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The Relationship Between Conduct Problems and Attention Deficit Hyperactivity Disorder in Adolescent Psychopathy

Cary Stacy Smith

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THE RELATIONSHIP BETWEEN CONDUCT PROBLEMS AND ATTENTION
DEFICIT HYPERACTIVITY DISORDER IN ADOLESCENT PSYCHOPATHY

By

Cary Stacy Smith

A Thesis
Submitted to the Faculty of
Mississippi State University
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy
in Educational Psychology
in the Department of Counseling and Educational Psychology

Mississippi State, Mississippi

August 2010

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By

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DEFICIT HYPERACTIVITY DISORDER IN ADOLESCENT PSYCHOPATHY

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The study of adolescent psychopathy has grown from being a fringe element in psychology to a mainstream topic for research. One issue that divides scholars centers on the relationship between conduct problems and attention-deficit hyperactivity disorder (ADHD) and their relationship to adolescent psychopathy. Some state the former factor has the most crucial relationship while other scholars categorically disagree, claiming that ADHD is the strongest. The majority of adolescents assessed for adolescent psychopathy are residents at state training schools; however, many of the behaviors associated with psychopathy are seen in students assigned to their district's alternative educational setting. In order to gauge which factor had strongest relationship with psychopathy, 80 male students, ranging in age from 12 to 18 years old, placed at interim alternative educational settings for misbehavior were assessed using the Antisocial Process Screening Device---Youth Edition (APSD-Y) to determine level of psychopathy. In addition, ADHD was assessed using both the Behavior Assessment Scale for Children-Second Edition (BASC-2) and Conners-Wells' Adolescent Self-Report Scale-L

(CASS:L); likewise, both instruments were used assess conduct problems. Each assessment instrument used a self-report method. Results indicated that of the two factors, conduct problems had a statistically significant relationship with adolescent psychopathy, while the relationship between ADHD's and psychopathy was non-significant.

The implications are straight forward. Adolescents with impulsivity problems are regularly sent to interim alternative educational settings for misbehaving; however, the findings of this study indicate that impulsivity alone should not be the focus when considering pathways to psychopathy. Rather, conduct problems should be considered a contributing factor as it shares a significant relationship with psychopathy. A secondary analysis using an Independent T-test was used to explore the differences between the Low and High scoring APSD-Y groups. Clinical significance was found between the two APSD-Y groups with the BASC-2 Externalizing and the CASS:L Externalizing subscales, as well as the BASC-2 Conduct Problems and the CASS-Conduct Problem scores.

DEDICATION

This dissertation is dedicated to the two most important people in my life. The first person is Elmer Smith. Never a day passes without my missing him and/or wishing he were here. I now know that, though he has been dead for 8 years, I will miss him for the remainder of my life.

The second person is no less dear to me. If I have accomplished anything in my life, one primary reason is the influence of my life, Li-Ching. I could not imagine a life without her for she, is without doubt, my soul mate. I love you honey!

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CHAPTER I

INTRODUCTION

Psychopathy is a disorder that does not emphasize the severity or pattern of antisocial behavior. Rather, it focuses on: (a) the person's affective (e.g., absence of guilt, little display of emotion); (b) interpersonal (e.g., failure to show empathy, use of others for one's gain); (c) self-referential (e.g., views self as more important than others); and (d) behavioral (e.g., acts in a careless and impulsive manner) style to indicate the severity or pattern of antisocial behavior (Hare, 1998). Moreover, psychopathy is a specific form of a personality disorder that is characterized in the adult literature by at least three major symptom dimensions: (a) an arrogant and deceitful interpersonal style; (b) deficient affective experience (individual does not 'feel' things like the average person); and (c) an impulsive behavioral style (Hare). The primary purpose for the current study was to understand the relationship that exists between Attention Deficit Hyperactivity Disorder (ADHD), conduct problems, and adolescent psychopathy.

Although psychopathy is rare, constituting approximately 1% of the population, psychopaths make up an estimated 15% - 25% of the adult prison population and account for a disproportionately large amount of serious crime, violence, and social distress (Hare, 1996). A number of studies have shown that psychopathy is a robust correlate of crime and a key predictor of recidivism and violence in adult male criminal populations (Serin & Amos, 1995), in adult female criminal populations (Hare, 1998), and among adolescent offenders (Forth, Hart, & Hare, 1990). In a meta-analysis of studies using

prison populations, Hemphill, Hare, and Wong (1998) found that psychopaths are three times more likely to reoffend and four times more likely to violently reoffend during the first year following release from custody than are other offenders.

One key feature of psychopathy is the lack of feeling for others. Adult psychopaths are usually impaired in their feelings of guilt, remorse, or empathy for their actions. They are generally cunning, manipulative and know the difference between right and wrong but dismiss it as applying to them. They are incapable of normal emotions such as love and generally react without considering the consequences of their actions and show extreme egocentric and narcissistic behavior (Hare, 1998).

Psychopaths appear to be resistant, or even immune to, any form of psychotherapy used with them. To the contrary of what might be expected, when conventional therapy/intervention methods are used, psychopaths often becomes empowered and reacts by improving their cunning, manipulative methods and their ability to conceal their true personality, even from trained eyes. Since psychopaths have impaired emotions, they develop their own personality throughout their life by mimicking those around them. However, their inability to control inappropriate outburst of anger and hostility often results in loss of jobs, disassociation with friends and family, and divorce (Hare, 1998).

The psychopath often engages in a life of crime with high societal impact. In general, crime costs approximately \$105 billion in medical expenses, lost earnings, and costs for victim services. Factoring in the intangible costs, such as pain and suffering and a reduced quality of life, brings the total estimated cost of crime to \$450 billion annually. Victims of violent crime and their families received benefits totaling \$442.3 billion in federal fiscal year 2003. In recent years, California (with the largest victim compensation

program in the nation) experienced a loss of approximately \$43 million in funding while compensation in the other 51 jurisdictions (including Washington, DC, U.S. Virgin Islands, and Puerto Rico) grew by \$26 million (Miller, Cohen, & Wiersema, 1996). Medical expenses were 48% of all victim compensation payments in 2003; economic support for lost wages for injured victims and for lost support in homicides comprised 21% of the total; and 12% went toward mental health counseling for crime victims (National Association of Crime Victim Compensation Boards, 2004). One year for criminals housed in one of America's prisons costs more than \$38 billion (Stephan, 2004).

For adolescents, psychopathy is an uncommon diagnosis. Although psychopathic propensities have been documented in childhood or early adolescence, if the problem is recognized it is usually diagnosed as either Oppositional Defiant Disorder (ODD) or Conduct Disorder (CD). Myers, Burket, and Harris (1995) tested 30 inpatient adolescents at a psychiatric hospital and found that a significant relationship existed between psychopathy and other externalizing problems such as delinquent behavior, CD, and Narcissistic Personality Disorder. Psychopathic adolescents appear to be relatively immune to internalizing behaviors (Lynam, 1997).

Notably, ODD and CD focus on behavior, rather than personality constructs, which may be causing the behavior (Hare, 1996). In Hare's (1993) opinion, the primary difference between CD and psychopathy is that the former fails to "capture the emotional, cognitive, and interpersonality traits---egocentricity, lack of remorse, empathy, or guilt---that are so important in the diagnosis of psychopathy" (p. 159); thus, CD is viewed as being less serious of a disorder than is psychopathy. Another difference between the two constructs concerns responsiveness to treatment. Children or adolescents diagnosed with

CD often benefit from the use of behavioral modification principles (e.g., positive reinforcement, token economies); whereas, children with psychopathic tendencies appear to be resistant to these intervention techniques, regardless of the reward or punishment meted out (Hare).

