to notice any patterns in behavior. Regardless, this study provided evidence that many females in this sample endorsed several ODD symptoms as often as, or greater than males did, suggesting that females are expressing their aggression in negativistic, hostile ways. Further research needs to be done to determine if there are any substantial differences in symptom manifestation of ODD.

Limitations and Future Directions

The current study had several limitations. First, information regarding age of onset for disruptive behavior symptoms and age of first experience of abuse were not available. Therefore, no directional relationship between abuse and these symptoms can be determined. Second, the abuse variables were considered dichotomous. Participants did not report extent of abuse or number of types each type of abuse occurred. This made it impossible to determine differences between individuals who have experienced abuse once or twice from individuals who were repeated victims of abuse.

Another limitation for this study was that neglect data was not collected from this sample. This made it difficult to generalize the findings from this study to findings from many other studies that accounted for neglect. Lastly, given the underrepresentation of

minorities in this sample, caution should be given in generalizing the results to other clinical and juvenile justice facilities that have more diverse populations.

Future research should continue to focus on the effects of experiencing multiple forms of child abuse. Based on the results of the current study, there was a significant relationship between combined abuse and high levels of disruptive behavior. Future research should also take into account the extent of abuse experienced, not just whether abuse was prevalent. Additionally, given the paucity of research involving disruptive behavior in girls, it would be beneficial to further investigate these tendencies in both community and juvenile justice settings.

REFERENCES

Afifi, T. O., McMillan, K. A., Asmundson, G. J. G., Pietrzak, R. H., & Sareen, J. (2011). An examination of the relation between conduct disorder, childhood and adulthood traumatic events, and posttraumatic stress disorder in a nationally representative sample. *Journal of Psychiatric Research*, *45*, 1564-1572.

Agnew, R. (1992). Foundation for a general strain theory of crime and delinquency. *Criminology, 30,* 47-87.

Agnew, R. (2001). Building on the foundation of general strain theory: Specifying the types of strain most likely to lead to crime and delinquency. *Journal of Research in Crime and Delinquency, 38*(4), 319-361.

Allwood, M.A., & Bell, D.J. (2008). A preliminary examination of emotional and cognitive mediators in the relations between violence exposure and violent behaviors in youth. *Journal of Community Psychology, 36* (8), 989-1007.

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text rev.). Washington, DC: Author.

American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders. (5th ed.). Washington, DC: Author.

Archer, J. (2004). Sex differences in aggression in real-world settings: a meta analytic review. *Review of General Psychology*, *8*(4), 291-322.

Bailey, C. A., & Ostrov, J. M. (2008). Differentiating forms and functions of aggression in emerging adults: associations with hostile attribution biases and normative beliefs. *Journal of Youth and Adolescence*, *37*, 713-722.

Baillargeon, R. H., Zoccolillo, M., Keenan, K., Côté, S., Perusse, D., Wu, H., … Tremblay, R.E. (2007). Gender differences in physical aggression: A prospective population-based survey of children before and after 2 years of age. *Developmental Psychology, 43*(1), 13-26.

Berkout, O. V., Young, J. N., & Gross, A. M. (2011). Mean girls and bad boys: Recent research on gender differences in conduct disorder. *Aggression and Violent Behavior*, *16*, 503-511.

Brown, J., Cohen, P., Johnson, J. G., & Salzinger, S. (1998). A longitudinal analysis of risk factors for child maltreatment: Findings of a 17-year prospective study of officially recorded and self-reported child abuse and neglect. *Child Abuse & Neglect, 22*(11), 1065-1078.

Campbell, A., & Muncer, S. (2008). Intent to harm or injure? gender and the expression of anger. *Aggressive Behavior*, *34*, 282-293.

Card, N. A., Stucky, B. D., Sawalani, G. M., & Little, T. D. (2008). Direct and indirect aggression during childhood and adolescence: a meta-analytic review of gender differences, intercorrelations, and relations to maladjustment. *Child Development, 79*(5), 1185-1229.

Carlo, G., Raffaelli, M., Laible, D.J., & Meyer, K.A. (1999). Why are girls less physically aggressive than boys? Personality and parenting mediators of physical aggression. *Sex roles: A journal of research, 40*, 711-729.

Caspi, A., & Moffitt, T. E. (1991). Individual differences are accentuated during periods of social change: the sample case of girls at puberty. *Journal of Personality and Social Psychology, 61*(1), 157-168.

