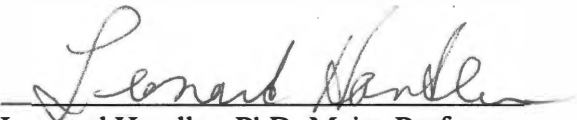
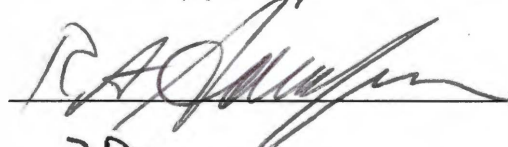
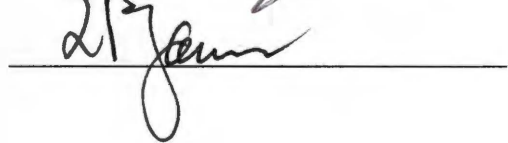


To the Graduate Council:

I am submitting herewith a dissertation written by Ashley Campbell entitled "Gender Differences in Adolescents with Disruptive Behavior Disorders: A Look at Self-Report, Projective, and Treatment Outcome Measures." I have examined the final paper copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Psychology.


Leonard Handler, PhD, Major Professor

We have read this thesis and
recommend its acceptance:

Acceptance for the Council:



Vice Chancellor and Dean of
Graduate Studies

**GENDER DIFFERENCES IN ADOLESCENTS WITH DISRUPTIVE BEHAVIOR
DISORDERS: A LOOK AT SELF-REPORT, PROJECTIVE, AND TREATMENT
OUTCOME MEASURES**

**A Dissertation
Presented for the
Doctor of Philosophy
Degree
University of Tennessee, Knoxville**

**Ashley Campbell
August 2004**

DEDICATION

I dedicate my dissertation to my parents, Bill and Sara Campbell, for their unwavering support and love throughout graduate school and throughout life.

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ABSTRACT

The vast majority of research on disruptive behavior disorders has focused on all male or predominantly male samples. However, researchers have noticed a primary difference in the way boys and girls present symptoms of disruptive behavior disorders. This study examined gender differences in the description of and the psychological mechanisms underlying adolescent disruptive behavior disorders. Differences were assessed using the Child Behavior Checklist, MMPI-A, and Rorschach with a group of adolescents (N=61; 34 males and 27 females) in residential treatment who had a diagnosis including a disruptive behavior disorder. Measures were given upon admission and discharge from treatment.

The results of this study somewhat support the general hypothesis that there are gender differences in the description of and underlying experience of disruptive behavior disorders in adolescents. Contrary to the preliminary hypothesis, based on the CBCL, males appeared to have more difficulties with externalizing as well as internalizing behaviors. According to the MMPI-A's assessment of the personal experience of the behaviorally disordered adolescents' psychological, social, and emotional state, as hypothesized, females appeared to have more distress over familial discord and reported more subjective symptomatic improvement in general over the course of treatment. Based on the Rorschach's indirect measure of the psychological phenomena underlying the adolescents' disruptive behavior disorder there again were few initial differences between the males and the females. However, males did show improvement in their experience of relationships with others over the course of treatment, so that their mean Mutuality of

Autonomy (MOA) scores were equal to that of the females at discharge. Also, only females significantly lowered the number of aggressive content responses, indicating a greater ability to change the salience of aggression in their everyday life.

The majority of the gender differences found were in changes in the different measures across treatment. So even though males and females may present with similar symptoms and underlying difficulties, treatment appears to result in more changes for females, at least along the indices measures. This finding supports the notion that there are underlying gender differences in adolescents with disruptive behavior disorder, in that treatment may affect males and females differently.

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CHAPTER 1: INTRODUCTION

Introduction

A large body of research exists on disruptive behavior disorders in adolescents, namely oppositional defiant disorder (ODD) and conduct disorder (CD). The vast majority of this research, however, has focused on predominantly male samples. Although ODD is equally prevalent in post-pubescent boys and girls and CD is the second most common diagnosis in girls, the female population has been virtually ignored in the research literature (Kann, 2000; Zoccolillo, 1993). The authors of the DSM-IV estimate the prevalence rates for CD among individuals younger than age 18 to be between 6 and 16% and 2 to 9% for males and females, respectively (American Psychiatric Association, 1994). In addition, some researchers believe the current prevalence rates of CD among females may be an underestimate due to inappropriate diagnostic criteria, gender-biased perceptions of problem behavior, and differential social constraints as a function of gender (Delligatti, Akin-Little, & Little, 2003).

The lack of research concerning females with externalizing behavior disorders, particularly CD, is troubling given the significant negative correlates associated with the disorder. For example, adolescent girls with CD are at risk for early and violent death, arrest, substance abuse and dependence, antisocial personality disorder, failure to finish high school, pregnancy, sexual promiscuity, and contraction of sexually transmitted disease (Zoccolillo, Tremblay & Vitaro, 1996; Bardone, Moffitt, Caspi, Dickson, Stanton & Silva, 1998). This paper summarizes research that has investigated gender differences in conduct disorder, with particular emphasis on the phenomenology of CD in females. Specifically, the paper will discuss gender differences among children and adolescents

who exhibit externalizing behaviors and symptoms, the developmental pattern of conduct disorder, gender socialization, risk factors, and the assessment of conduct disorder in girls and boys.

Definition

Conduct Disorder (CD) is defined in the *Diagnostic and Statistical Manual of Mental Disorders*, (4th ed.) (DSM-IV; APA, 1994) as:

a repetitive and persistent pattern of behavior in which either the basic rights of others or major age-appropriate societal norms or rules are violated, as manifested by the presence of three (or more) of the following criteria in the past 12 months, with at least one criterion present in the last 6 months: aggression to people and animals, destruction of property, deceitfulness or theft, and serious violation of rules (pp. 90-91).

The above criterion must also include subsequent impairment in social, academic, or occupational functioning. Additionally, there are two subtypes of CD: childhood-onset type, in which the onset is prior to 10 years of age, and adolescent-onset, which involves symptoms presenting after 10 years of age.

Overview of the Problem

Researchers cite several reasons for the paucity of research done on girls with CD (Delligatti et al, 2003; Zoccolillo, 1993). First, mental health researchers and practitioners often perceive that CD rarely occurs among girls, a bias that may inhibit them in their efforts to study, diagnosis, and treat females who actually present with this disorder (Robins, 1986). Second, consistent with a significant body of research on anti-social behavior and antisocial personality disorder, a large proportion of research in the

area of CD has been done within the criminal justice system. As this population has significantly more males than females, especially when looking at arrests and imprisonment rates for more serious and violent crimes, females have been excluded or inadequately represented in research studies (Zoccolillo, 1993). Finally, there also have been arguments that the DSM-IV criteria for CD is biased in that it largely was based on studies involving boys and thus has not been validated adequately among female samples (Delligatti et al., 2003). Because of these limitations, more studies comparing similar groups of boys and girls will help elucidate important gender differences as well as the generalizability of past findings.

Symptom Presentation

Researchers have noticed a primary difference in the way boys and girls manifest symptoms of behavioral disorders. Symptoms exhibited among boys generally are externally directed behaviors that are deemed harmful to others or the environment, such as stealing, lying, fighting, and destructiveness. Even in young children, boys have been shown to have higher rates of CD and are much more likely than girls to have 2 or 3 concurrent disruptive behavior disorders, including ODD, and ADHD (Lumley et al., 2002). In contrast, girls with behavioral problems more typically exhibit characteristics of more internally focused problems that include anxiety, shyness, withdrawal, hypersensitivity, and physical complaints. Evidence of this can be seen in the increased prevalence of comorbid internalizing disorders in girls with disruptive behavior disorders (Kann, 2000; Keenan, 1999). Greater co-existence of such internally focused behavior ultimately may result in phenomenological differences in terms of the anti-social, abusive, or exploitive behavior exhibited across genders.

There is a body of literature to suggest, for example, that at least two subtypes of girls with more aggressive conduct problems may exist. There is a small group of female adolescents who exhibit aggressive behavior that is at least as severe and persistent as generally seen in boys and then a larger group of girls who exhibit a more subtle social or relational aggression, ostracism of others, and defiance (Kann, 2000; Tiet, Wasserman, Loeber, McReynolds, & Miller, 2001). This research lends credence to the idea of a gender paradox, in which a subset of girls has problems that are more pervasive than in high-risk boys. The idea of a gender paradox implies that the gender with the lower prevalence of a disorder actually may be at a higher risk for a poorer outcome, suggesting a more severe form of the disorder and/or higher comorbidity rates (Tiet et al., 2001).

Developmental Course

Gender Distribution

As reported previously, more males are diagnosed with CD than are females, even though there are equal rates of Oppositional Defiant Disorder across genders. To say that there are simply more boys than girls with conduct problems may not be entirely accurate. For example, Tiet et al. (2001) studied a group of children aged 4 to 18 over a 3-year period who were considered at risk for CD and antisocial behavior by virtue of family history and urban residence. They found that for a group of high-risk boys the distribution and pervasiveness of conduct problems showed a positive skew, in which boys clustered at the lower end of the distribution and the number of boys decreased as the number of affected domains increased. In contrast to this finding, the distribution for the high-risk girls was bimodal, with a large cluster of girls with no or few elevated Indicators of Conduct Problems (ICP) and CBCL subscales of conduct problems, and

another substantial cluster (18.8%) with problems in five or more domains.

Comparatively, only 8.8% of the boys showed elevated scores in five or more ICP and CBCL domains. As alluded to previously, these data support that notion that two distinct groups of conduct disordered girls may exist, one that exhibits disordered behaviors at a lower rate and another than exhibits behavioral problems at a level that is at least, if not, more severe than is seen in their male counterparts. In this study, the smaller group of girls with the more pervasive problems all showed elevated scores on scales of physical aggression, lying and stealing, substance abuse, and destruction of property when compared to the larger group of girls with no or few elevated scales.

Age of Onset

The research literature indicates that chronic externalizing behavior problems, as seen in Conduct Disorder, are already present in the preschool years, particularly in boys (Webster-Stratton, 1996). However, relatively little is known about the stability of early-onset conduct problems and their developmental pathways as a function of gender.

Although early-onset conduct problems, including ODD, are diagnosed more commonly in preadolescent boys than girls, by adolescence there is very little difference in the prevalence rates by gender. This change in the prevalence ratio may be due to differing early behavioral symptoms in boys and girls. For example, as noted earlier, girls have been shown to exhibit less overt aggression. Webster-Stratton (1996) found preschool age boys to be more physically negative than girls at school, as determined by teacher ratings and in-home observations of parent-child interactions.

Many researchers believe early age of onset to be prognostic of chronic behavior problems and later onset to be indicative of a more transitory and less serious form of

disruptive behavior disorders. Early-onset CD is thought to be associated with impaired functioning, including impulsivity and executive functioning deficits (Moffitt, 1993). These more biologically based factors may help explain the gender difference seen in rates of early-onset CD, in that boys may be more influenced by biological and social risk factors and girls may be more vulnerable to a myriad of social risk factors only (Brennan 2003).

Comorbidity

Comorbidity varies with age, gender, informant, source, diagnostic criteria, and nature of the sample (clinical vs. epidemiological). Comorbidity has been shown to be a common occurrence in children and adolescents with CD, particularly with behavioral disorders such as ADHD, ODD, depression, anxiety disorders, and substance abuse disorders (Stahl & Clarizio, 1999). Comorbidity patterns involving externalizing behavior disorders, such as disruptive behavior and substance abuse, are more common among males, while comorbidity with internalizing disorders, such as depression and anxiety, is more often observed in females.