One primary rationale for studying adolescent psychopathy is that a body of evidence exists linking adolescent psychopathy traits to previous and concurrent antisocial behavior (Brandt, Kennedy, Patrick, & Curtin, 1997; Murrie & Cornell, 2002), though more research is needed as many adolescents exhibiting antisocial behavior desist in their illegal behavior as they mature (Elliott, 1994). However, the concept of psychopathy is not without controversy. Some researchers (e.g. Frick & Hare, 2002; Lynam, 2002) argue that personality traits are relatively stable across adolescence and into adulthood, and that there are remarkable similarities between the literature on adult psychopathy and the literature emerging for children and adolescents believed to meet diagnostic criteria.

Other researchers (e.g., Seagrave & Grisso, 2002) suggest that psychopathy, as a construct, has a high false-positive rate of diagnosis in adolescence, which is unacceptable. This means that an adolescent is labeled 'psychopath' with all of its potential pitfalls, even though a mistake might be made. Cleckley (1976) also noted that certain transient developmental behaviors and attributes arising in childhood and adolescence resemble psychopathic traits but attenuate with normal development. For example, adolescents are known to be more impulsive and have less empathic understanding than adults, which might result in higher scores for these items on current measures of psychopathy. In addition, a strong argument is made that it is highly dangerous to label an adolescent 'psychopathic' since it is feared that many in the

criminal justice system will feel that nothing can be done to help a psychopath. As a result, services that could address psychopathy in adolescents are restricted (Seagrave & Grisso).

Because this study focuses on adolescents, the following section will concentrate on disorders of childhood, primarily comprising of ODD, CD, and Attention Deficit Hyperactivity Disorder (ADHD) as the behaviors associated with each disorder are likely indicators of future dysfunction and lifelong difficulties with societal norms.

Childhood Disorders

From a purely psychiatric or mental health perspective, children who exhibit severe oppositional and rule-violating behaviors tend to account for the majority of child mental health referrals (Gresham, Lane, & Lambros, 2000). Childhood disorders speculated to be significant in both adult criminality and psychopathy are symptoms of childhood conduct problems, composed of ADHD, ODD and CD. It should be noted that in order to receive a clinical diagnosis regarding any childhood disorder, the individual's behavior must be serious enough to cause clinically significant impairment in social, academic, or occupational functioning (American Psychiatric Association, 2000). Each of the three primary childhood disorders is briefly discussed below.

ADHD

ADHD characterizes 3% - 5% of American youth (Barkley, 1990) and is sometimes comorbid with CD, which is characterized as 30% - 60% of children diagnosed with ADHD (Satterfield & Schell, 1997). Although diagnosis of ADHD becomes more complex once adulthood is reached (Wender, 1995), it is nonetheless often reported in adult criminals. For instance, ADHD is overrepresented in prisons with 25 -

45% of prison inmates qualifying for the diagnosis (Vitelli, 1996). If ADHD is comorbid with either ODD or CD, behavioral problems become more pronounced (e.g., antisocial behavior leading to incarceration, showing little empathy for others, greater problems at home and school, etc.).

According to the Diagnostic and Statistical Manual of Mental Disorders-Text Revision (DSM-IV-TR; 2000), there are three types of ADHD: predominantly hyperactive-impulsive type, predominantly inattentive type, and combined type. Characteristics for the hyperactive-impulsive type include: fidgeting with hands, often leaves his/her seat while in class without permission, and frequently runs about or climbs excessively when it is inappropriate. Common behaviors for the predominantly inattentive type include failing to pay close attention to details or makes careless mistakes in schoolwork, experiences difficulty sustaining attention in tasks or play activities, and appears not to listen when spoken to.

ODD

ODD characterizes 2% - 16% of youth (APA, 2000) and is distinguished by the following behaviors: (a) often loses temper, (b) often argues with adults, (c) often actively defies or refuses to comply with adults' requests or rules, (d) often deliberately annoys people, (e) often blames others for his or her mistakes and/or misbehavior, (f) is often touchy or easily annoyed by others, (g) is often angry and resentful, and (h) is often spiteful or vindictive (1994). ODD is strongly associated with later developing CD (Lahey & Lober, 1994) and if left untreated, approximately 52% of youth diagnosed with ODD will continue to meet the DSM-IV-TR (2000) criteria up to three years later and about half of those will progress onto CD (Lahey, Loeber, Quay, Frick, & Grimm, 1992).

CD

Phelps and McClintock (1994) stated that approximately 6% of children in the United States met the criteria for CD. The DSM-IV categorizes CD into four main groups identified by the American Psychiatric Association (APA): (a) aggressive conduct that causes or threatens physical harm to other people or animals, (b) non-aggressive conduct that causes property loss or damage, (c) deceitfulness or theft, and (d) serious violations of rules (APA, 1994). CD consists of a repetitive and persistent pattern of behaviors in which the basic rights of others or major age-appropriate norms or rules of society are violated.

Typically, there would have been three or more of the following behaviors in the past 12 months, with at least one in the past 6 months: (a) aggression to people and animals (i.e., bullies or intimidates others; initiates physical altercations; physically cruel to people and/or animals; steals; and forced someone into unwanted sexual contact), (b) destruction of property (setting fires, destruction of others' property), (c) deceitfulness or theft, and (d) serious violations of rules (1994; e.g., alcohol and drug abuse, problems with law enforcement, truancy, staying out at night despite parental objections, etc.).

It should be noted that a difference exists between ODD, CD, and conduct problems. Conduct problems often include the behaviors that make up the diagnosed childhood disorders; for instance, aggression toward people and animals is a conduct problem, which itself is one of the behaviors that comprise CD. Moreover, a child or adolescent can exhibit conduct problems but never reach the level needed for a psychological diagnosis of ODD and/or CD.

The presence of childhood disorders and their myriad behaviors could indicate the burgeoning development of psychopathy. A firm understanding regarding the

relationship between conduct problems, ADHD, and adolescent psychopathy could conceivably help ease some of the costs currently borne by society (e.g., governmental expenditures, loss of life, increased incarceration, etc.). For instance, early diagnosis could help identify individuals at risk for psychopathy, at which point he/she could receive therapy aimed at promoting more adaptive behavior. Thus, any efforts aimed at early diagnosis of psychopathy in adolescents could be a benefit to society, which is a rationale for the current study.

Adolescent Psychopathy

While adult psychopathy has been studied extensively, little research has been conducted looking into childhood and adolescent psychopathy. Most of the extant research carried out has used adult samples (Cunningham & Reidy, 1998; Frick, Barry, & Bodin, 2000b; Kruh, Frick, & Clements, 2005; Lynam, 1997), though the presence of psychopathic features has been manifested in a subgroup of antisocial youth with more severe and more aggressive patterns of antisocial behavior (e.g., in forensic settings; Kruh et al., 2005). Likewise, youth with behavioral problems showing psychopathic traits also exhibit a number of distinct characteristics, (i.e., showing a preference for dangerous activities, being less sensitive to cues of punishment, and less reactive to threatening and emotionally distressing stimuli; Loney, Frick, Clements, Ellis, & Kerlin, 2003).

The study of psychopathy in children and adolescents is important because understanding the relationship between CD, ADHD, and adolescent psychopathy could substantially decrease the incidence of adolescent criminality. Frick, Cornell, Barry, Bodin, and Dane (2003a) reported that youth with conduct problems along with psychopathic traits, showed more severe instrumental aggression (defined as aggression

used in order to gain or obtain something; Frick et al.). In addition, youth with conduct problems and psychopathy had higher rates of self-reported delinquent behavior than did adolescents with conduct problems, but without psychopathy. Thus, psychopathy was shown to be an excellent predictor of future institutional and post-discharge violence in both adults and adolescents, with the results of studies using adolescent samples concurring (Salekin, Rogers, & Sewell, 1996).