Chandy, J. M., Blum, R. M., & Resnick, M. D. (1996). Gender-specific outcomes for sexually abused adolescents. *Child Abuse & Neglect, 20*(12), 1219-1231.

Claussen, A.H., & Crittenden, P.M. (1991). Physical and psychological maltreatment: Relations among types of maltreatment. *Journal of Child Abuse and Neglect, 15*, 5-18.

Connor, D. F., Steingard, R. S., Anderson, J. J., & Melloni Jr., R. H. (2003). Gender differences in reactive and proactive aggression. *Child Psychiatry and Human Development, 33*(4), 279-294.

Côté, S., Zoccolillo, M., Tremblay, R. E., Nagin, D., & Vitaro, F. (2001). Predicting girls' conduct disorder in adolescence from childhood trajectories of disruptive behaviors. *Journal of the American Academy of Child & Adolescent Psychiatry, 40*(6), 678-684.

Crick, N. R., Casas, J. F., & Mosher, M. (1997). Relational and overt aggression in preschool. *Developmental Psychology, 33*(4), 579-588.

Crick, N. R., Werner, N. E., Casas, J. F., O'Brien, K. M., Nelson, D. A., Grotpeter, J. K., & Markon, K. (1998). Childhood aggression and gender: A new look at an old problem. *Nebraska Symposium on Motivation, 45*, 75-141.

Crittenden, P. M., Claussen, A. H., & Sugarman, D. B. (1994). Physical and psychological maltreatment in middle childhood and adolescence. *Development and Psychopathology, 6*, 145-164.

Cullerton-Sen, C., Cassidy, A. R., Murray-Close, D., Cicchetti, D., Crick, N. R., & Rogosch, F. A. (2008). Childhood maltreatment and the development of relational

and physical aggression: The importance of a gender-informed approach. *Child Development, 79*(6), 1736-1751.

De Coster, S., & Zito, R. (2010). Gender and general strain theory: The gendering of emotional experiences and expressions. *Journal of Contemporary Criminal Justice*, *26*(2), 224-245.

Delligatti, N., Akin-Little, A., & Little, S. G. (2003). Conduct disorder in girls: Diagnostic and intervention issues. *Psychology in the Schools, 40*(2), 183-192.

Erwin, B.A., Newman, E., McMackin, R.A., Morrissey, C., Kaloupek, D.G. (2000). PTSD, malevolent, environment, and criminality among criminally involved male adolescents. *Criminal Justice and Behavior, 27*(2), 196-215.

Estroff, T. & Hoffmann, N. (2001) *PADDI: Practical Adolescent Dual Diagnosis Interview*. Smithfield, RI: Evince Clinical Assessments.

Feldman, R. S., Salzinger, S., Rosario, M., Alvarado, L., Carabello, L., & Hammer, M. (1995). Parent, teacher, and peer ratings of physically abused and nonmaltreated children's behavior. *Journal of Abnormal Child Psychology*, *23*(3), 317-334.

Felson, R. B., & Lane, K. J. (2009). Social learning, sexual and physical abuse, and adult crime. *Aggressive Behavior, 35,* 489-501.

Finkelhor, D., Turner, H., Ormrod, R., Hamby, S., & Kracke, K. (2009). Children's exposure to violence: A comprehesive national survey. U.S. Department of Justice, Retrieved from www.ojp.usdoj.gov.

Ford, J. D., Fraleigh, L. A., & Connor, D. F. (2010). Child abuse and aggression among seriously emotionally disturbed children. *Journal of Clinical Child & Adolescent Psychology*, *39*(1), 25-34.

Foster, E., & Jones, D. E. (2005). The High Costs of Aggression: Public Expenditures Resulting From Conduct Disorder. *American Journal of Public Health*, *95*(10), 1767-1772.

Gelhorn, H., Hartman, C., Sakai, J., Mikulich-Gilbertson, S., Stallings, M., Young, S., & Crowley, T. (2009). An item response theory analysis of dsm-iv conduct disorder. *Journal of the American Academy of Child & Adolescent Psychiatry*, *48*(1), 42-50.

Gorman-Smith, D., & Loeber, R. (2005). Are developmental pathways in disruptive behaviors the same for girls and boys? *Journal of Child and Family Studies*, *14*(1), 15-27.

Green, S. M., Russo, M. F., Navratil, J. L., & Loeber, R. (1999). Sexual and physical abuse among adolescent girls with disruptive behavior problems. *Journal of Child and Family Studies*, *8*(2), 151-168.