When comparing boys and girls with CD, a different pattern of comorbidity emerges. As noted previously, adolescent girls have lower prevalence rates of CD than do adolescent boys. Adolescent girls also have been shown to have lower prevalence rates of other externalizing disorders, such as ADHD and substance abuse (Loeber & Keenan, 1994). Given these data, the co-existence of CD and other behavioral disorders in girls might be comparatively rare, possibly resulting in a gender-paradox whereby females with comorbid externalizing disorders may be more seriously affected than boys with comorbid externalizing disorders. In other words, the severity of disruptive

behavior in girls would be higher than in boys given the likelihood of two rare disorders co-occurring. Loeber and Keenan (1994) discussed the idea of a gender paradox when they noted that in some disorders with an unequal sex ratio, such as mental retardation, autism, and seizure disorder, the gender group with the lower prevalence rate tended to be the more seriously affected. It should be noted, however, that the idea of a gender paradox as it applies to girls with disruptive behavior disorders is currently speculation and has not been explored with adequate empirical investigations (Loeber & Keenan, 1994).

Loeber and Keenan (1994) speculate that once females are diagnosed with disruptive behavior disorders they have a higher probability of incurring multiples diagnoses compared with disruptive boys. They were able to show this gender paradox applied to adolescent girls with CD and comorbid conditions of ADHD, anxiety, and substance abuse. For example, they noted a gender paradox in comorbidity with a higher likelihood of ADD girls, compared to ADD boys, becoming conduct disordered. Robins (1986) concluded that "an increased rate of almost every disorder was found in women with a history of conduct problems" (p.399). Since adolescent girls have been shown to be more at risk for internalizing disorders, such as anxiety and depression, it makes sense that there is a high amount of overlap in these disorders in girls with CD. For example, Robins (1986) reported that internalizing disorders occurred twice as frequently in women with CD than they did in non-CD women. This increased risk appears to be a major difference in the development of comorbid conditions in girls and boys. While both CD boys and girls appear at increased risk for developing co-morbid disorders, girls appear to be at a relatively greater risk for comorbidity.

Risk Factors

Relatively little CD research has focused solely on the disorder in females. Much of the information regarding risk factors, then, is based on combined samples of males and females or on males alone. Storvoll and Wichstrom (2002), however, examined the existence of gender differences in the associations among conduct problems and a multitude of risk factors by analyzing self-report data collected as part of a large general population study of Norwegian adolescents ($n=9,342$). Potential risk factors included family environment, peer influence, leisure activities, school-related variables, and pubertal timing. On the basis of earlier studies, conduct problems were divided into three categories: theft and vandalism, school overt opposition, and covert behavior. Family related variables (parental separation, parenting perceived as providing less care and monitoring and being more overprotective, and parental substance abuse), having deviant friends, low participation in organized and family related leisure activities, and high participation in unorganized leisure activities, and school related variables (poor grades, spending little time in homework, and having low educational aspirations) were each associated with all three dimensions of conduct problems for boys and girls.

Although all of these risk factors were associated with conduct problems for boys and girls, there were gender differences in the strength of these associations. Risk factors that included adverse family conditions, deviant friends, unsupervised leisure time, and failure at school were more strongly associated with theft and vandalism and school opposition for boys than for girls. There were no gender differences found when looking at risk factors associated with covert behavior. One possible explanation for these

findings is that when boys and girls are exposed to the same level of risk factors they are likely to act out in gender-appropriate behavioral ways. Both boys and girls were about as equally likely to exhibit covert behavior, while the boys were more likely than the girls to act out overtly at school or through theft and vandalism. Research into this gender-appropriate reaction to risk factors may be further understood by looking at the effects of biological factors and socialization.

Temperament/Biological/Neurological

There is some evidence that differences in temperament and particular hormone levels pose as risk factors in the development of CD. Thomas and Chess (1977) found that children who demonstrated temperamental factors such as oppositional patterns, negative mood, and lack of adaptability were more likely to be referred for treatment for CD than were children demonstrating other temperamental factors. In a study of prepubertal boys, van-Goozen et al. (1998) found temperamental factors such as oppositional patterns, negative mood, and lack of adaptability to be more likely to lead to a referral for CD than were other temperamental factors. In a study of prepubertal boys, van-Goozen, Matthys, Cohen-Kettenis, Thijssen, & van-Engeland (1998) found that boys with CD may have higher levels of hormones such as adrenal androgens compared with control subjects. These findings lead to the possibility of biological and neuropsychological risk factors, but only in a sample of boys. Further research with females would help in understanding hormonal influences on aggression and deviant behaviors.

A study by Brennan, Hall, Bor, Najman, & Williams (2003) attempted to examine the relationship between biological and social risk factors and aggressive behavior

patterns in a high-risk sample of 370 boys and girls. Children were considered high-risk based on their lower socio-economic status and maternal self-reports of depression. In this longitudinal study, perinatal, temperamental, familial, sociodemographic, and behavioral data were collected during pregnancy, immediately postpartum, and when the children were 6 months old, 5, 14, and 15 years old. Social and familial risk factors assessed in this study included the following: mother's report of a negative attitude toward the infant, harsh discipline style, and maternal permissiveness; inadequate parental monitoring; youth perception of lack of paternal and maternal control, acceptance, and maternal hostility; poor maternal educational background; exposure to consistent poverty; and a high number of family transitions. Biological risk factors included: high numbers of perinatal and birth complications, maternal illness during pregnancy, infant temperament problems, low receptive vocabulary scores at age 5, low vocabulary IQ scores at age 15, and deficits on two separate neuropsychological measures of executive functioning at age 15. Risk factors were assessed cumulatively, with each risk factor dichotomized to allow for a total count of each of the risk types.

The longitudinal aspect of the study allowed for the differentiation and exploration of early-onset persistent type aggressive behavior and the late-onset adolescent type in both boys and girls. As predicted, both gender and developmental phase of measurement moderated the relationship between bio-social risks and the outcomes of early-onset and late-onset adolescent aggression. Particularly, the number of biological risks, in combination with social risk factors, significantly predicted early-onset aggression versus late-onset adolescent aggression in boys. A group of early-onset aggression girls was found, but they were predicted only by an increased number of

social risk factors. These results suggest that the processes related to the development of early-onset persistent aggression in boys and girls may be somewhat different.

Temperamental and biological risk factors do not appear to be as pertinent in the development of aggression in females as was demonstrated in boys. However, socialization and risk factors associated with the familial environment appear more likely to influence disruptive behavior in girls.

Empathy & Guilt

Empathy is an understanding and sharing of another's emotional state or context and involves both an affective and cognitive component (Cohen & Strayer, 1996). In general, girls tend to score higher on measures of empathy than do boys (Keenan & Shaw, 1997). Girls also report more rumination and guilt about inconsiderate behavior than do boys (Keenan, Loeber, & Green, 1999). Deficiencies in empathy and lack of guilt have been associated with aggressive behavior and antisocial individuals. In a study by Cohen and Strayer (1996), empathy was measured using self-report questionnaires and an interview assessing emotions and cognitions in response to videotaped vignettes of people experiencing affective events. Subjects were 62 youth, half of whom were boys and girls with CD in a residential treatment facility and half of whom were non-CD boys and girls recruited from a local high school.

The study found that empathy, as measured by both self-report questionnaires and interviews following the videotaped vignettes, was lower for CD children than comparison group adolescents and that empathy was related inversely to antisocial and aggressive attitudes for all youths tested. The study also found that, in general, girls scored higher than boys on empathy questionnaires in both the CD and non-CD groups.

CD girls also reported decreased empathy relative to the non-CD boys, making the empathy differences for CD versus non-CD youth generalizable to both the boys and the girls.

Not all studies looking at CD and delinquency, however, have shown girls to demonstrate a clear deficit in empathy. Ogle, Maier-Katkin, & Bernard (1995) suggests that there is a subgroup of antisocial females who respond with excessive guilt when exposed to stress. The differing experience of empathy and guilt in males and females may help explain females' tendency towards comorbid internalizing disorders.

Family Psychopathology

Parental depression also may be a risk factor specific for the development of CD, particularly in girls. Parents with depression have been shown to have children with more emotional and behavioral problems in general (Kann & Hanna, 2000).

Additionally, in the recent longitudinal study by Brennan et al. (2003), described in detail above, maternal depression was found to be the only predictor that differentiated between adolescent-onset aggression and non-aggression in a high-risk sample of girls and boys.

Webster-Stratton (1996) found parental depression to have differential effects on boys and girls, specifically when looking at externalizing behaviors in children with depressed mothers. This study examined preschool age boys and girls with early onset conduct problems. They examined these children at baseline and at 2 year follow-up after their parents underwent a 12-week parenting class. At baseline there were few gender differences in behavioral symptoms. However, after examining follow-up data, a gender difference was found in predictors of externalizing behaviors in the children at home. In addition to factors such as mother negativity, father negativity, and life stress,

the presence of maternal depression predicted girls' externalizing behavior problems in a 2-year follow-up study of preschool age children. These same factors did not predict externalizing behavior problems in boys. In fact, for boys no parenting or family variables emerged as predictors of externalizing problems at home.

Social Learning, Aggression, and CD

Several studies have shown parent and family risk factors specific to girls in the development of CD. Social learning theory suggests the importance of modeling and reinforcement in the development of behavior patterns and the tendency of children to imitate same sex models. This provides a theoretical explanation for Johnson and O'Leary's (1987) finding that daughters' behavior patterns were more closely associated with their mothers' behavior patterns than their fathers'. This study also found parents of girls with CD to be significantly different than parents of girls without CD. Specifically, mothers of conduct disordered girls were significantly more hostile and fathers of conduct disordered girls were significantly more aggressive in their response style. These findings were not replicated in a more recent longitudinal study by Morrell and Murray (2003) that looked at the relationship between environmental and genetic factors, namely parenting style and emotional dysregulation during infancy, in the development of childhood conduct disorder.

A longitudinal study by Morrell and Murray (2003) looked at the relationship between environmental and genetic factors, namely parenting style and emotional dysregulation during infancy, in the development of childhood conduct disorder. The Morrell and Murray (2003) study sample consisted of 59 mothers and their infants, recruited from a representative community sample of mothers of normal, healthy infants

on the postnatal maternity ward, who were followed from 2 months to 8 years of age. Emotion dysregulation was assessed at nine months of age by participation in a neurocognitive “A not B” task. Emotion dysregulation at 9 months of age was shown to predict conduct disorder at 5 and 8 years of age in boys and girls. Infant gender was shown to strongly influence this developmental trajectory and was associated with distinct differential patterns of parenting. There was strong continuity between early infant behaviors and later conduct disturbance that was partially mediated by maternal hostile parenting in boys and maternal coercive parenting in girls. The maternal environment was shown to predict both the development of emotion dysregulation at 9 months and, at least in part, subsequent conduct disorder symptoms. One possible explanation for the gender differences seen here is that boys and girls may be differentially susceptible to the same levels of hostile and coercive parenting. Another possibility is that differential socialization of girls and boys may result in developing gender-specific schemata, which then interact with specific parenting practices.