There are three identified perspectives for correlating childhood conduct problems and ADHD with adult psychopathy (see Figure 1.1). The first perspective is the “*conduct problem-mediation position*” (Abramowitz, Kosson, & Seidenberg, 2004). The researchers postulate that the risk for later antisocial behavior in children with ADHD is entirely accounted for by the comorbidity between ADHD and conduct problems. Other researchers state that ADHD by itself does not confer special risk for antisocial outcomes, especially since several studies suggest that the links between ADHD and adult antisocial behaviors depend upon comorbid conduct problems and/or aggressiveness (Babinski, Hartsough, & Lambert, 1999; Cadoret & Stewart, 1991; Gresham et al., 2000). Thus, Lilienfeld and Waldman (1990) wrote that the only influence of ADHD on subsequent criminality was that hyperactive children were at increased risk for developing conduct problems, which in turn placed them at risk for later serious antisocial behavior.

A second perspective is the “*independent prediction*” that states ADHD contributes to predicting antisocial outcomes apart from its association with conduct problems (Abramowitz et al., 2004). For example, a 15-year follow-up of 230 clinic-referred males showed that both hyperactivity/impulsivity and early conduct problems predicted the likelihood of being arrested (Babinski et al., 1999). Follow-up studies have shown that children with ADHD are at increased risk for developing antisocial disorders

in adolescence and adulthood (Barkley, Fischer, Edelbrock, & Smallish, 1990). In a prospective clinical study of children with ADHD, Fischer, Barkley, Smallish, and Fletcher (2002) found that at an average age of 21 years, probands had a significantly higher rate of antisocial personality disorder than did controls. Moreover, severity of childhood conduct problems significantly predicted antisocial personality disorder after controlling for severity of childhood ADHD.

A third perspective is the *comorbid subtype position* that states individuals with both ADHD and conduct problems are ‘fledgling psychopaths’ (Lyman, 1996). Youth possessing both ADHD and concurrent conduct problems are characterized by profound neuropsychological, executive, and information processing deficits, similar to that associated with adult psychopathy. In addition, family studies have revealed greater risk of conduct problems, substance abuse, and ASPD in relatives of probands with ADHD plus conduct problems than in relatives of probands with ADHD-only (Stewart, deBlois, & Cummings, 1980). Longitudinal studies have shown more contact with the police (Farrington, 1991) and adult convictions (Magnusson, 1988) for ADHD plus conduct problems boys than for those with only conduct problems.

Moreover, individuals in the comorbid group reportedly exhibit earlier, more versatile, and more serious criminality (Moffitt, 1990). In essence, with the comorbid subtype position, the additive effects of both ADHD and conduct problems are taken into consideration, whereas with the conduct problem mediation position, ADHD is mediated by conduct problems.

Perspectives	Philosophy	Influences on Psychopathy
Conduct Problem Mediation	The only influence of ADHD on subsequent criminality was that hyperactive children were at increased risk for developing conduct problems, which in turn placed them at risk for later serious antisocial behavior.	Conduct Problems by itself
Independent Position	ADHD contributes to predicting antisocial outcomes apart from its association with conduct problems.	ADHD by itself.
Comorbid Subtype Position	‘Fledgling Psychopaths’ youth characterized by both ADHD problems and concurrent conduct problems are characterized by profound neuropsychological, executive, and information processing deficits, including those associated with adult psychopathy.	Conduct Problems and ADHD working together lead to psychopathy

Figure 1 Three Perspectives for Adolescent Psychopathy

Abramowitz et al. (2004) researched the three positions. They used the Psychopathy Checklist-Revised (PCL-R; Hare, 1991), a 20-item semi-structured interview assessment that measures family and social history, educational and occupational history, criminal history, and psychiatric and medical history. In order to gauge the severity of childhood conduct problems, a semi-structured interview format was used to obtain information about presence/absence and age of onset of childhood behaviors relevant to DSM-IV diagnosis (APA, 1994) of CD. Lastly, the Wender Utah Rating Scale (WURS) Short Form, a 25-item rating self-report scale, measured behaviors associated with childhood ADHD (Ward, Wender, & Reimherr, 1993). The results were

congruent with the conduct problems-mediation position. Childhood conduct problems emerged as the most powerful predictor of adult psychopathy scores. Although childhood ADHD also predicted psychopathy, its contribution was smaller than that of conduct problems (Abramowitz et al.,).

One limitation with the Abramowitz et al. (2004), study was that adult males were asked to ‘look back’ in their past when they were adolescents. Another problem was the confusion that occurred over which childhood factors were the best predictors of adult psychopathy. In the current study, this limitation is avoided as the individuals being assessed are adolescents, and do not have to look back. In addition, this study will examine concurrent measures of both adolescent ADHD and adolescent conduct problems and will examine the relationship between these two childhood disorders and adolescent psychopathy.

Evidence suggests that psychopathic-like traits may be identifiable in childhood. First, retrospective data indicates that adults with psychopathic personality usually show an early onset of severe and enduring dysfunction (Hare, 1998). Second, prospective studies show that the most severely antisocial children are more likely to receive an adult diagnosis of psychopathy (Caspi, 2000). Third, when facets of psychopathy have been used to delineate more homogeneous subgroups of children with CD, a subgroup resembling adult psychopaths has been described, (i.e., Undersocialized Aggressive Conduct Disorder; Quay, 1987). Fourth, temperamental attributes, from which personality develops, shows a significant degree of stability across the lifespan (Caspi). Finally, symptoms of several mental and personality disorders occurring in adulthood also occur in children such as anxiety disorders (APA, 2000); depression (Scourfield, Rice, Thapar, Harold, Martin, & McGuffin, 2003); and antisocial personality disorder,

though until the child is 18 year of age, the diagnosis is CD (Kernberg, Weiner, & Bardenstein, 2000). By closely examining the relationship between these two factors (ADHD and CD) and adolescent psychopathy, it might be possible to detect potential behavioral problems before they occur.

Justification for Study

There can be little doubt about the importance of the construct of psychopathy in adulthood and that studying it when an individual is still in the formative years of his/her life could be crucial for early intervention. There are several reasons for studying psychopathy in youth/adolescents, which include: (a) to facilitate early identification, prevention, and clinical intervention; (b) to assist in the formulation of risk management strategies; and (c) to assist a range of social and legal agencies responsible for decision making regarding disposition, placement, monitoring, supervision, etc. Understanding the relationship between ADHD, conduct problems, and adolescent psychopathy could improve society's ability to divert children/adolescents from future criminal behavior.

One issue of adults remembering how they were as adolescents is that adult memory may be faulty; that is, not that a person lies about what he/she did as a child/adolescent, but that his/her memory may be selective. There is a tendency to make pleasant memories better and sad or unhappy memories more so (Charles, Mather, & Cartensen, 2003). What happens is that what was thought to be the literal past is anything but, and that what is called memory is nothing more than fabrications designed to make the past more animated (Loftus, Manber, & Keating, 1983). Thus, having adults remember their childhood is often fraught with problems, especially examiner bias.

Purpose of the Study

The primary purpose for this study centers on understanding the relationship that exists between ADHD, conduct problems, and adolescent psychopathy. If we can unearth new data illuminating the connection between the three, many of the problems associated with the disorder could conceivably be ameliorated; thus, society could benefit greatly. Abramowitz et al. (2004), assessed individuals who were adults. One could argue that obtained ADHD symptom scores reflected the fact that the results came via a self-report inventory, whereas, information used to score conduct problem symptoms was collected using a semi-structured interview format. Specifically, individuals might have remembered more information or have been more attentive, thorough, and (perhaps) more creative in their response to direct questioning than to paper/pencil questionnaire.