Hamby, S.L., Finkelhor, D., Ormrod, R.K., & Turner, H.A. (2004) *The juvenile victimization questionnaire (JVQ): Administration and scoring manual*. Durham, NH: Crimes Against Children Research Center.

Hollist, D. R., Hughes, L. A., & Schaible, L. M. (2009). Adolescent maltreatment, negative emotion, and delinquency: An assessment of general strain theory and family-based strain. *Journal of Criminal Justice*, *37*, 379-387.

Kann, R. T., & Hanna, F. J. (2000). Disruptive behavior disorders in children and adolescents: how do girls differ from boys? *Journal of Counseling & Development*, *78*, 267-274.

Lahey, B. B., Goodman, S. H., Waldman, I. D., Bird, H., Canino, G., Jensen, P., … Applegate, B. (1999). Relation of age of onset to the type and severity of child and adolescent conduct problems. *Journal of Abnormal Child Psychology*, *27*(4), 247-260.

Lahey, B. B., Miller, T. L., Gordon, R. A., & Riley, A. W. (1999). Developmental epidemiology of the disruptive behavior disorders. In H. C. Quay, A. E. Hogan (Eds.), *Handbook of disruptive behavior disorders* (pp. 23-48). Dordrecht Netherlands: Kluwer Academic Publishers. doi:10.1007/978-1-4615-4881-2_2

Lahey, B. B., Schwab-Stone, M., Goodman, S. H., Waldman, I. D., Canino, G., Rathouz, P. J., …, Jensen, P. (2000). Age and gender differences in oppositional behavior and conduct problems: A cross-sectional household study of middle childhood and adolescence. *Journal of Abnormal Psychology*, *109*(3), 488-503.

Letendre, J. (2007). "Sugar and spice but not always nice": Gender socialization and its impact on development and maintenance of aggression in adolescent girls. *Child and Adolescent Social Work Journal*, *24*(4), 353-368.

MacMillian, H.L., Tanaka, M., Duku, E., Vaillancourt, T., Boyle, M.H. (2013). Child physical and sexual abuse in a community sample of young adults: Results from the Ontario Child Health Study. *Child Abuse and Neglect, 37*(1), 14-21.

Maughan, B., Rowe, R., Messer, J., Goodman, R., & Meltzer, H. (2004). Conduct disorder and oppositional defiant disorder in a national sample: developmental epidemiology. *Journal of Child Psychology and Psychiatry*, *45*(3), 609-621.

Miller, N. A. (2013). *The latent structure of oppositional defiant disorder and conduct disorder.* (Unpublished master's thesis). Western Carolina University, Cullowhee.

Moffitt, T. E. (1993). Adolescence-limited and life-course-persistent antisocial behavior: A developmental taxonomy. *Psychological Review*, *100*(4), 674-701.

Moffitt, T. E., Arseneault, L., Jaffee, S. R., Kim-Cohen, J., Koenen, K. C., Odgers, C. L., & ... Viding, E. (2008). Research Review: DSM-V conduct disorder: research needs for an evidence base. *Journal of Child Psychology & Psychiatry*, *49*(1), 3-33.

Moffitt, T. E., Caspi, A., Dickson, N., Silva, P., & Stanton, W. (1996). Childhood-onset versus adolescent-onset antisocial conduct problems in males: Natural history from ages 3 to 18 years. *Development and Psychopathology*, *8*, 399-424.

Nelson, E. C., Heath, A. C., Madden, P. A. F., Cooper, M. L., Dinwiddie, S. H., Bucholz, K. K., … Martin, N. G. (2002). Association between self-reported childhood sexual abuse and adverse psychosocial outcomes: Results from a twin study. *Arch Gen Psychiatry*, *59*(2), 139-145.

Prather, W., & Golden, J. A. (2009). Learning and thinking: A behavioral treatise on abuse and antisocial behavior in young criminal offenders. *International Journal of Behavioral Consulation and Therapy*, *5*(1), 75-103.

Reebye, P., Moretti, M., Wiebe, V., & Lessard, J. (2000). Symptoms of posttraumatic stress disorder in adolescents with conduct disorder: sex differences and onset patterns. *Canadian Journal Of Psychiatry*, *45*(8), 746-751.

Ryan, J. P., & Testa, M. F. (2005). Child maltreatment and juvenile delinquency: Investigating the role of placement and placement instability. *Children and Youth Services Review*, *27*, 227-249.