A meta-analysis by Lytton & Romney (1991) looking at parents’ differential socialization of boys and girls found minimal differences in the way social behavior or abilities were learned. However, they did find the discouragement of aggression to be directed slightly more toward girls, indicating differential treatment that may amplify children’s existing behavioral tendencies, such as greater inhibition of aggression in girls. Therefore, when girls act out in aggressive and externalizing ways, it may suggest these girls have been exposed to atypical socialization, possibly even exposed to harsher, more unusual environmental experiences than delinquent boys (Skodol, 2000). Their harsher environmental experiences may override other socialization processes. For example, a

considerable number of adolescent girls who exhibit violence and lack of impulse control have been victims of sexual abuse (Kann, 2000). According to Zahn-Wexler (1993), sexually abused girls who have experienced vaginal penetration often display antisocial behavior and are at risk for developing CD as well as depression.

Together with more inherent temperamental or biological factors, these socialization differences may increase the likelihood of aggressive, antisocial, disruptive or delinquent behaviors. Because of gender stereotypes and associated differential reinforcement of such behaviors, in addition to increased frequency, one might also speculate that engagement in these behaviors may be more egosyntonic for adolescent males than for females. Accordingly, when adolescent females exhibit externalizing behaviors, one might expect a different level of internal distress. This suggests that girls who act out may feel more alienated from family, friends, and society in general, given the more normative female orientation towards other-relatedness. These experiences may subsequently contribute to females' increase in internalizing disorders, feelings of low-self esteem, and familial difficulties.

Aggression

Several studies have found boys to engage in more overtly aggressive behavior than girls (Lahey et al., 2000). Tiet, Wasserman, Loeber, McReynolds, & Miler (2001) looked at maternal ratings of conduct problems in a high-risk sample of 228 boys and 80 girls on the Child Behavior Checklist (CBCL). They found boys to be significantly more aggressive than girls, but found no sex differences for stealing, lying, relational aggression, and substance abuse. However, they also noted a small group of girls who

had pervasive conduct problems across multiple domains and in many areas had at least as many problems as boys.

As described earlier in this paper, girls in general are associated with acts of more covert and less overt aggression when compared to boys (Tiet et al., 2001). Females' use of relational aggression is consistent with girls' commonly held social concerns while boys' aggression is compatible with the more typical male goals of instrumentality and physical dominance. Regardless, both forms of aggression serve to damage their peers' most valued goals: physical dominance in boys and social relationships in girls (Delligatti et al., 2003). Although relational aggression is not physically damaging, it is still intentionally hurtful and is significantly related to social maladjustment and later psychological difficulty, including depression and loneliness (Crick & Grotpeter, 1995).

Crick and Grotpeter's (1995) research on gender differences in aggression posits that many of the criteria for CD may be present in girls' aggressive behavior but teachers, parents, and others may not be focusing on them because aggression often presents differently for females than for males. Female aggression towards others has been shown to be more relational in nature rather than overtly physical, as is more common in males. Overt, physical aggression is more noticeable to others in authority while relational aggression is best judged by peers, thereby contributing to a lack of detectable female aggression when diagnosing CD. Additionally, girls' greater emphasis on social skills may result in heightened interpersonal awareness that make it easier to escape detection.

Socialization

In a study by Megargee, Mercer and Carbonell (1999) comparing male and female prison inmates, females were found to significantly differ with regard to scale 5, masculinity-femininity. For a large percentage of female inmates, scale 5 was their highest elevated score, indicating that antisocial females were most deviant with regard to their female identity and more “masculine” in nature. Also noted was that the effect sizes for female offenders were substantially greater than those for men. This means that the MMPI-2 scores of the female prisoners deviated more from the normative sample than did those of incarcerated males, even though in this sample many of the female prisoners were in less secure settings than the men. This finding lends credence to the idea of a gender paradox, as described earlier, in which females with CD are at risk for more extreme symptomatology. In this example, the female prisoners differed most extremely in their sense of gender identity and femininity from the normative female population, while males did not differ as severely in their experience of masculinity. This finding has implications for ways in which social conceptions of gender and “masculinity” are related to disruptive, acting out, behavior in adolescents.

Socialization processes and dimensions of the self may have an important role in the formation of both internalizing and externalizing disorders, including disruptive behavior disorders for both males and females. Sociocultural conceptions of masculinity and femininity, which are activated and applied most strongly in adolescence, differentially shape dimensions of the self that, in turn, contribute to the development of psychological disorders (Rosenfield, 2000). Typical societal conceptions place masculinity in a more public sphere, which has relatively more power, and is associated

with the use of reason and the mind. Femininity, on the other hand, has typically been placed in the private sphere, carrying with it responsibilities for caretaking and relatedness to others, and is associated more with emotion than reason. This may help account for the higher prevalence of internalizing disorders in females and externalizing disorders in males.

Gender training or socialization has consequences for girls' assumptions about themselves and their interpersonal relationships. For girls during adolescence it tends to become more important to preserve connections with others than to hold on to one's own feelings and beliefs. Females perceive more interpersonal dependence and emotional reliance on others than do their male counterparts. In a large-scale study of adolescents, an extremely high degree of identification with others' feelings was associated with depressive symptoms (Rosenfield, 2000), which may help explain girls' higher comorbidity for internalizing disorders, such as depression.

In addition, research on families and children's socialization posit that as boys reach adolescence they typically disengage more from the family system due to their identification with the male father figure who is often absent from the home due to time spent in the public sphere. It is easier for girls to stay more connected to the family system due to their identification with the mother figure and her more figural place in the private sphere, or home (Keenan, Loeber, & Green, 1999). This has implications for girls who display more aggressive or disruptive behaviors, in that they will possibly feel more distress related to the strain it places on the family system in which they had been more connected.

Assessment Issues

The lack of recognition of CD in girls may be related to insensitive and gender-biased diagnostic criteria. Aggressive behaviors in the CD diagnostic criteria may need to be broadened to include relational/covert aggression, more commonly seen in girls, as well as the physical/overt aggression, more commonly seen in boys. Some researchers (Zoccolillo, 1993) have proposed a need to develop gender-specific criteria for diagnosing CD in children. These criteria would include lower levels of overt physical aggression in girls.

Other researchers (Zahn-Waxler, 1993) do not support the idea of broadening the diagnostic criteria of CD for girls and see it as potentially harmful. In diagnosing girls with CD who present with very little deviance similar to what is seen in boys, one runs the risks of stigmatizing girls early on and possibly leading to later re-labeling of being “antisocial.” Girls whose deviant behavior includes physical complaints, relatively low levels of aggression, and underachievement, who could then be diagnosed and labeled with CD, may be at the disadvantage of being misunderstood and presumed to be antisocial.

Zahn-Waxler (1993) does support Zoccolillo's (1993) general idea of extending the diagnostic criteria for CD to include patterns of behavior more commonly seen in girls with the formation of categories of CD. This would entail a differentiation of aggression into categories of non-violent and violent CD. In this way, the goal would not be to simply diagnose more females with CD to raise the base rates, but to discriminate pathology in its different forms (Delligatti et al, 2003). For example, although CD has been found to be associated with criminality in both sexes, females are arrested less often

and for less violent crimes than are males. Girls with CD are arrested significantly more often than are girls without CD, however, making the diagnosis of CD important for prevention of possible criminality. Looking at a history of police contact, shoplifting, under-age drinking, or status-offenses such as running away and truancy may be very common for girls with CD but not emphasized in traditional diagnostic assessment emphasizing overt aggression.

Another difficulty in assessing conduct disorder and externalizing behavior problems equally in girls and boys may relate to gender bias in the examiner. Results of the study by Webster-Stratton (1996) suggest that the gender of the parent or teacher may result in different interpretations of boys' and girls' behavior. For example, fathers were more tolerant of physical aggression in boys and found girls' internalizing behaviors to be more problematic than did mothers.

A study by Curtis (2002) looked specifically at the presence of gender bias in the diagnosis of CD. Clinical vignettes of an adolescent presenting with CD were manipulated for gender of the hypothetical client. These vignettes were then given to 88 mental health professionals, who were randomly assigned to either a male or female hypothetical client, with the task of assigning a DSM-IV multi-axial diagnosis. Results indicated significant differences in the accuracy of diagnosing CD, in that the male protocols were diagnosed with CD more often than female protocols. This lends further evidence to the idea of a gender bias in the assessment and diagnoses of CD. Not only is there a possibility of bias based on the gender of the examiner, but also based on the gender of the child being assessed.

Research Limitations

In addition to the gender bias found in the assessment of CD in girls and boys, there are several prevalent limitations in this research area that makes it difficult to find consistency and generalizability in the findings. The use of varying informants and varying constructs to define behavior problems also complicates the picture. For example, some studies rely on parent or teacher reports of deviant behavior while other studies rely on self-report by the child or adolescent in question. Parents often are unaware of deviant behavior as their child gets older, so that the child's self-report may be a more accurate representation. Adolescents, in particular, have been shown to report significantly more conduct problems as compared with parents' reports (Lahey, Schwab-Stone, Goodman, Waldman, Canino, Rathouz, Miller, Dennis, Bird & Jensen, 2000). In evaluating CD children and adolescents, however, of whom lying is often a symptom of their pathology, their own account of their behavior may be either intentionally or unintentionally misleading. A combination of parent and child report has been shown to be most accurate in assessing deviant behavior (Lahey et al., 2000).

Studies also vary in their description of behavior problems. While many studies use categories defined by the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV, APA) others use different dimensions identified through factor analyses of rating scales. Aggressive and non-aggressive conduct problems are categorized differently, with some investigators making the distinction between overt and covert aggression, while others treat all delinquent behaviors as a single category (Lahey et al., 2000). These different groupings make it difficult to integrate findings across studies.

Sampling is another major methodological issue to take into consideration when reviewing the literature. Descriptive studies can be potentially misleading when samples are selected in ways that bias variables, such as age and gender. For example, samples taken from clinics appear to contain greater proportions of younger boys and older girls with behavior problems than are seen in the general population (Goodman, Lahey, Fielding, Dulcan, Narrow, & Regier, 1997). Studies involving children at risk for developing behavior problems, as opposed to a community sample, may not be generalizable to the general population.

The various methods used in diagnosing disruptive behavior disorders in children and adolescents typically include interviews, behavior rating scales with several types of informants, and behavioral observation. Different assessment methodology continues to complicate the picture when trying to integrate the results of varying studies. There are advantages and disadvantages to each method, but using various methods in an assessment battery would likely decrease the chance of misdiagnosis and provide a more thorough evaluation (Kann & Hanna, 2000).

Conclusions

Continued research focusing on girls and the development and assessment of girls with CD and other externalizing behavior disorders is needed. Being able to understand the developmental course of CD in girls may lead to information about etiology. Given that normative behavior differs according to gender, deviant behavior should not be expected to necessarily manifest consistently in girls and boys. The gender differences seen in the expression of acting out disorders, such as girls tending to be less overtly

aggressive, does not mean that externalizing disorders are less detrimental to females than to males.

Females with CD are at risk for a multitude of negative outcomes as are their male counterparts. Being able to identify these girls at an earlier age where overt aggression is not typically found would be helpful in prevention of later negative consequences and vulnerabilities. In addition to things such as Antisocial Personality Disorder, early pregnancy, and increased mortality, girls with CD appear to be at a greater risk for comorbid conditions, particularly internalizing disorders (Keenan, Loeber & Green, 1999). Zoccolillo (1993) found that girls and boys with CD were at about the same risk for developing Antisocial Personality Disorder. In addition, girls with CD are also more likely to choose antisocial partners, which increases the risk for disruptive behaviors among their offspring, leading to ongoing costs to society (Zoccolillo, 1993).