In the current study, both ADHD and conduct problems will be measured using self-report questionnaires. First, each individual will complete a demographics form. Second, the Antisocial Process Screening Device-Youth (APSD-Y; Frick & Hare, 2002), a 20-item self-report measuring adolescent psychopathy, will be administered. Third, each adolescent will fill out the Self-Report of Personality (SRP) form, taken from the Behavior Assessment System for Children, Second Edition (BASC-2; Reynolds & Kamphaus, 2004), which will be used to determine level of conduct problems. Lastly, each adolescent will be given the Conners-Wells Adolescent Self-Report Scale-Long (CASS:L; Conners, 1997), an instrument designed to assess problem behaviors. The T scores on the CASS:L and BASC-2 will be correlated with the scores obtained from the APSD-Y in order to understand the relationship that exists between the measures of ADHD, CD, and adolescent psychopathy.

Research Hypotheses

The population used for this study will be male adolescents sent to alternative interim education settings for misbehavior at the institution they attend. The research hypotheses are:

1. Participants' Internalizing subscale T scores obtained on the CASS:L and the BASC-2 will fall within the 'average' range.
2. Participants' Externalizing T scores obtained from the subscales of the CASS:L and the BASC-2 will fall within the 'clinically significant' range.
3. The T scores on measures of Conduct Problems on the CASS:L and the BASC-2 will have a significant relationship to the scores obtained on the APSD-Y.
4. The T scores on measures of ADHD on the CASS:L and the BASC-2 will have a significant relationship to the scores obtained on the APSD-Y.

Glossary

Antisocial Process Screening Device-Youth (APSD-Y; Frick & Hare, 2002), is a 20-item self-report measuring adolescent psychopathy, which will be administered to the entire sample in order to find individuals meeting the criteria for psychopathy.

Behavioral Assessment System for Children - Second Edition (BASC-2) is a multimethod and multidimensional system used to evaluate the behavior and self-perceptions of children and young adults aged 2 through 25 years.

Conduct Disorder (CD) is a behavioral and emotional disorder of childhood and adolescence. Children with CD act inappropriately, infringe on the rights of others, and violate the behavioral expectations of others.

Conduct problems involves behavior that violates family expectations, societal norms, or personal property and/or rights of others. Behaviors include violence towards people and animals, destruction of property, lying, stealing, truancy, and running

away from home (APA, 2000). Conduct Problems is also the name of a subscale on the CASS:L and the BASC-2.

Conners-Wells Adolescent Self-Report Scale-Long (CASS:L; Conners, 1997) is an instrument designed to assess problem behaviors (primarily ADHD).

Interim Alternative Educational Setting (IAES) is the name given to an educational setting and/or program in addition to a student's present placement that allows the individual to maintain educational services according to his or her Individualized Education Program (IDEA, 1997). The students are placed there primarily due to serious infractions of school policy.

Psychopath is a term used to describe an individual who finds psychological gratification in criminal, sexual, or aggressive impulses and the inability to learn from past mistakes. Individuals with this disorder gain satisfaction through their antisocial behavior and lack remorse for their actions. These are usually average or above average in intelligence. (Hare, 1993).

Psychopathy is a personality disorder characterized by lack of empathy and/or conscience, with a difficulty controlling impulses and manipulative behaviors, though the chief emphasis is affect and not behavior (Hare, 1993).

CHAPTER II

LITERATURE REVIEW

This literature review is composed of three sections. The first section presents the concept of psychopathy and its importance to societal wellbeing with an emphasis on the need to identify psychopathy during early formative ages (i.e., childhood and adolescence). The second section provides an overview of two commonly diagnosed childhood disorders that may be precursors to the development of psychopathy. The third section provides an overview of existing research about psychopathy. This section presents a current robust research into adult psychopathy and an emerging set of research into potential links between early childhood behavior disorders and psychopathy.

Psychopathy

Most psychologists and psychiatrists are in agreement concerning the definition of psychopathy in adolescents; that is, psychopathy is a disorder characterized by a number of symptoms, including criminal behavior, poor social skills, misbehavior at school, frequent contact with juvenile authorities, constant recidivism, abnormal cognitions, superficial charm, and lack of empathy (Cleckley, 1976). One primary hallmark regarding psychopathy (and antisocial behavior in general) is violence, and the statistics are staggering.

The importance of studying psychopathy is evident considering the following statistics. During 2000, the World Health Organization (WHO) reported that

interpersonal violence (e.g., murder, manslaughter) killed approximately 520,000 people on a worldwide scale---a figure larger than all of the wars and/or armed conflict for that year (WHO, 2002). In Sweden (a Western country with a high standard of living compared to Third World countries), roughly 84,000 violent crimes and 200 homicides are reported each year (Haggard, Gumpert, & Grann, 2004). According to the WHO (2004), 1.6 million people die each year due to some form of violence. In addition, countless more individuals are injured due to antisocial behavior and suffer from myriad difficulties, including physical, sexual, reproductive, and mental health problems.

Physical violence has been found to start early in a person's life. It has been estimated that 80% of violent juveniles in state detention centers and violent adults in prisons have been abused as children (Andrade, Vincent, & Saleh, 2006). In addition, metadata from around the world indicates that almost 20% of women, and up to 10% of men were sexually abused as children (WHO, 2004). Aggression and its concomitant result, violence, is a primary cause of death for individuals aged 15-44 years, thus, accounting for 14% of deaths among males and 7% of deaths among females. Interestingly, individuals' unknown to the victim cause most male murder fatalities. On the other hand, the reverse is true for females; that is, approximately 50% of the fatalities in women are caused by someone the victim knows well (i.e., divorced or estranged spouses). This figure for women jumps to almost 70% in some countries (2004).

Like other countries, America also suffers from violence. The U.S. Department of Justice (2003) provided the following statistics: In 2002, students aged 12 through 18 years were victims of an estimated 88,000 serious violent crimes at school, and about 309,000 away from school. Clearly, violence and criminality is an alarming issue in schools. It is important to identify early any individual with tendencies for violence and

the potentiality for psychopathy. Between 1992 and 2001, victimization rates at school and away from school declined. However, that rate remained stable during the 1990s; in 1993, 1995, 1997, 1999, 2001, and 2003, about 7% to 9% of students in grades 9 to 12 reported being threatened or injured with a weapon such as a gun, knife, or club on school property in the prior 12 months. In 2003, about 6% of students carried a weapon such as a gun, knife, or club on school property in the preceding 30 days, a decline from 12% in 1993. Sixteen school-associated homicides of school age children occurred between July 1, 1999 and June 30, 2000. In 2003, 21% of students reported the presence of street gangs in their schools (U.S. Department of Justice). Antisocial behavior in youth and adolescents is correlated with poor communal, scholastic, and job outcomes, in addition to the exorbitant financial costs to society (Loney & Lima, 2003). When pondering the potential mental health, educational, and legal expenses, the annual cost to America has been estimated to be around two billion dollars (Cohen, 1998).

The Office of Juvenile Justice and Delinquency Prevention (OJJDP), an organization that tracks adolescent crime for statistical purposes, stated that between 1988 and 1998, a 44% increase in the total number of juvenile court cases occurred (Porter, 2000). Moreover, there was an 88% increase in arrests for offenses such as robbery and aggravated assault, with a 144% increase for drug offenses (2000). Interestingly, the OJJDP showed that the greatest increase in adolescent crime occurred with females, with an 83 % increase in the number of female delinquency cases, as compared to a 35 % increase with males (Loney & Lima, 2003).