Salmivalli, C., & Neiminen, E. (2002). Proactive and reactive aggression among school bullies, victims, and bully-victims. *Aggressive Behavior, 28*, 30-44.

Scarpa, A., Tanaka, A., & Haden, S. C. (2008). Biosocial bases of reactive and proactive aggression: The roles of community violence exposure and heart rate. *Journal of Community Psychology*, *36*(8), 969-988.

Salzinger, S., Feldman, R. S., Hammer, M., & Rosario, M. (1993). The effects of physical abuse on children's social relationships. *Child Development, 64*, 169-187.

Shields, A., & Cicchetti, D. (1998). Reactive aggression among maltreated children: The contributions of attention and emotional dysregulation. *Journal of Clinical Child Psychology*, *27*(4), 381-395.

Silverthorn, P., & Frick, P. J. (1999). Developmental pathways to antisocial behavior: The delayed-onset pathway in girls. *Development and Psychopathology, 11*, 101-126.

Silverthorn, P., Frick, P. J., & Reynolds, R. (2001). Timing of onset and correlates of severe conduct problems in adjudicated girls and boys. *Journal of Psychopathology and Behavioral Assessment*, *23*(3), 171-180.

Steiner, H., Garcia, I.G., & Matthews, Z. (1997). Posttraumatic stress disorder in incarcerated juvenile delinquents. *Criminology, 33*, 451-481.

Stickle, T. R., Marini, V. A., & Thomas, J. N. (2012). Gender differences in psychopathic traits, types, and correlates of aggression among adjudicted youth. *Journal of Abnormal Child Psychology*, *40*, 513-525.

Taft, C.T., Creech, S.K., & Kachadourian, L. (2012). Assessment and treatment of posttraumatic anger and aggression: A review. *Journal of Rehabilitation Research & Development*, *49*(5), 777-788.

Tarter, R. E., Hegedus, A. M., Winsten, N. E., & Alterman, A. I. (1984). Neuropsychological, personality, and familial characteristics of physically abused delinquents. *Journal of the American Academy of Child and Adolescent Psychiatry*, *23*, 668-674.

Teplin, L.A., Abram, K.M., McClelland, G.M., Mericle, A.A., Dulcan, M.K., Washburn, J.J. (2006). Psychiatric disorders of youth in detention. U.S. Department of Justice, Retrieved from https://www.ncjrs.gov/pdffiles1/ojjdp/210331.pdf.

Trepat de Ancos, E. T., & Ascaso, L. E. (2011). Sex differences in oppositional defiant disorder. *Psicothema*, *23*(4), 666-671.

Trickett, P. K., & McBride-Chang, C. (1995). The developmental impact of different forms of child abuse and neglect. *Developmental Review*, *15*, 311-337.

Turner, H. A., Finkelhor, D., & Ormrod, R. (2006). The effect of lifetime victimization on the mental health of children and adolescents. *Social Science & Medicine*, *62*, 13-27.

U.S. Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau. (2012). *Child Maltreatment 2011*. Available from http://www.acf.hhs.gov/programs/cb/research-data-technology/statistics-research/child-maltreatment.

Zoccolillo, M. (1993). Gender and the development of conduct disorder. *Development and Psychopathology*, *5*, 65-78.

Zurbriggen, E. L., Gobin, R. L., & Freyd, J. J. (2010). Childhood emotional abuse predicts late adolescent sexual aggression perpetration and victimization. *Journal of Aggression, Maltreatment & Trauma*, *19*, 204-223.

APPENDIX A:

Aggressive and Non-Aggressive Disruptive Behavior Symptoms

DSM-IV Criteria	Covered by PADDI	Miller Aggressive Factor	Miller Non-Aggressive Factor
Conduct Disorder			
Bullies others	---	---	---
Starts fights	X	X	---
Used weapon in fight	X	X	---
Forced sex	X	---	---
Physically cruel to people	X	---	---
Animal cruelty	---	---	---
Stole without confrontation	---	---	---
Set fires	X	---	X
Destruction of property	X	---	X
Broke in to steal	X	---	X
Lied to get things	X	---	X
Stole without confrontation	X	---	X
Stays out late	---	---	---
Ran away	X	---	---
Skipped school	X	---	X
Oppositional Defiant Disorder			
Loses temper	X	X	---
Argues with adults	X	X	---
Refuses requests	X	X	---
Annoys on purpose	X	X	---
Blames others	---	---	---
Easily annoyed	X	X	---
Angry/resentful	X	X	---
Spiteful/vindictive	X	X	---