There are differences in opinion regarding the definition of CD in girls. Zoccolillo, Tremblay and Vitaro (1996) argue for the revision of the diagnostic criteria so that girls who display less overtly aggressive, but still impairing, conduct problems can be labeled CD. This would lead to more equal diagnostic rates for boys and girls. Zahn-Waxler (1993) does not agree with this solution and feels that the sex differences seen in CD reflect true sociocultural and biogenetic differences between the sexes. Given this argument, the creation of a CD variant that raises prevalence rates of CD in girls may not be constructive (Keenan et al., 1999). If research finds the development, course, and prognosis of CD to be different for girls and boys, then there may also be a need for differences in treatment and prevention programs.

As research has shown, there are girls who exhibit equally as disruptive and persistent behavior problems as seen in boys. Both girls and boys have been shown to exhibit early-onset persistent aggression and chronic behavioral difficulties. However, there is evidence to suggest that the development of these disruptive behavior disorders and the risk factors associated with them are not the same in boys and girls. The literature suggests that boys are more influenced by biological or temperamental risk factors in the development of aggressive and disruptive behavior disorders. Girls have been shown to be more influenced by social risk factors, including familial risk factors and socialization in general. These differences in the types of risk factors related to the development of behavior problems have implications for intervention and treatment of these disorders.

A complete understanding of child and adolescent behavior problems must take into account developmental and gender differences. Gathering basic descriptive data is essential to the task of coming to understand and explain the etiology and risk factors associated with disruptive behavior disorders in boys and girls. Only well-designed longitudinal studies with representative samples can accurately describe and provide information on the development of behavioral disorders (Lahey et al., 2000). Further studies on the etiology, prevention, and treatment can then be grounded in an accurate base of descriptive knowledge.

Purposes of Study

A main goal of this study is to investigate the possible gender differences in the description of and the psychological mechanisms underlying adolescent disruptive behavior disorders. Multiple measures, including self-report, behavioral, and projective measures were used in a group of adolescent patients in a residential treatment center. In addition to looking at the psychological differences apparent at the outset of the adolescents' inpatient treatment, pre and post data were compared to look for any treatment outcome differences affected by gender.

A study of inpatient adolescents found that direct measures of emotional distress, including the MMPI-A, showed evidence of convergent validity, while indirect measures, including the Rorschach, were largely uncorrelated with each other and with the direct measures (Archer, 1997). These findings indicate that the assessment of overt emotional distress in both male and female adolescents is best gauged by the use of direct measures. This has implications for the current study, which will utilize data from both direct self-report measures and indirect projective measures. It is not expected that objective and projective measures used in this study will correlate, but instead will be used to look at different constructs, including overt symptoms as well as underlying psychological constructs.

Hypotheses

As noted in the literature review, the dearth of studies looking at both males and females with externalizing behavior disorders suggests that an exploratory examination into the description and phenomenology of gender differences in externalizing behavior disorders is warranted. There are few studies involving females with disruptive behavior

disorders and therefore little empirical research is available on which to base hypotheses. However, there are many theories of development and socialization that posit an understanding of gender differences in these disorders. The current study's hypotheses subsequently are seen as exploratory in nature and based on theoretical and empirical data. Findings in either direction then will be helpful in developing an empirical description of gender differences in the behavioral expression and psychological underpinnings of disruptive behavior disorders in adolescent males and females.

In general, this study hypothesizes that on the pre-treatment data females will appear to be in more emotional and psychological distress than will the males, while the males will appear more behaviorally deviant and aggressive. Based on prior research, these differences will likely be most evident in the more direct measures used. In this study the CBCL will be used as an objective descriptive measure of externalizing behavior disorders in males and females. The MMPI-A will be used to assess the behavior disordered adolescents' personal experience of their psychological, social, and emotional state. The Rorschach will be used as an indirect measure of psychological phenomena underlying the adolescent's externalizing behavior disorder. Because each instrument is seen as measuring different aspects of the same diagnostic condition, externalizing behavior disorders, we would not necessarily expect correlations among the measures.

The following hypotheses of this study include:

1) Upon admission, males are expected to score higher on the CBCL Total Problems Composite Scale, Aggressive Behaviors Scale, and the Externalizing Behaviors

Scale. Females are hypothesized to score higher on the CBCL Internalizing Behaviors Scale, the Anxiety/Depression Scale, and the Delinquent/Covert Behavior Scale.

2) Upon admission, when looking at the adolescents' perception of their difficulties with the MMPI-A, males are expected to score higher on the MMPI-A Psychopathic Deviancy Scale (scale 4), while females are hypothesized to score higher on the Depression Scale (scale 2), Family Problems Content Scale, Low Self Esteem Content Scale, and the Alienation Content Scale.

3) On the Rorschach it was hypothesized that externalizing behavior disorders in males would be more related to underlying aggression than in females and would therefore exhibit more indices related to aggression, as indicated by Aggressive Content scores and the Holt Scales of Primary Processes at time of admission. Female externalizing behavior disorders were hypothesized to be more related to underlying indices relating to depression and internal experiences of self as damaged, as seen in DEPI scores and Morbid responses.

Females were also hypothesized to have higher MOA scores upon admission, indicating a tendency towards viewing relationships as overpowering, dominant, and enveloping as opposed to benign and autonomous. Although female children have shown to have significantly more adaptive and less malevolent MOA scores than males (Tuber, 1989), females with externalizing behavior disorders would be expected to have less adaptive object relations than their male counterparts due to their suggested exposure to harsher parental relationships and damaging experiences in general (Skodol, 2000).

4) As discussed earlier, the literature suggests that boys are more influenced by biological or temperamental risk factors in the development of aggressive and disruptive

behavior disorders, while girls have been shown to be more influenced by social risk factors, including familial risk factors and socialization in general. These differences in the types of risks factors related to the development of behavior problems have implications for intervention and treatment of these disorders. Based on this idea, it is then thought that treatment will result in a significant decrease in the females' level of internal distress, while the more characterological aggressive or antisocial behavior patterns we expect to see in the male subjects would be more resistant to change with treatment.

Again, there are few empirical studies on which to base current hypotheses and there is still much need to gain an empirical description of females with disruptive behavior disorders. A central aim of the current study was to obtain a descriptive analysis of gender differences in adolescents who exhibit disruptive behavior disorders as well as look for potential underlying personality differences between these girls and boys. In this case, results indicating little to no gender differences would be informative and would help in understanding the role of socialization in the development of psychological disorders.

CHAPTER 2: METHOD

Method

Data for this study was drawn from a pre-existing database collected over a two-year period between July 1999 and April 2001.

Characteristics of Sample

Participants were drawn from a group (N=61) of newly admitted adolescents at a residential treatment center in East Tennessee. Eligibility for the study required informed consent by both the participants and their parents. Thirteen parents did not return the consent forms in the required 30-day time frame, 5 parents refused to allow their child to participate, and one patient refused to participate. During the recruitment period for this study, 23 subjects were excluded because staff did not initially expect their treatment stay to exceed 2 months. Eight adolescents in the study left treatment early, four due to insurance complications arising after admission and four were discharged because their symptoms and psychological problems were deemed unsuitable for treatment at the facility (typically organized psychotic disorders).

The facility is located on a secluded, wooded area in the Smokey Mountains and accepts males and females ranging in age from 13 to 18 who are experiencing severe affective symptoms, disordered conduct, substance abuse or chemical dependency, attention deficit, hyperactivity, and/or brief psychotic episodes. The majority of patients are referred for treatment after numerous other outpatient and/or inpatient attempts, due to the "out of control" nature of their behavior, and receive DSM-IV diagnosis of either Oppositional Defiant Disorder or Conduct Disorder upon admission.

There are several admission criteria used to ensure that admitted patients will be able to make use of the milieu type experience offered at the program. Intelligence is required to be in at least the Low Average range. Adolescents with an extensive history of fire setting or pyromania, evidence of entrenched psychopathy, or who are experiencing homicidal intent at the time of admission are not admitted. Patients must also be deemed physically capable and healthy enough to participate in the vigorous, outdoor activities inherent in the program.

The current sample of 61 adolescents consists of 34 males and 27 females who range in age from 12 to 18 years. The mean age for the sample was 15 ($M = 15.4$, $S.D. = 1.52$) and there was no significant difference in age for males and females ($t = -.887$, $p = .38$). All participants were Caucasian, except for one Asian-American male. Socio-economic status was informally reviewed and participants were determined to be fairly evenly spread among lower, middle, and upper socio-economic categories. Ten participants were adopted by their current parents and six were in state's custody at the time of treatment. Due to the study being archival in nature, data was not available to determine whether there were any gender differences in characteristics of the sample such as socioeconomic status or IQ.

Although there were admissions data for all 61 participants, 5 of these participants did not have discharge data collected. Four patients were discharged quickly and without suitable notification time given to the examiners and one participant successfully eloped from the treatment facility. Criteria for participation in the study include a 60-day length of stay in treatment. Of the 56 participants who had both admissions and discharge data collected the mean length of stay was 250 days ($M = 250.21$, $SD = 123.67$) with a range of

67 to 501 days. Of note, there were no gender differences with regard to length of stay in treatment ($T = -1.02$, $p = .32$).

The DSM-IV diagnosis of each individual was determined by a review of the participant's medical charts at the treatment facility. Reviewers included an advanced graduate student and a post-doctoral fellow in clinical psychology, both of whom had basic and advanced training in psychopathology and assessment. Of the 61 participants, 49 were determined to meet the DSM-IV criteria for Conduct Disorder. Of the remaining 12 participants, 5 met DSM-IV criteria for Oppositional Defiant Disorder, 3 for a primary diagnosis of Substance Abuse and/or Dependence, and the remaining 2 for a primary diagnosis of a DSM-IV affective or anxiety disorder. In addition, charts were reviewed for history of substance abuse, physical and/or sexual abuse, self-mutilation, and physical violence. Forty-two participants had a documented history of substance abuse, 26 had committed an interpersonal act of violence, 21 had a history of self-mutilation, 11 had reportedly been sexually abused, and 6 had reportedly been physically abused. There was no archival data available to look for gender differences in diagnostic categories or a history of violence or abuse.

Treatment

Treatment at this facility was based upon a thorough psychological evaluation and assessment of the family dynamics for each individual patient. The treatment facility offers a multitude of interventions, including milieu, group, family and individual therapy, activity therapy, substance abuse work, education and vocational training. The treatment is considered broad in scope but highly individualized and flexible for each

patient. This facility considers its treatment to be based on psychodynamic theory and is designed to alter many fundamental aspects underlying externalizing behavior disorders.

Measures

Child Behavior Checklist (CBCL)

The Child Behavior Checklist (CBCL: Achenbach, 1991) is one of the most widely used measures of child psychopathology. Raters are asked to report on 113 behaviors as either “Not True”, “Somewhat True”, or “Very True/Often True.” These questions form the basis of 8 factor-analytically derived clinical scales. The CBCL has had extensive norming done on it, has shown strong internal consistency coefficients for the scales (median=.76) and composites (median=.92), and has high one week test-retest coefficients (range from .75 to .95). In addition, the mean two year test-retest coefficients for the problem scales was .71 and the scales have been found to differentiate between clinical and non-clinical samples (Achenbach, 1991).