In terms of adult criminality, psychopathy is a rare diagnosis; within the general population, the estimate falls around 1%; but this rate rises to 25% when incarcerated individuals are considered. Prisoners typically have elevated rates of antisocial

personality disorder (50% to 80%); whereas, for psychopathy 20% are judged psychopathic. In terms of adolescent psychopathy, the situation is similar; that is, the proportion of children and adolescents exhibiting severe conduct problems demonstrate high levels of psychopathic traits (Brandt et al., 1997; Christian, Frick, Hill, Tyler, & Frazer, 1997; Forth et al., 1990; Kruh et al., 2005; Murrie et al., 2002). As the importance of studying psychopathy is patently evident, the following section presents definitions ascribed to the disorder.

Definitions of Psychopathy

Hare, a world-renowned forensic psychologist and creator of the Psychopathy Checklist-Revised (PCL-R), the leading assessment instrument for diagnosing psychopathy (1998) stated that an overall definition of psychopathy should contain the following:

1. The individual's affect (e.g., lack of guilt, low remorse, a weak conscience, low empathy, shallow affect, and a failure to accept responsibility for actions) is different from the norm (i.e., average adults; Cooke, Michie, Hart, & Clark, 2004; Hare, 1998).
2. Interpersonal interaction (e.g., inability to exhibit empathy towards others, callousness, glibness or superficial charm, self-centeredness or a grandiose sense of self-worth, lying, conning, manipulation, and deceitfulness, manipulation of others for personal advancement, arrogance) with others is shallow and based on manipulation (Cooke et al., 2004; Hare, 1998).
3. The person's self-referential focus centers on egotism, and the belief that he/she can do anything because he/she is 'special' and that laws do not pertain to 'special' people (e.g., sees self as more important than others and thus, his/her criminal behavior is acceptable since the victim is 'less'; Hare 1998).

4. The psychopath lacks behavioral constraints (e.g., lacks impulse control and is careless in manner), a style that is prevalent in a specific portion of antisocial individuals (Cooke et al., 2004; Hare, 1998; & Hart & Hare, 1997).

Hare's primary emphases center on adults; however, psychopathic characteristics also delineate a subgroup of antisocial youth possessing more brutal and more hostile patterns of antisocial behavior in forensic (Caputo, Frick, & Brodsky, 1999; Kruh et al., 2005) and mental health (Christian et al., 1997) samples, than do adolescents diagnosed solely with Conduct Disorder (CD). Unlike teens with CD and/or Oppositional Defiant Disorder (ODD), a psychopathic adolescent's behavioral difficulties are less associated with dysfunctional parenting (Wootton, Frick, Shelton, & Silverthorn, 1997). In order to better understand psychopathy in adolescents, it is crucial at this point to illustrate several of the personality characteristics typifying the disorder.

Key Elements of Psychopathy

One critical element regarding adolescent psychopathy is callous unemotional traits. Characteristics of this trait could include an adolescent exhibiting a penchant for unique, stimulating, and potentially hazardous activities (Frick, Lilienfeld, Ellis, Loney, & Silverthorn, 1999), while indicating insensitivity to possible punishment, especially if the individual is working towards the achievement of a goal; that is, the individual cares little about any sanctions that might be levied against him/her for misconduct (Barry, Frick DeShazo, Ellis, & Loney, 2000). In addition, psychopathic youth usually react less to threatening and emotionally distressing stimuli when compared to their conduct disordered counterparts (Blair, 1999; Loney et al., 2003).

Research has solidified these beliefs regarding callous unemotional traits. Adolescents demonstrating both conduct problems and high callous unemotional traits

are more likely to manifest a pattern of antisocial behaviors in a severe and persistent manner in contrast to teens with conduct problems, but without callous unemotional traits (Caputo et al., 1999; Christian et al., 1997; Lynam, 1998). Furthermore, correlates regarding hostile and illegal behavior may vary depending upon the coexistence of high callous unemotional traits. For instance, adolescents possessing high callous unemotional traits may be insensitive to punishment and/or guilt and if the individual's emotional arousal is driven by the quest for new and exciting sensations, it is probable that the teen will experience problems with the legal authorities (Kochanska, 1993; Wooton et al., 1997). Teens with conduct problems and high callous unemotional traits usually exhibit no intellectual deficiencies (especially verbal deficits), are more apt to possess abnormally high levels of thrill-seeking behavior with lower levels of stress, and are less responsive to emotional stimuli than are adolescents with only conduct problems (Wooton et al.). While psychopathy is obviously an important issue, one pertinent question is this: Why study adolescent psychopathy? The importance of understanding early onset of psychopathy will now be delineated.

Adolescent Psychopathy

Juvenile delinquents who possess psychopathic attributes begin offending at a much younger age than 'normal' delinquents, take part in more criminal acts, and recidivate more frequently than do their counterparts (Forth & Burke, 1998). Moreover, high scores on instruments designed to measure psychopathy are highly correlated with the seriousness of conduct problems, criminal behavior, and delinquency in adolescents (Forth et al., 1998). Core features of psychopathy (i.e., lying, manipulating, violence) may first be seen in childhood, but the existence and assessment of psychopathy for

youth/adolescents is a hotly contested issue, especially since the aforementioned characteristics may disappear with time.

One primary rationale for studying psychopathy centers on the fact that individuals diagnosed with childhood and adolescent mental disorders have an increased risk for poor outcomes (e.g., poverty, prison, employment problems) in adulthood. Many adults receiving psychological treatment (e.g., psychotherapy, medication) for various disorders were diagnosed and treated in childhood or adolescence (von Knorring, Andersson, & Magnusson, 1987); thus, showing a continuity of behavioral difficulties between adolescent and adult problems. Thomsen (1996), in a landmark study, followed up former child psychiatric patients after an interim of 22 to 25 years and found that approximately one-third of the sample had been readmitted to an inpatient mental health facility, at least once, since the age of 18 years. In a follow-up study, Kjelsberg and Dahl (1999) found adolescents hospitalized for psychological problems tended to experience elevated rates of criminal behavior, sickness and disability, and early death when compared to the general population, as was shown when researchers followed up with patients 15 to 33 years after the original date of hospitalization. The knowledge that a connection exists between childhood externalizing behaviors (e.g., aggression, noncompliance, conduct problems) and personality disorders has been known for decades. Much research has been generated showing the link between youth or adolescent CD, and adult Antisocial Personality Disorder (Kasen, Cohen, Skodol, Johnson, & Brook, 1999). Thus, mental disorders diagnosed in childhood often follow an individual for the rest of his/her life.

The previous section on psychopathy presented evidence of the disproportionate criminal behavior of individuals diagnosed with psychopathy. They commit a wider

variety of offenses (Hare & McPherson, 1984) and recidivate more than other criminals without psychopathy (Serin et al., 1995), even when compared with individuals diagnosed with Antisocial Personality Disorder (Cunningham et al., 1998). Additionally, evidence suggests that interventions with adult populations are ineffective. Given adult psychopaths' recalcitrance to rehabilitation and treatment efforts (Hemphill et al., 1998), interventions designed for youths may provide a more realistic target. However, in order to provide early intervention for individuals with psychopathy, professionals must have a system of early identification.

One possible avenue for early identification is to provide children and adolescents who exhibit more significant behavior difficulties (e.g., those related to Attention Deficit Hyperactivity Disorder---ADHD, and CD) with effective interventions. There is abundant evidence to show a strong likelihood of continued pathology during an individual's lifetime without an appropriate intervention. Thus, childhood disorders like ADHD and conduct problems with adolescent psychopathy could be a boon for society. Myriad evidence exists that the origins of aggressive and maladaptive behavior can be traced to the preschool years (Loeber & Farrington, 2001). Moreover, the single most successful interventions for young children exhibiting conduct problems—behavioral parent training—show greatest efficacy with children in the preschool to elementary school years (Dadds, 1995). Additionally, understanding the relationship between conduct problems and ADHD with adolescent psychopathy could lead to preventative measures for youth at risk; thus, a discussion concerning the possible predictors of psychopathy is in order.