The CBCL was chosen due to its ability to objectively assess the existence of observable behaviors the adolescents may display at both the beginning and end of treatment. Although participants’ parents typically fill out the forms, this study used staff members from the treatment facility to fill out the forms at both the beginning and end of the participant’s stay. Residential care workers have been shown to rate in accordance with participants’ parents (Albrecht, Veerman, Damen,& Kroes, 2001). Listed below are the CBCL scales chosen for analysis in this study:

-Total Problems Composite: This scale assesses the extent of overall pathological behavior displayed by each adolescent and taps the full range of functioning assessed by the CBCL.

- Externalizing Behaviors Composite: This scale assesses the overall number of externalizing behaviors, including delinquent behavior and aggressive behavior.
- Internalizing Behaviors Composite: This scale assesses the overall number of internalizing behaviors, including withdrawal, somatic complaints, and anxiety/depression.
- Delinquent Behavior Scale: This scale assesses the extent of “non-aggressive” or “covertly aggressive” conduct problems, which are thought to be distinct from overtly aggressive behaviors. Examples of these delinquent behaviors include lying, cheating, and stealing.
- Aggressive Behavior Scale: This scale assesses the presence of more confrontational and aggressive behaviors. Such “overt” displays of aggression are thought to be represent a distinct dimension of aggressive behavior when compared to delinquent behaviors.
- Anxiety/Depression Scale: This scale’s items assess symptoms of both anxiety and depression. High scorers on this scale could have primarily anxiety or depression problems or a combination of both.

Minnesota Multiphasic Personality Inventory –Adolescent (MMPI-A)

The MMPI-A is a 478 item, self report, paper and pencil questionnaire that represents a revised version of the original MMPI. It is designed to assess psychopathology for adolescents, ages 14 through 18, but can be used with 12 or 13 year-olds with adequate social and cognitive maturity (Archer, 1997). The test consists of 10 clinical scales, which were developed using a criterion keying method, and 15 content scales, based on a more modern method of test construction, using a combination of

rational and statistical criteria (Archer, 1999). Given this, the internal consistency and test-retest coefficients are higher on the content scales than most of the clinical scales. The clinical scales are generally regarded as more heterogeneous than the content scales and provide less in the way of evidence for external, criterion-related validity.

The MMPI-A was used to assess gender differences and treatment outcome changes in self-reported attitudes, behaviors, and symptoms consistent with disruptive behavior disorders. Listed below are the scales relative to the current study.

- Depression Content Scale (A-dep): The items on this scale are related to feelings of depression, sadness, apathy, low energy, and poor morale. A-dep scores are not highly correlated with the Depression clinical scale, but, research has shown both scales to be equally effective in accurately identifying depressed patients (Archer 1997).
- Family Problems Content Scale (A-fam): This scale reports the presence of substantial family conflict and discord. High scorers report a considerable number of problems and disagreements with their parents and other family members (Butcher, 1992). Previous research has shown that high scores on the A-fam scale were associated with a variety of delinquent and neurotic symptoms and behaviors in adolescents (Archer, 1997).
- Low Self Esteem Content Scale (A-lse): This scale attempts to identify adolescents who have low self-esteem and little self-confidence. High scorers on this scale report very negative opinions of themselves and often feel unattractive, inadequate, useless, incapable, and incompetent (Archer, 1997).

- Alienation Content Scale (A-aln): This scale was designed to identify adolescents who are interpersonally isolated and alienated, report considerable emotional distance from others, and feel pessimistic about social interactions. High scorers tend to not believe that anyone understands or are sympathetic to them, and perceive their lives as unfair or harsh (Archer, 1997).
- Scale 2- Depression (D): Scale 2 is an index of symptomatic depression, whose essential characteristics are general dissatisfaction with life, including feelings of discouragement, hopelessness, and low morale. The items include content related to despondency and apathy, excessive sensitivity, and physical problems and complaints (Butcher 1992). The scale is thought to measure reactive or exogenous depression rather than endogenous depression so that scores are expected to fluctuate as the client's mood changes.
- Scale 4- Psychopathic Deviancy (Pd): Scale 4 scores tend to increase with the severity of delinquent behavior and elevations are also related to problems with school conduct and social adjustment. Elevations on Scale 4 are related to lying, cheating, stealing, temper outbursts, and aggression. High Scale 4 adolescents are described as hostile, rebellious, unmotivated in psychotherapy, and more likely to abuse drugs or alcohol (Butcher, 1992).

Rorschach Inkblot Test

The Rorschach Inkblot Test is a series of 10 standardized cards with inkblots shown on each one. Exner's Comprehensive Scoring System has improved upon the Rorschach's various criticisms concerning its reliability and validity (Weiner, 1999). The Exner Comprehensive System uses a more stringent standardized administration and

scoring method. Its reliability has been documented in a series of test-retest studies with both children and adults over intervals ranging from 7 days to 3 years (Weiner, 1999). In addition, a multitude of focused research studies have documented the empirical soundness of many Rorschach characteristics as valid measures of both state and trait aspects of personality functioning (Weiner, 1999). The Exner Comprehensive System was used in this study. The Rorschach was used as an indirect measure of assessing gender differences in psychological phenomena underlying the adolescent's externalizing behavior disorder. Listed below are the Exner indices relevant to disruptive behavior disorders:

- DEPI: The DEPI variable measures depressive concerns and at high levels, the likelihood of a diagnosable depressive disorder.
- MOR: The presence of a number of Morbid (MOR) responses indicates that the individual holds negative and unfavorable attitudes towards their body and its function (Weiner, 1998). Morbid responses have implications for negative body image or view of the self as a damaged or dysfunctional object that has been the victim of some aggression. However, there may also be in part an identification with the perpetrator of the aggression as well. For this reason it is important to not just tally the frequency of morbid responses, but to also examine the thematic content (Weiner, 1998).
- Aggressive Content (AgC): The Rorschach is able to assess the quality of aggression in individuals from various perspectives. The Aggressive Content (AgC) variable, developed by Meloy and Gacono (1992), is defined as any object that would be seen by most people as predatory, dangerous, malevolent, injurious, or harmful. AgC scores are indications of the salience of aggression in the individual's responses. The AgC score

has been correlated with behavioral measures of aggression in a large clinical sample (Baity & Hilsenroth, 2002) and has been able to successfully predict behavioral criteria associated with the DSM-IV criteria for Antisocial Personality Disorder (Baity & Hilsenroth, 1999).

- Holt Scale of Primary Processes: The Rorschach is also able to look at aggressive internal representation via the Holt Primary Process Scale. This scale offers a rating method to assess the degree to which aggression pervades and disorganizes the individual's response to external stimuli. This is a content score that is coded for responses that involve primary process thinking with a quality of "intense, overwhelming, murderous, or palpably sadomasochistic aggression" (Holt, 1977). High scores on the scale have been related to severe disinhibition problems and affect modulation difficulties within clinical samples (Hilsenroth, Hibbard, Nash, & Handler, 1993; Fowler, Hilsenroth & Nolan, 2000).
- Urist Mutuality of Autonomy Scale (MOA): The Rorschach is also able to measure an individual's level of object relations, or mental representations of relationships that can underlie behavior. Urist's Mutuality of Autonomy (MOA) scale offers information about how an individual anticipates interpersonal relationships and reflects a manifestation of his or her internal representations. This scale is an ordinal measure based on Rorschach responses that depict interactions between two or more people, animals, or objects. Ratings are made from one to seven depending upon the relational quality of interpersonal interactions in the response. "One" scores denote benign and autonomous relationships between people, animals, or objects, while "seven" responses represent overpowering, dominant, destructive or enveloping relationships. The MOA has been

found to be a reliable and valid measure of psychopathological object relations (Ackerman, Hilsenroth, Clemence, Weatherhill, & Fowler, 2000; Tuber, 1992; Blatt, Tuber, & Auerbach, 1990). The MOA scale is used in this study to evaluate the presence of, and changes among, underlying perceptions about relationships. Based on the methodology of previous studies (Gacono & Meloy, 1994; Tuber, 1992; Blatt, Tuber, & Auerbach, 1990) Mutuality of Autonomy was measured using the total mean MOA score, the mean of the highest MOA score (MOA-H), and the mean of the lowest MOA score (MOA-L).

Data Collection

Shortly after intake at the treatment facility, adolescents and their parents were asked for consent to participate in the research study. If both the parent and the adolescent agreed to participate, the adolescent was given a MMPI-A to complete within their first week of treatment and was administered a Rorschach within the first 2 to 6 weeks. At the end of the adolescent's first month on the Specialized Treatment Unit (STU), two counselors working on the unit completed separate CBCLs on the patient. The staff who filled out the CBCLs had extensive contact with each participant in question, often interacting with the adolescent upwards of 40 hours a week.

Due to the dramatic differences between the STU and the post-STU milieus, additional CBCLs were administered after the first month of the participant's entry into their post-STU treatment in the outdoor cabin milieu. As the outdoor cabin environment is far less restrictive than STU, this second round of data collection was believed to be a more representative sample of the adolescent's typical behavior in more "real world" situations. Again, two staff counselors who were familiar with the adolescent were

asked to fill out a CBCL rating form on the adolescent's behavior during the first month of their outdoor cabin treatment.

Three participants did not have completed CBCL's available due to brief lengths of stay in treatment, and two participants were not administered the second round of CBCL's because they were returned to STU due to treatment impasses. In addition, the staff members asked to do the ratings did not return one participant's CBCL.

Approximately one to two weeks prior to discharge, each participant was asked to complete a second MMPI-A. Two cabin staffers were asked to complete CBCLs based on the patient's behavior during the last month of their treatment. The adolescent was then administered a second Rorschach. All Rorschachs were administered by two advanced doctoral students in a clinical psychology program who were trained in the administration of the Exner Comprehensive System. With the exception of 5 cases, different testers administered the admission and discharge Rorschach for the participants. Missing data from the study included those due to the elopement and early discharges described earlier, and three additional discharge CBCLs not returned by staff members.

Data Coding

The CBCL's and MMPI-A's were all scored and entered into a secured statistical database by one of two advanced clinical psychology graduate students. An advanced graduate student in clinical psychology with greater than 7 years of experience in psychological testing and scoring coded the 110 Rorschach protocols for Exner Comprehensive System scoring variables and the Content scores of the Rorschach (i.e., Holt, Mutuality of Autonomy and Gacono Aggression scores). This coder was not blind

to the time of Rorschach administration (admission versus discharge). All Rorschach scores were then entered into the statistical database.

The reliability of the Rorschach Exner scores was assessed by randomly selecting 20 protocols for a separate scoring. The second round of scoring was conducted by another advanced clinical psychology graduate student with over 4 years of training and practicum experience in psychological testing and scoring. The second scorer administered over a half of the discharge Rorschachs and so was only partially blind to the time of administration (admission versus discharge). It was possible then for him to be familiar with some of the randomly selected protocols. However, in order to minimize possible rater bias, the protocols were assigned dummy identifiers to hide the identity and administration time of each Rorschach.

CHAPTER 3: RESULTS

Interrater Reliability

Procedures to assess inter-rater reliability with the Rorschach recommended by Meyer (1997) were used to determine Kappa chance corrected reliability estimates for 9 major response segments. The Kappa for Determinants = .86, for Developmental Quality = .63, for Form Quality = .60, for Pairs = .88, for Content = .88, for Populars = .86, for Z-scores = .68 for Cognitive Special Scores = .54, and for Other Special Scores = .71. The reliability estimates for the major response segments were based on Cichetti's (1994) interpretive guidelines and ranged from good to excellent, except for Cognitive Special Scores, which was deemed fair. Cichetti defines Kappa below .40 to be "poor" reliability, .40 to .54 to be "fair", .60 to .74 to be "good", and greater than .74 to be "excellent". Inter-rater reliability for the staff counselors CBCL ratings were also assessed. The average Pearson's r correlation between raters for the two staff administrations was $r = .72$ (.60, .82, .76) (df 55, 47, 48).

Sample Distribution

Gender differences in the distribution of conduct problems, as measured by the CBCL, were examined based on previous research findings by Tiet et al. (2001). This prior research found that the distribution for adolescent males at risk for CD showed a positive skew, in which boys clustered at the lower end of the distribution and the number of boys decreased as the number of affected domains increased. High-risk females' distribution was bimodal, with a large cluster of girls having no or few elevated CBCL conduct problems subscales, and another substantial cluster (18.8%) with problems in five or more domains. These data support that notion that two distinct groups of conduct

disordered girls may exist, one that exhibits disordered behaviors at a lower rate and another than exhibits behavioral problems at a level that is at least, if not, more pervasive than is seen in their male counterparts.

This finding was not replicated in the current study based on examining histograms of the distribution of male and female CBCL scores for the Externalizing Behaviors Composite, Aggressive Behavior Scale, and Delinquent Behaviors Scale. Both male and female distribution graphs for the Externalizing Behavior Composite appeared to best match a normal distribution. Both male and female distribution graphs for the Aggressive Behaviors Scale and Delinquent Behaviors Scale were more positively skewed. Hence there were no sampling distribution gender differences or evidence to suggest that two distinct groups of conduct disordered girls existed in the current study.

Skewness and Kurtosis analysis indicated that approximately half of the variables in this investigation were of a non-normal distribution. For this reason analysis were done using non-parametric tests, including independent sample Mann-Whitney tests and paired-sample Wilcoxon tests. T-tests were also run to test for statistical artifacts and issues given the small sample size and lack of power. The pattern of significant and non-significant results were identical using parametric and non-parametric tests to assess for gender differences at admission and discharge. Cohen's *d* was used to assess the effect sizes of the changes in variables over treatment time. Cohen (1992) described *d* values simply as 0.2 is a small effect, 0.5 is a medium effect, and 0.8 is a large effect.

CBCL variables

Descriptive Statistics and Analysis of Gender

The males' and females' CBCL means, medians, and standard deviations at STU admission, outdoor cabin admission and discharge are listed in Table 1,2, and 3, respectively. Non-parametric independent sample Mann-Whitney tests were used to assess gender differences independently at the three treatment times.

On the CBCL males were expected to score higher on the Total Problems Composite Scale, Aggressive Behaviors Scale, and the Externalizing Behaviors Scale. Females were hypothesized to score higher on the Internalizing Behaviors Scale, the Anxiety/Depression Scale, and the Delinquent/Covert Behavior Scale. As can be seen from the means and medians in Tables 1,2 and 3, there were few statistically significant differences between males and females at either the initial admission to the STU unit, admission to the outdoor cabin program, or discharge. At the initial admission to treatment on STU, there were significant gender differences on the Internalizing Behaviors scale ($Z = -1.90$, $p = .05$) and the Anxiety/Depression scale ($Z = -.256$, $p = .01$), which is a component used in deriving the Internalizing scale. Contrary to this study's hypothesis, males had higher scores on both of these indices. This particular finding does not support the idea that females would present as having more depression, anxiety, or internalizing behaviors in general. There were no other CBCL gender differences upon admission to the cabin program or discharge from treatment.

Treatment Time Analysis

It was also thought that the post-treatment data and change in CBCL scores over treatment time would reflect a differential change in males and females. A significant

decrease was hypothesized to occur in the females' level of internal distress, as seen in the CBCL Internalizing Behaviors Scale and the Anxiety/Depression Scale. The more aggressive behavior patterns expected to be seen in the male subjects, as seen in the CBCL Aggressive Behaviors Scale and the Externalizing Behaviors Scale, were hypothesized to change less with treatment. Non-parametric paired-sample Wilcoxon tests were conducted to evaluate differences on the CBCL indices across time. Due to the very restrictive nature of the STU unit, time differences were assessed based on the admission and discharge data from the outdoor cabin program. Cohen's *d* was used to assess the effect sizes of the changes over treatment time. These results can be found in Table 8.

When males and females were evaluated together, all six hypothesized CBCL indices significantly changed over the course of treatment: Total Problems Composite ($Z = -4.70$, $p = .00$); Externalizing Behaviors ($Z = -4.31$, $p = .00$); Internalizing Behaviors ($Z = -4.28$, $p = .00$); Overt Aggressive Behaviors ($Z = -2.69$, $p = .01$); Covert/Delinquent Behaviors ($Z = -4.60$, $p = .00$); Anxiety/Depression ($Z = -3.83$, $p = .00$).

However, when males and females were evaluated separately, some gender differences emerged. For males, five of the six CBCL indices changed significantly over time: Total Problems Composite ($Z = -3.51$, $p = .00$, $d = 1.08$); Externalizing Behaviors ($Z = -3.15$, $p = .00$, $d = .63$); Internalizing Behaviors ($Z = -2.95$, $p = .00$, $d = 1.08$); Covert/Delinquent Behaviors ($Z = -3.69$, $p = .00$, $d = .90$); Anxiety/Depression ($Z = -2.39$, $p = .02$, $d = .73$). For females all six CBCL indices changed significantly over the course of treatment: Total Problems Composite ($Z = -3.08$, $p = .00$, $d = 1.20$); Externalizing Behaviors ($Z = -3.01$, $p = .00$, $d = .59$); Internalizing Behaviors ($Z = -3.18$, $p = .00$, $d = 1.61$); Overt Aggressive Behaviors ($Z = -2.44$, $p = .02$, $d = .38$);

Covert/Delinquent Behaviors ($Z = -2.77$, $p = .01$, $d = .72$); Anxiety/Depression ($Z = -3.03$, $p = .00$, $d = .90$).

As can be seen above, only the Aggressive Behavior index changed significantly over time for females but not for males. Therefore, females did not exhibit more change than males in their level of internal distress as was hypothesized. However, in accordance with the hypothesis, males' aggressive behavior did not change significantly over the course of treatment, while females' aggressive behavior did change significantly over the course of treatment.

MMPI-A variables

Descriptive Statistics and Analysis of Gender

The males' and females' MMPI-A means, medians, and standard deviations at admission and discharge are listed in Table 4 and 5 respectively. Non-parametric independent sample Mann-Whitney tests were used to assess gender differences independently at admissions and discharge. When looking at the adolescents' perception of their difficulties on the MMPI-A, at admission males were hypothesized to score higher on the MMPI-A Psychopathic Deviancy Scale (scale 4), while females upon admission were hypothesized to score higher on the Depression Scale (scale 2), Family Problems Content Scale, Low Self Esteem Content Scale, and the Alienation Content Scale.

There were few statistically significant differences between males and females at either admission or discharge. Consistent with the study's hypothesis, at admission females had higher scores on the Family Problems content scale ($Z = -1.90$, $p = .05$).

Contrary to the study's hypothesis, no other MMPI-A indices showed gender differences at admission or discharge.

Treatment Time Analysis

Non-parametric paired-sample Wilcoxon tests were conducted to evaluate differences on the MMPI-A across treatment time. Cohen's d was used to assess the effect sizes of the changes over treatment time. Results can be found in table 9. When males and females were evaluated together, two of the six hypothesized MMPI-A indices significantly changed over the course of treatment, Scale 2-Depression ($Z = -3.12$, $p = .00$) and the Alienation content scale ($Z = -1.89$, $p = .06$). However, when males and females were evaluated separately, more gender differences emerged. It was hypothesized that males and females MMPI-A data would change differentially over time in treatment. Changes were hypothesized to reflect a significant decrease in the females' level of internal distress, as assessed by the MMPI-A Depression Scale (scale 2), Family Problems Content Scale, Low Self Esteem Content Scale, and the Alienation Content Scale. The more characterological aggressive or antisocial behavior patterns expected to be seen in the male subjects, as assessed by the MMPI-A Psychopathic Deviancy Scale (scale 4), would hypothetically change less with treatment.

For males, none of the MMPI-A indices changed significantly over time. However, for females four of the six hypothesized MMPI-A indices changed significantly over the course of treatment: Clinical Scale 2-Depression ($Z = -3.14$, $p = .00$, $d = .86$), the Depression content scale ($Z = -2.12$, $p = .03$, $d = .55$), the Alienation content scale ($Z = -2.12$, $p = .04$, $d = .67$), and the Family Problems content scale ($Z = -2.11$, $p = .04$, $d = .91$).

As hypothesized, these gender differences suggest that females felt symptom improvement with treatment along these indices.

Rorschach Variables

Descriptive Statistics and Analysis of Gender

The males' and females' Rorschach means, medians, and standard deviations at admission and discharge are listed in Table 6 and 7 respectively. Non-parametric independent sample Mann-Whitney tests were used to assess gender differences independently at admissions and discharge. On the Rorschach it was hypothesized that externalizing behavior disorders in males would be more related to underlying aggression than in females and would therefore exhibit more indices related to aggression, as indicated by Aggressive Content scores and the Holt Scales of Primary Processes. Female externalizing behavior disorders were hypothesized to be more related to underlying indices relating to depression and internal experiences of self as damaged, as seen in DEPI scores and Morbid responses. Females were also hypothesized to have higher MOA scores, indicating more disturbed object relations than males.

As can be seen from the means and medians in Tables 6 and 7, there were no statistically significant differences between males and females at either admission or discharge.

Treatment Time Analysis

Non-parametric paired-sample Wilcoxon tests were conducted to evaluate differences across treatment time. Cohen's *d* was used to assess the effect sizes of the changes over treatment time. Results can be found in Table 10. When males and females were evaluated together, several Rorschach indices significantly changed over the course

of treatment. The Mean MOA ($Z = -3.15$, $p = .00$), and MOA-L ($Z = -2.31$, $p = .02$) both improved significantly over the course of treatment. The Holt Scale of Primary Process ($Z = -3.03$, $p = .00$), and the number of AgC responses ($Z = -2.12$, $p = .03$) also both showed improvement over time in treatment.

However, when males and females were evaluated separately, more gender differences emerged. It was hypothesized that males and females would change differentially over the course of treatment. DEPI scores and number of Morbid responses on the Rorschach would reflect a significant decrease in the females' level of internal distress. The more characterological aggressive or antisocial behavior patterns we expected to see in the male subjects, as seen in the Holt scale and number of AgC responses on the Rorschach, would show less improvement with treatment.

For males, the mean MOA ($Z = -2.57$, $p = .01$, $d = .59$) changed significantly over time. For females none of the MOA indices significantly changed with treatment. This contradicted the study's hypothesis, which speculated that females would exhibit more disturbed object relations upon admission and change more in treatment along such an internally distressing dimension. Both males ($Z = -2.40$, $p = .02$, $d = .46$) and females ($Z = -1.97$, $p = .05$, $d = .42$) showed changes on the Holt Scale of Primary Process over the course of treatment. However, the number of AgC responses ($Z = -2.06$, $p = .04$, $d = .37$) changed only for females. Thus, while both genders showed improvement with respect to the Holt scale, only females had a significant decrease in the number of AgC responses and only the males showed a significant change on the MOA scale.