Possible Predictors of Psychopathy

During the 1990s, researchers became interested in studying how developmental antecedents regarding adult psychopathic behavior got started; thus, research on the efficacy of callous unemotional traits in assigning the label 'psychopathic' from 'non-psychopathic' adult criminals was expanded to include adolescent delinquents and children clinically referred for behavioral problems (Frick et al., 2000a). There has always been interest in understanding how psychopathy develops, but Paul Frick, an eminent researcher of psychopathy, received credit for creating the first university research program devoted solely to studying this phenomenon in children and adolescents. The primary goal of the program was to identify which developmental experience(s) might lead to adult psychopathy.

Frick et al. (2000a) hypothesized that, akin to findings in adult populations, callous unemotional traits differentiated children who exhibited the maximum constancy (e.g., behavior that remains constant over time) and ruthlessness of antisocial behavior. Children with callous unemotional traits and conduct problems tended to experience greater seriousness, longevity, and impulsivity of conduct problems (Frick et al., 1999), had more contact with the legal authorities (Christian et al., 1997), and exhibited more violent, antisocial behavior (Lynam, 1997). Moreover, psychopathy-prone adolescents were more likely to exhibit externalizing disorders, and appeared relatively immune to internalizing disorders like depression or anxiety (Lynam). Therefore, an in depth analysis regarding CU traits in children/adolescents could help society better understand how to treat these individuals.

Callous unemotional traits have been shown to predict antisocial outcomes in youths with the Psychopathy Checklist–Revised: Youth Version (PCL: YV; Brandt et al.,

1997). Frick et al. (2003a) studied the predictive use of callous unemotional traits over a one-year period in 98 children ($M = 12.4$ years) that were specifically selected for high versus low levels of conduct problems and callous unemotional traits. Callous unemotional traits were confounded with emerging conduct problems to predict changes in conduct problems; however, callous unemotional traits showed unique predictive power for measures of aggression and for girls showing their first signs of antisocial behavior. These findings indicated that the presence of callous unemotional traits may be important in prognoses of ongoing antisocial behavior.

Results from research look promising concerning the thesis that psychopathic features may designate an especially severe, aggressive, and chronic type of disturbance in antisocial youth (Frick et al., 2000a). However, there is one, very important, caveat: The utility of testing traits in youth/adolescence for the prediction of antisocial/psychopathic behavior has not been established. It is not clear from the research which dimension or dimensions of the construct of psychopathy might be most important for predicting later antisocial and aggressive behavior.

In both child (Frick et al., 2000a; Frick et al., 1994) and adult (Cooke et al., 2001; Hare et al., 1991) samples, factor analyses of psychopathic features resulted in multiple correlates. Further, debate exists as to which of these correlates may be most important for distinguishing antisocial youth that ‘fit’ with more traditional conceptualizations of psychopathy. For example, some studies have placed primary importance on the presence of impulsivity (Lynam, 1996); whereas, others have emphasized the presence of callous unemotional traits (e.g., lack of guilt and empathy; Barry et al., 2000). Barry et al. wrote that clinic-referred children with conduct problems and high levels of impulsivity only showed characteristics associated with the construct of psychopathy (e.g., fearlessness, a

reward dominant response style), if they also showed high rates of callous unemotional traits. Further, Frick et al. (2003a) reported that the presence of callous unemotional traits, but not impulsivity, predicted greater levels of aggression and particularly greater levels of instrumental and premeditated aggression at a one-year follow-up in non-referred children with conduct problems.

These studies help document that psychopathic features predict subsequent delinquency, aggression, number of violent offenses, and a shorter length of time to violent reoffending in antisocial youth (Brandt et al., 1997; Forth et al., 1990). In one of the only studies to test the predictive utility of psychopathic features in a non-referred sample of children, Frick et al. (2003a) reported that children exhibiting conduct problems, with concomitant psychopathic features, showed more severe and more instrumental aggression with higher rates of self-reported delinquent acts one year later, than did children with conduct problems but without psychopathic features.

Although parenting is normally a powerful influence in the development of conduct problems (Wooton et al., 1997), children with high callous unemotional traits may be a risk factor for the seeming inability to respond to parenting interventions. Clearly, the presence of a reliable measure of these traits in younger children may aid in the identification of effective treatments for diverse groups of children with conduct problems in the relevant, early years of their development. Thus, the discussion now turns to the stability of psychopathic traits.

Stability of Psychopathic Traits

Moffitt (1993) stated that antisocial behavior emerges early in an individual's life and remains a constant thereafter, indicating that childhood behaviors are likely links to

adult criminality. She wrote that adolescent delinquency is nothing more than a beginning stage in an individual's life with the expectation that he/she will remain antisocial for the rest of his/her life. Factors in early childhood can usually explain the continuity of criminal or risky behaviors throughout an individual's troubled life. In some cases, individuals may be able to find ways to cope with their tendencies, adjust to their lifestyles, or make significant changes and by midlife, any criminal activity has completely stopped. However, this does not mean that these individuals miraculously obtain prosocial tendencies after being antisocial for most of their lives. There are fewer instances of arrests of psychopathic criminals around age 40 years, but antisocial personality traits persist in males until at least age 69 years; therefore, the traits seen in childhood often last a lifetime.

Studies of male career criminals show that they are least likely to start committing illegal activities after adolescence. Children with the highest likelihood to turn into adults with Antisocial Personality Disorder will establish a pattern by late adolescence. For the children who do not establish this antisocial pattern by late adolescence, their disorder is considered adolescence-limited. In contrast with the life-course-persistent type, these individuals lack consistency in their antisocial behavior across situations. For instance, they may follow school rules but abandon conventional standards outside of the school where they shoplift and use drugs with friends. For adolescence-limited youths, there usually is a gradual decline in the momentum of their antisocial behavior, but many will fall prey to the same snares that maintain life-course behavior. Consequences of delinquency, which may include a drug habit, an incarceration, interrupted education, or a teen pregnancy, and are situations that may keep an individual in a delinquent lifestyle. Research data supports the idea that deviant behavior seen in childhood lasts into

adulthood, and consequently we now turn to the relative stability of psychopathic traits. (Moffitt, 1993).

Pajer (1998) established that the relationship between delinquent behavior among boys and criminal behavior among men was an excellent example of what developmental psychopathologists call 'homotypic continuity.' This accounts for a strong correlation between a disorder at one point in time and the same symptoms, or a similar disorder at a later point in time. Soderstrom, Sjodin, and Carlstedt (2004) tested psychiatric factors for associations with violent recidivism or relapse and lifetime history of aggression---CD, ADHD, and Antisocial Personality Disorder were all associated with violent recidivism.

Caspi (2000), using the Dunedin longitudinal study (initiated in 1972 and currently ongoing) in New Zealand, realized that children lacking behavioral controls at age 3 years (established by ratings of behavior received during a testing session) with the personality traits of being lackadaisical and inattentive, tended to enjoy highly hazardous, but stimulating, activities at age 18 years. In addition, Farrington (1991), in a prospective longitudinal survey involving 400 London males ranging in age from 8 to 32 years, found that assessments of antisocial personality correlated $r = .50$ between ages 10 and 14 years, $r = .58$ between ages 14 and 18 years, and $r = .55$ between ages 18 and 32 years. Stability was greatest between ages 18 and 32 years ($r = .55$), as opposed to between the ages of 10 and 18 years ($r = .38$). However, noteworthy stability existed during the subjects' adolescence. No substantial variation in personality or behavior occurred at age 18 years; rather, stability from childhood to adulthood was the norm.

These studies support a statistically significant stability regarding antisocial behavior. Once an individual is diagnosed with one or more of these behavioral disorders, it is very likely that they will continue to meet the criteria for most of their lives and will

likely have a high arrest record until late in life (Babinski et al., 1999). Personality models correlated with high Life History of Aggression scores were Paranoid Personality Disorder, Schizotypal Personality Disorder, Borderline Personality Disorder, and Antisocial Personality Disorder. This posits the idea that a strong relationship exists between the majority of emotional or behavioral disorders that have aggression as one of its primary hallmarks. In the overlap between childhood and adult onset disorders, co-morbid problems were seen between CD and Bipolar Disorder, as well as substance abuse and/or anxiety disorders (Soderstrom, Sjodin, & Carlstedt, 2004)

Summary

According to Hare (1998), the primary hallmarks of a psychopath include lack of guilt, an inability to exhibit empathy toward others, the grandiose belief that one is special and should be treated so, and an absence of impulse control. Hare's work is primarily with adults, but other researchers have noted the same affect and behaviors in children and adolescents (Blair, 1999; Frick et al., 1999; Loney et al., 2003). Frick et al. (1999) wrote that the presence of callous unemotional traits is a prime component in adolescent psychopathy and that individuals with high levels of callous unemotional traits are more apt to display antisocial behaviors in a more consistent manner than teens exhibiting only conduct problems.

Psychopathic acts, especially violence, cost the government billions of dollars per year. Psychopathy begins early (Pitchford, 2001) and the behaviors that are associated with the adult forms of the disorder can be seen in youth (Loney et al., 2003). Likewise, physical violence begins young and as a result, numerous researchers have studied the idea that if potential psychopaths can be found at an early age, many of the problems

associated with the disorder can be eliminated. Psychopathy is rare, affecting 1% of the general population and approximately 20% to 25% of the prison population, but the percentage belies their importance as they commit more than 50% of the violent crimes (WHO, 2004).

One reason for detecting psychopathy at an early age centers on the relative stability of behavior across the lifespan. Moffitt (1993) wrote that children with the greatest propensity for childhood aggression carry this trait into adulthood with behavior that is stable across different situations. Other researchers (Caspi, 2000; Pajer, 1998; Soderstrom et al., 2004) found statistical significance regarding the presence of psychopathy in young people and its continuance into adulthood.

Other Behavior Disorders

An abundance of evidence exists suggesting an etiologic continuity between conduct problems such as ADHD, CD, and psychopathy. Not surprisingly, ADHD, conduct problems (i.e., CD), and psychopathy share several correlates, including alcohol and substance abuse (Bierdman, Wilens, Mick, Milberger, Spencer, & Faraone, 1995), disruptive behavior (Grimes & Salekin, 2008), academic underachievement (Frick, Kamphaus, Lahey, Loeber, Christ, Hart, & Tannebaum, 1991), and impulsive behavior (White, Moffitt, Avshalom, Bartusch, Needles, & Stouhamer-Loeber, 1994).

The two most commonly diagnosed behavior difficulties (ADHD and CD) were highly correlated with crime and aggression. Thus, two disorders most commonly associated with adolescent psychopathy will be discussed: ADHD and CD.

ADHD

ADHD is a diagnosis encompassing chronic symptoms of hyperactivity, inattention, and/ or impulsivity (APA, 2000). ADHD was originally envisioned as a diagnosis of childhood, though several studies indicate that approximately 35–70% of children diagnosed with ADHD experience the myriad symptoms in adolescence (Conners & Jett, 1999; Gittelman, Mannuzza, Shenker, & Bonagura, 1985; Mannuzza & Klein, 2000; Mannuzza, Klein, Bessler, Malloy, & LaPadula, 1998). Family studies (Cadoret & Stewart, 1991) and longitudinal studies (Hechtman, Weiss, & Perlman, 1984) link ADHD with later conduct problems, persistent criminality, and antisocial personality disorder.

Diagnostic criteria for ADHD

The three main behaviors associated with ADHD are: (a) inattentiveness, (b) hyperactivity, and/or (c) impulsivity. There are three classifications of ADHD as established by the American Psychiatric Association in 1994. The first one is the *predominantly inattentive type*. Individuals with this diagnosis exhibit difficulties with focusing on or following through with schoolwork, paying attention and keeping track of their things, and exhibiting poor organizational skills (APA, 2000). The second classification is the *hyperactive-inattentive type*. Traits for this diagnosis include a tendency to fidget and squirm, talk too much, have difficulty sitting still, and have difficulties playing quietly and waiting for their turn in group activities (2000). The third type is *combined type*, where these individuals exhibit traits from both previous categories. All children may be inattentive, overly active, or impulsive, but children with a diagnosis of ADHD persistently act that way.

The impairments experienced by children with ADHD may have profound effects on academic achievement, social relationships, family life, and adjustment. These detrimental effects place children with the disorder at greater risk for development of other psychological disorders such as CD, substance use disorders, learning disabilities, and depression (Pliszka, 2000). Studies indicate that CD is co-morbid in approximately 15– 35% of children and adolescents with ADHD (Conners et al., 1999; Mannuzza et al., 1998).

Conduct Disorder

Conduct Disorder is a key issue for most communities since youth/adolescents with CD cause significant mental and physical damage to others. In addition, they face a great probability of becoming jailed, injured, depressed, illicit drug use, and early death. After turning age 18, CD may become antisocial personality disorder and/or psychopathy. According to the Diagnostic and Statistical Manual of Mental Disorder-Fourth Edition-/Text Revision (DSM-IV-TR; APA, 2000), CD fits into one of four main groups: (a) violent behavior that instigates bodily injury to other people or animal (or threatens to do so), (b) non-violent behavior that leads to serious property damage and/or severe cost to aforesaid property, (c) dishonesty toward others and the stealing from others and (d) severe infringement of the law.

Relationship of ADHD and CD with Other Behavior Difficulties

Loeber, Green, Keenan, and Lahey (1995) established a connection between ADHD and the progress of CD in boys. Loeber and Keenan (1994) wrote that girls diagnosed with CD were more apt than their male counterparts to suffer a co-morbid diagnosis of anxiety or depression, whereas the males had elevated rates of substance use

disorders and ADHD. The coexistence of CD and ADHD led scholars to investigate personality, nature, family issues (i.e., SES), heredity, violence, as well as other features as potential ties between the two disorders (Hinshaw, Lahey, & Hart, 1993). However, no investigations have been conducted regarding which diagnosis, CD or ADHD, is the most significant component in adolescent psychopathy.

The end result of teens diagnosed with ADHD, CD, and co-morbid CD-ADHD vary in a number of significant ways. For instance, Moffitt (1990) stated that young males with criminal behavior and ADHD (but exhibited hyperactive behavior, not inattention) were more antisocial, tended to have low verbal ability, and possessed inferior reading skills than individuals with delinquency or ADHD alone. Faraone and his associates expanded this idea when they found that ADHD-CD was a discrete component of externalizing disorders and was most likely dissimilar from ADHD in girls (Faraone, Biederman, Feighner, & Monuteaux, 2000). It could be surmised from the extant data that boys with comorbid CD and ADHD tend to have more problems with the law, due to their externalizing behavior. Teens with CD only or co-morbid CD and ADHD exhibit elevated rates of criminal behavior in comparison to adolescents with ADHD only (Biederman, Mick, Faraone, & Burbank, 2001). Disney, Elkins, McGue, and Iacono (1999) wrote that CD enhanced the odds of substance abuse across gender; whereas, an ADHD diagnosis did not appreciably increase the danger of substance use.