CHAPTER 4: DISCUSSION

CBCL Hypotheses

The CBCL was used as an objective descriptive measure of different characteristics found in adolescents with disruptive behavior disorders. Hypotheses were based on the idea that males would exhibit more externalizing and overtly aggressive behaviors and females would exhibit more covert aggression and internalizing behaviors. More specifically, the males were hypothesized to score higher on the Total Problems Composite Scale, Aggressive Behaviors Scale, and the Externalizing Behaviors Scale while the females were hypothesized to score higher on the Internalizing Behaviors Scale, the Anxiety/Depression Scale, and the Delinquent/Covert Behavior Scale. These hypotheses were not supported, in that the only gender differences found at either admission to STU, admission to the outdoor cabin program, or at discharge were actually the opposite of what would have been expected.

Males at admission to STU had significantly higher scores on the Internalizing Behaviors scale and the Anxiety/Depression Scale. The idea that females with disruptive behavior disorder would appear to have more internalizing problems was not supported with this measure. This finding could have been related to a gender bias in the male and female cabin staff responsible for the CBCL scoring. Results of the study by Webster-Stratton (1996) suggest that the gender of the parent or teacher may result in different interpretations of boys' and girls' behavior. Specifically, fathers were more tolerant of physical aggression in boys and found girls' internalizing behaviors to be more problematic than did mothers. In the current study, male staff may have been more sensitive to male expressions of depression and anxiety in the male adolescents than the

female staff were for the female adolescents. This issue may be particularly salient given the fact that males did not appear more depressed on either the MMPI-A or Rorschach.

Both males and females exhibited significant changes on CBCL indices, with effect sizes mostly in the medium and high range. For females all 6 of the CBCL indices changed over the course of treatment and for males all but the Overt Aggressive Behavior Index changed over time. This could support the general notion that there is possibly something more characterological and treatment resistant about the mechanisms underlying male aggression as opposed to aggression in females. However, looking closely at the data reveals that there were no significant gender differences for overt aggression at any of the three treatment times and that males and females effect sizes were both in the small range.

MMPI-A Hypotheses

The MMPI-A was used in this study to assess the personal experience of the behaviorally disordered adolescents' psychological, social, and emotional state. Males were hypothesized to score higher on Scale 4 (Psychopathic Deviancy), while females were expected to score higher on Scale 2 (Depression), the Depression Content Scale, Family Problems Content Scale, Low Self Esteem Content Scale, and the Alienation Content Scale. Most of these hypothesized relationships were not supported. The only gender difference seen at admission was with the Family Problems content scale. In accordance with the hypothesis, the girls showed significantly higher scores on the Family Problems content scale. Socialization theory that posits that it is easier for girls to stay more connected to the family system due to their identification with the mother figure and her more figural place in the private sphere, or home (Keenan et al, 1999). In

addition, females appear more sensitive to risk factors involving parental psychopathology and relationships (Brennan et al., 2003; Webster-Stratton, 1996) and tend to be more relational and other-focused in general. It makes sense then that family discord, as is often seen in families with children with disruptive behavior disorders, is a more salient and subjectively felt area of distress for females compared to males.

The hypothesis that females would report more experiences related to internal distress at admission, while males would have higher level of psychopathic deviancy was not supported. The amount of co-morbid internalizing disorders in males with disruptive behavior disorder may be underestimated in the literature. However, there may also be sample characteristics influencing the data, in that adolescents in emotional distress may be more likely to be placed in a treatment facility. Adolescents who come to the attention of adults solely based on behavior problems and acting out may more likely be placed in detention centers.

There may also be gender differences in the causes of the adolescents' distress upon admission to treatment. One could speculate that females' level of internal distress was more long standing and related to chronic difficulties prior to treatment, while the males' level of internal distress was more acutely related to precipitating events leading up to their placement in a treatment facility or being placed in treatment in general. However, if this were true, it would follow that males' subjective experience internal distress would decrease at discharge. This idea was not supported when discharge scores were analyzed.

Although, assessment of admissions data did not support the idea that females would present as more depressed initially in treatment, it does appear that their

experience of depression was highly responsive to treatment, while the males' depression score did not change significantly in response to treatment. In fact none of the males' MMPI-A variables evaluated changed significantly over time, while 4 of the 6 variables did show significant improvement for females. Females showed significant improvement on Scale 2, the Depression Content Scale, the Family Problems Content Scale, and the Alienation Content Scale. Again, although there were not necessarily significant gender differences upon admission, there does seem to be a different mechanism at work in treatment so that females' subjective experience of these problems improves with treatment while the males' does not. The literature suggests that females are more susceptible to risk factors involving familial relationships and are more relationally oriented in general, while males tend to be more at risk for developing disruptive behavior disorders based on temperamental or biological factors. Given this, females' presentation of disruptive behavior disorder may be more receptive to the relational components of treatment, as experienced in individual, group, and family therapy and the milieu in general.

Rorschach Hypotheses

The Rorschach was used in this study as an indirect measure of psychological phenomena underlying the adolescents' disruptive behavior disorder. It was hypothesized that males would have more underlying aggression than females. This would be evident by increased indices of aggression on the Holt Scales of Primary Process and Aggressive Content scores. The current study did not support the idea that males had higher levels of underlying aggression at admission to treatment. Males and Females were not significantly different with respect to the aggression indices and both

males and females showed improvement with medium effect sizes on the Holt scale over the course of treatment.

However, only females decreased significantly in the number of Aggressive Content responses over the course of treatment. As discussed earlier, AgC responses indicate the level of salience of aggression in the subjects' responses. This lends some evidence that while both males and females with disruptive behavior disorders have significant experiences of underlying aggression, this sense of aggression may be more susceptible to change in treatment for females and therefore may be less characterological in nature. The consciousness and salience in the experience of aggression seen in AgC responses may allow for more behavioral change and manipulation in treatment.

It was also hypothesized that disruptive behavior disorders in females would be more related to underlying difficulties with depression, as seen in DEPI scores, and a sense of self as damaged and dysfunctional, as seen in the number of Morbid responses. Contrary to this hypothesis, there were no significant gender differences with respect to DEPI scores at admission to treatment. However, at admission, males had more Morbid responses than did females. Again, this finding is contrary to the original hypothesis. One explanation for this finding may be the different ways of interpreting Morbid responses. Morbid responses have implications for negative body image or view of the self as a damaged or dysfunctional object that has been the victim of some aggression. However, Morbid responses can also indicate, in part, identification with the perpetrator of the aggression as well. For this reason it is important to not just tally the frequency of morbid responses, but to also examine the thematic content (Weiner, 1998). Males' increased Morbid responses may then be more related to identification with the

perpetrator of aggression rather than the victim. Because this study was based on a pre-existing database, raw data and response sets were not available for thematic content analyzation.

MOA is used in this study to evaluate the presence of, and changes among, underlying perceptions about relationships. Females were hypothesized to have higher MOA scores, indicating more disturbed object relations and a tendency towards viewing relationships as overpowering, dominant, and enveloping as opposed to benign and autonomous. This hypothesis was not supported in the current study. There was no statistically significant difference between males' and females' mean MOA at admission or discharge. However, the males' mean MOA score improved significantly with a medium effect size over the course of treatment, while the females' improvement was not statistically significant. This is an encouraging finding, in that it implies that more negative views of relationships can change over time in treatment.

Summary

In summary, the results of this study somewhat support the general hypothesis that there are gender differences in the description of and underlying experience of disruptive behavior disorder in adolescents. Based on the CBCL's objective description of disruptive behavior disordered adolescents, males appeared to have more difficulties with externalizing as well as internalizing behaviors. According to the MMPI-A's assessment of the personal experience of the behaviorally disordered adolescents' psychological, social, and emotional state, females appeared to have more distress over familial discord and reported significant improvement of their subjective level of distress in general over the course of treatment. Based on the Rorschach's indirect measure of the

psychological phenomena underlying the adolescents' disruptive behavior disorder there again were few initial differences between the males and the females. However, males did show improvement in their experience of relationships with others over the course of treatment, so that their mean MOA scores were equal to that of the females at discharge. Also, only females significantly lowered the number of aggressive content responses, indicating a greater ability to change the salience of aggression in their everyday life.

Given the paucity of research on females with disruptive behavior disorders and the many different biases and stereotypes placed on males' and females' behavior in general, it is of interest that there were not more significant gender differences across measures at admission to treatment. Notions that disruptive behavior in females is related more to internalized problems and that males are just more overtly aggressive were not fully supported. In most respects males and females were more similar than different. It is difficult to make generalized speculations as to why not more of the hypothesized gender differences at admission were not significant. The limitations in sample size and lack of diagnostic description by gender add complexity to the interpretation of these findings. It remains unclear whether there are truly few gender differences in the presentation and underlying experience of adolescents with disruptive behavior disorders or whether more significant differences would have emerged with larger samples and samples with clearer diagnostic similarity.

However, gender differences were found over the course of treatment in changes with the different measures. So even though males and females may present with similar symptoms and underlying difficulties, treatment appears to result in more changes for females, at least along the indices measured. This supports the notion that there are

underlying gender differences in adolescents with disruptive behavior disorder, in that treatment may affect males and females differentially. Further research in this area is important given that males and females may benefit from different types of treatment for disruptive behavior disorders. For example, based on the results of the current study, females may benefit from treatment with an emphasis on family therapy while males may benefit from treatment aimed more specifically at aggressive behaviors and their consequences. These are not clear indications, however, because both males and females showed improvement in areas of emotional distress, behavioral functioning, and interpersonal relationships when different measures were taken into account.

Limitations

There were several limitations to the current study that should be acknowledged and explored. Given this study was based on a preexisting database, variables were chosen in part based on availability of data. For example, while AgC scores on the Rorschach were used as a measure of underlying aggression, other indicators of aggression, such as AgPast and AG movement, were not available. Sample characteristic data was also not available to allow for the evaluation of gender differences in variables such as socio-economic status, IQ, or history of abuse. In addition the data available were for a relatively small sample size. Had there been a larger sample size, more initial differences may have emerged.

Another limitation was the lack of specific diagnoses across genders. Although participants were diagnosed with either ODD or CD, it would have been interesting to see if these diagnoses, which mainly differ with regard to the severity of the acting out, deviant, or aggressive behavior, were split unevenly by gender and were correlated with

change over treatment. Additionally, based on CBCL indices, there was no female bimodal distribution, in which there was a subset of females who were more behaviorally deviant than the males. The current female sample then may have been less severely conduct disordered and not really a diagnostically matched sample. The possibility of a less severely aggressive or deviant symptom presentation, and not specific gender characteristics, may have been what contributed to females making more significant changes in treatment.

In addition, treatment during this investigation was not controlled across subjects for length or specific type of intervention. Because the treatment was naturalistic, there was no way to test for variables such as therapist adherence or patient compliance. History effects are also a threat to internal validity, in that there was some range in time with regard to data collection following admission. The testing examiners were also not counterbalanced such that each gave the same number of pre versus post tests or saw an equivalent number of males and females.

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APPENDIX

Table 1

CBCL Means, Medians, and Standard Deviations for Males (n=38) and Females (n=23)
at Admission to STU and Mann-Whitney test for gender differences

	<u>Mean</u>	<u>Median</u>	<u>SD</u>	<u>Z</u>	<u>p-value</u>
Total Problems Composite				-1.10	.27
Males	59.75	59.25	8.08		
Females	57.64	57.00	5.23		
Internalizing Behaviors*				-1.90	.06
Males	62.54	61.25	7.99		
Females	59.20	58.25	4.78		
Externalizing Behaviors				-1.27	.21
Males	56.51	58.50	8.60		
Females	53.45	54.75	8.25		
Anxiety/Depression**				-2.56	.01
Males	63.28	61.75	7.80		
Females	57.95	58.00	6.39		
Delinquency/Covert				-1.40	.16
Males	61.18	61.75	5.57		
Females	59.09	58.00	8.02		
Aggression-Overt				-1.46	.14
Males	56.38	55.50	6.25		
Females	53.41	52.25	4.16		

**= $p \leq .05$

* = $p \leq .10$

Table 2

CBCL Means, Medians, and Standard Deviations for Males (n=38) and Females (n=23)
at Admission to outdoor program and Mann-Whitney test for gender differences

	<u>Mean</u>	<u>Median</u>	<u>SD</u>	<u>Z</u>	<u>p-value</u>
Total Problems Composite				-.26	.80
Males	65.50	65.25	6.21		
Females	65.44	66.50	7.55		
Internalizing Behaviors				-.03	.97
Males	67.75	68.25	6.87		
Females	68.03	68.50	7.05		
Externalizing Behaviors				-.09	.93
Males	61.75	62.25	8.76		
Females	60.72	62.50	10.54		
Anxiety/Depression				-.19	.85
Males	69.05	69.00	8.36		
Females	69.97	70.00	11.26		
Delinquency/Covert				-.82	.41
Males	64.45	64.25	6.21		
Females	63.28	63.00	7.90		
Aggression-Overt				-.50	.62
Males	59.34	58.25	9.44		
Females	60.61	58.50	9.12		

**= $p \leq .05$

* = $p \leq .10$

Table 3

CBCL Means, Medians, and Standard Deviations for Males (n=38) and Females (n=23)
at Discharge and Mann-Whitney test for gender differences

	<u>Mean</u>	<u>Median</u>	<u>SD</u>	<u>Z</u>	<u>p-value</u>
Total Problems Composite				-1.03	.30
Males	59.24	60.00	7.47		
Females	56.38	56.00	8.54		
Internalizing Behaviors				-1.18	.24
Males	60.33	59.50	8.20		
Females	56.70	58.00	7.88		
Externalizing Behaviors				-.52	.61
Males	56.61	60.00	8.50		
Females	54.58	58.75	10.97		
Anxiety/Depression				-1.49	.14
Males	62.93	61.50	7.53		
Females	59.85	59.00	5.83		
Delinquency/Covert				-.80	.42
Males	58.85	59.50	6.52		
Females	57.58	56.75	6.45		
Aggression/Overt				-.47	.64
Males	57.22	56.50	6.87		
Females	57.10	57.00	7.45		

**= $p \leq .05$

* = $p \leq .10$

Table 4

MMPI-A Means, Medians, and Standard Deviations for Males (n=38) and Females (n=23) at Admission and Mann-Whitney test for gender differences

		<u>Mean</u>	<u>Median</u>	<u>SD</u>	<u>Z</u>	<u>p-value</u>
D-Scale 2						
	Males	54.79	55.00	10.09		
	Females	55.64	54.00	12.10		
					-.08	.93
Pd-Scale 4						
	Males	59.50	60.00	9.13		
	Females	63.23	63.00	8.00		
					-1.26	.21
DEP						
	Males	51.38	50.50	11.54		
	Females	50.82	50.50	9.76		
					-.16	.87
LSE						
	Males	47.85	46.50	9.98		
	Females	49.05	48.50	11.03		
					-.31	.76
FAM**						
	Males	48.91	51.00	11.04		
	Females	54.68	55.00	8.47		
					-1.90	.05
ALN						
	Males	47.09	46.00	9.76		
	Females	48.45	45.00	11.26		
					-.41	.68

**= $p \leq .05$

* = $p \leq .10$

Table 5
MMPI-A Means, Medians, and Standard Deviations for Males (n=38) and Females (n=23) at Discharge and Mann-Whitney test for gender differences

		<u>Mean</u>	<u>Median</u>	<u>SD</u>	<u>Z</u>	<u>p-value</u>
D-Scale 2*					-1.72	.08
	Males	50.57	50.00	8.59		
	Females	45.26	46.00	8.01		
Pd-Scale 4					-.77	.44
	Males	59.70	60.00	9.18		
	Females	57.95	58.00	7.11		
DEP					-1.50	.13
	Males	50.40	49.00	10.97		
	Females	45.42	45.00	7.71		
LSE					-.90	.37
	Males	47.80	43.50	11.34		
	Females	43.79	41.00	7.24		
FAM					-1.19	.23
	Males	50.07	49.00	10.99		
	Females	46.95	45.00	8.08		
ALN					-1.43	.15
	Males	45.17	42.00	9.57		
	Females	40.89	39.00	7.06		

**= $p \leq .05$

* = $p \leq .10$

Table 6
Rorschach Means, Medians, and Standard Deviations for Males (n=38) and Females (n=23) at Admission and Mann-Whitney test for gender differences

		<u>Mean</u>	<u>Median</u>	<u>SD</u>	<u>Z</u>	<u>p-value</u>
Morbid*					-1.66	.10
	Males	2.05	2.00	1.68		
	Females	1.39	1.00	1.50		
DEPI					-.61	.54
	Males	4.24	4.00	1.51		
	Females	4.00	4.00	1.04		
MOA-Mean					-1.28	.20
	Males	3.41	3.25	1.12		
	Females	3.04	2.80	1.00		
MOA-High					-.25	.80
	Males	1.81	1.00	1.33		
	Females	1.77	1.00	1.11		
MOA-Low					-1.31	.19
	Males	5.14	5.50	1.42		
	Females	4.55	5.00	1.79		
Holt					-1.37	.17
	Males	7.03	6.50	3.21		
	Females	6.30	4.00	4.74		
AgC					-.56	.58
	Males	5.25	5.00	2.83		
	Females	5.13	4.00	3.89		

**= $p \leq .05$

* = $p \leq .10$

Table 7

Rorschach Means, Medians, and Standard Deviations for Males (n=38) and Females (n=23) at Discharge and Mann-Whitney test for gender differences

	<u>Mean</u>	<u>Median</u>	<u>SD</u>	<u>Z</u>	<u>p-value</u>
Morbid				-.56	.57
Males	1.41	1.00	1.38		
Females	1.16	1.00	1.12		
DEPI				-.22	.83
Males	4.55	5.00	1.27		
Females	4.42	5.00	1.16		
MOA-Mean				-.33	.75
Males	2.75	2.71	.95		
Females	2.75	2.50	1.07		
MOA-High				-.57	.57
Males	1.50	1.00	1.00		
Females	1.68	1.00	1.20		
MOA-Low				-.91	.36
Males	4.25	5.00	1.86		
Females	3.95	4.00	1.43		
Holt				-.96	.34
Males	5.55	5.00	3.93		
Females	4.32	4.00	1.94		
AgC				-.65	.52
Males	4.59	4.00	3.54		
Females	3.68	3.00	2.21		

**= $p \leq .05$

* = $p \leq .10$

Table 8

CBCL Indices: Wilcoxon test of change over treatment time and Cohen's d test for effect sizes between Admission to the outdoor program and Discharge for the total group and males and females separately

	<u>Z</u>	<u>p-value</u>	<u>d</u>
Total Problems Composite			
total**	-4.71	.00	
Males**	-3.51	.00	1.08
Females**	-3.08	.00	1.20
Externalizing Behaviors			
total**	-4.31	.00	
Males**	-3.15	.00	.63
Females**	-3.01	.00	.59
Internalizing Behaviors			
total **	-4.28	.00	
Males**	-2.95	.00	1.08
females**	-3.18	.00	1.61
Anxiety/Depression			
total**	-3.83	.00	
males**	-2.39	.02	.73
females**	-3.03	.00	.90
Aggressive/Overt			
total**	-2.69	.01	
males	-1.57	.12	.22
females**	-2.44	.02	.38
Delinquency/Covert			
total**	-4.60	.00	
males**	-3.69	.00	.90
females**	-2.79	.01	.72

**= $p \leq .05$

* = $p \leq .10$

Table 9

MMPI-A Indices: Wilcoxon test of change over treatment time and Cohen's d test for effect sizes between Admission and Discharge for the total group and males and females separately

	<u>Z</u>	<u>p-value</u>	<u>d</u>
Scale 2-D			
total**	-3.12	.00	
males	-1.45	.15	.42
females**	-3.14	.00	.86
Scale 4-Pd			
total	-1.15	.25	
males	-.02	.98	-.02
females*	-1.88	.06	.66
DEP			
total	-1.10	.27	
males	-.17	.86	.08
females**	-2.12	.03	.55
FAM			
total	-.96	.34	
males	-.53	.59	-.11
females**	-2.11	.04	.91
ALN			
total*	-1.89	.06	
males	-.78	.43	.20
females**	-2.11	.04	.67
LSE			
total	-.61	.54	
males	-.24	.81	.01
females	-1.27	.20	.48

**= $p \leq .05$

* = $p \leq .10$

Table 10

Rorschach Indices: Wilcoxon test of change over treatment time and Cohen's d test for effect sizes between Admission and Discharge for the total group and males and females separately

	<u>Z</u>	<u>p-value</u>	<u>d</u>
DEPI			
total	-.90	.37	
males	-.55	.58	-.21
females	-.81	.42	-.40
MOR			
total	-1.52	.13	
males	-1.52	.13	.38
females	-.53	.59	.15
AgC			
total **	-2.12	.03	
males	-1.05	.29	.23
females**	-2.06	.04	.37
MOA-M			
total**	-3.15	.00	
males**	-2.57	.01	.59
females*	-1.76	.08	.29
MOA-H			
total*	-1.79	.07	
males	-1.32	.19	.23
females	-1.19	.24	.08
MOA-L			
total**	-2.31	.02	
males*	-1.78	.08	.63
females	-1.49	.14	.34
HOLT			
total **	-3.03	.00	
males**	-2.48	.01	.46
females**	-1.97	.05	.42

**= $p \leq .05$; * = $p \leq .10$

VITA

Ashley Campbell currently lives in Houston, Texas where she is doing her pre-doctoral internship at Baylor College of Medicine. She is placed primarily at the Menninger Clinic, where she has worked on the adolescent and adult specialty inpatient units. In 1999, Ashley received a B.A. in psychology and a B.F.A. in art history from the University of Texas at Austin. Upon graduation in 1999, Ashley entered the clinical psychology doctoral program at the University of Tennessee in Knoxville. While at Tennessee, Ashley became interested in psychodynamic theory, psychological testing, and work with adolescents and adults.

Ashley worked for three years at the University of Tennessee Psychological Clinic, for 2 years at Peninsula Village (an adolescent residential treatment facility), and for one year at Cherokee Health Systems (a community mental health center). Working primarily in a research lab with her mentor Dr Leonard Handler, she presented several papers at the Society for Personality Assessment's Annual Spring Conference in March of 2000, 2001, 2002, and 2003. In addition, Ashley was a member of the Appalachian Psychoanalytic Society during her time at Tennessee.

Following completion of her internship, Ashley plans on fulfilling her post-doctoral requirement while working at the Houston VA Hospital, where she will focus primarily on psychodynamically oriented outpatient therapy. She hopes to pursue a career conducting psychodynamically oriented psychotherapy and psychological assessment in private practice.