Minimal brain dysfunctions, or abnormal cerebral structures associated with ADHD, may affect individuals and consequently, they may experience periods of explosive rage (sometimes for no apparent reason) that can lead to excessive violence, which in turn often leads to violent crimes (Magnusson, 1988). These brain dysfunctions are typically diagnosed as attention deficit disorders with or without hyperactivity (i.e.,

ADHD). Pratt, Cullen, Blevins, Daigle and Unnever (2002) wrote, in a meta-analysis report, that levels of ADHD among offenders in the criminal justice system is very common. More than a quarter of adult inmates have been diagnosed with ADHD (Foley, Carlton & Howell, 1996), and 50 to 80% of prisoners exhibit a significant number of ADHD symptoms (Richardson, 2000). Furthermore, ADHD has been associated with a variety of conditions that are risk factors for offending, including neuropsychological deficits, poor academic and cognitive skills, truancy, psychological problems, and defiance and aggression (2000). Therefore, the argument that ADHD symptoms are likely linked to the progression of antisocial personality disorder and/or psychopathy would seem, on the face of it, to be valid.

Personality factors correlated with CD have been studied extensively. For example, a positive link exists connecting Extraversion and Psychoticism with CD (Jang, Livesley, & Vernon, 1999; Tranah, Harnett, & Yule, 1998); moreover, an individual exhibiting high Negative Emotionality with a concomitant low Constraint significantly predicts antisocial behavior (Krueger, Schmutte, Caspi, & Moffitt, 1994). Likewise, Maziade, Caron, Cote, Boutin, and Thivierge (1990) showed the impact of personality variables on externalizing disorders (i.e., ADHD and CD). They found that someone with a Negative Emotionality-type temperament (this refers to a predisposition toward sadness and apprehension with a penchant to respond to nerve-racking condition with disagreeable feelings) were more likely to exhibit externalizing disorders than would someone with an Impulsive-type temperament (which was correlated with developmental delays). In addition, Daderman (1999) found that high scores on psychopathy-related traits correlated with sensation seeking and impulsive behavior in a group of juvenile males.

Barry et al. (2000) found that callous-unemotional traits differentiated a group of children and adolescents with both ADHD and CD from those with only ADHD or CD. In an attempt to better understand the problem, researchers conducted studies investigating the possible correlation between conduct problems and ADHD and the emergence of adolescent psychopathy. The research indicates a correlation between having ADHD, CD, and/or the comorbidity of both in psychopathy; however, no research has been conducted attempting to identify which disorder, or both together, is the most important predictor in adolescent psychopathy.

Studying whether a relationship exists between psychopathy and ADHD and/or CD is a crucial element in understanding the developmental processes implicated in psychopathy; similarly, these studies could be helpful in assisting professional to develop early interventions for adolescents revealing psychopathy-like characteristics. Seagrave and Grisso (2002) stated that the paucity of satisfactory data regarding adolescent psychopathy raised concerns about the clinical use of an idea that, thus far, had received scant attention from scholars. Psychopathic attributes like recklessness and carelessness are particularly challenging because it is often complicated to discern clinically significant impulsivity and inattention from comparable behaviors that lie within normal limits.

Gretton (1998) tested whether an association existed between ADHD and psychopathy using a sample of 233 juvenile offenders assigned to a sex offender program. ADHD diagnoses were based on common, everyday evaluations conducted by trained personnel. Psychopathy, as assessed by the Psychopathy Check List: Youth Version (PCL: YV; Forth, Kosson, & Hare, 2003) was associated with the existence or absence of ADHD or ADD ($r = .40$). Moreover, adolescent psychopaths were prone (3

times more) to be given a diagnosis of ADHD (57%) in comparison to a nonpsychopathic group (18%). It could be inferred from this study that a relationship exists between ADHD and psychopathy, in juvenile offenders.

Studies Investigating Childhood/Adolescent Onset Psychopathy

One fact regarding research with adults is that individuals exhibiting qualities consistent with psychopathy suggest that these traits appear to have significant predictive value. In other words, psychopathic traits can predict recidivism, especially violent recidivism (Hart, Kropp, & Hare, 1988). In an effort to forecast psychopathic adults, researchers looked for ways to assess juveniles, with the expectation that if discovered at an early state, psychopathic traits could be ameliorate. Presented below are two studies that investigated psychopathy in children. Both were thought crucial to the current study and they are discussed in depth.

Prediction of psychopathy and severe behavior problems

In a landmark study, Frick et al. (2003a) wanted to measure the comparative potency of conduct problems in predicting psychopathy. They conducted a study testing the calculation that callous unemotional attributes would both predict more severe, aggressive behavior and how the traits are associated with that behavior, including instrumental aggression. In a major Southern city, the researchers started with 1,136 children that were drawn from a number of schools within the city. The children were first divided into four groups based on the combined ratings of parents and teachers for callous unemotional traits and conduct problem symptoms: (a) low callous unemotional, low conduct problems, (b) high callous unemotional, low conduct problems, (c) low

callous unemotional, high conduct problems, and (d) high callous unemotional, high conduct problems.

The number of participants was eventually pared down to 98, with the groups containing the third and fourth grades (younger cohort) and sixth and seventh grades (older cohort). In the study, 53% of participants were girls, 19% Black and 77% White, with 21% receiving special education services (Frick et al., 2003a). Each specific cohort was stratified for sex, race, and socioeconomic status. Lastly, a stratified random sampling method was used to gather 25 children in each group. Each of the four groups matched the initial group from which they were taken, so the stratification variables of each group would have an approximate equal number of children in the younger and older grade cohorts. This left the researchers with a study sample of 98 children upon which the researchers conducted a $2 \times 2 \times 2$ study design with differing intensities of callous unemotional traits, conduct problems, and grade cohort; thus, three between group factors were formed. Approximately one year after the initial assessment, each group was reassessed, with the average length of time being 12.99 months ($SD = 4.67$ months).

The measures Frick et al. (2003) used included the Antisocial Process Screening Device (APSD); The Disruptive Behavior Disorders section of the Children's Symptom Inventory-4; the National Institute of Mental Health (NIMH) Diagnostic Interview Schedule for Children (an instrument used to measure conduct problems); the Aggressive Behavior Rating Scale, and the Self-Report of Delinquency. Each participant was assessed in two sessions with procedures standardized for each individual.

The researchers (Frick et al., 2003) wanted to see if: (a) the prediction of callous unemotional traits might calculate more severe conduct problems in children; (b) whether

callous unemotional traits and conduct problems could correctly calculate future aggressive conduct; and (c), what the results would be if an emphasis was placed on the youth's self-report regarding the engagement in criminal acts one year after the original assessment. Their research showed that conduct problems, through the overall number of problems and the range of symptoms, played a vital role in delinquency. The sampling techniques used led to dissimilarities across the conditions for several demographic variables. The linear results of these variables were manipulated in all of the primary analyses by using them as covariates to make certain that the acquired associations could not be ascribed exclusively to these group differences. Specifically, for both the quantity of conduct problems and range of conduct problem symptoms, primary effects for both the beginning levels of conduct problems and beginning levels of callous unemotional traits were studied. These outcomes indicate an additive result of callous unemotional traits and conduct problems that were perceptible in the elevated degree of conduct problems in the group high on both callous unemotional traits and conduct problems.

When the study was replicated, controlling for the primary degree of conduct problems, all of the consequences regarding callous unemotional traits and conduct problems were decreased to nonsignificance using the modified Bonferroni procedure. This suggested that the results found during the main analyses could, for the most part, be accounted for by dissimilarities in the initial number of conduct problems activity across groups. Interestingly, the main result for callous unemotional traits came approached significance in predicting the range of conduct problems seen at the one year, follow-up, $F(1, 85) = 5.21, p < .05$, even after controlling for the beginning level of conduct problems.

In terms of conduct problem significance, the group high on both callous unemotional traits and conduct problems was higher at the 1-year follow-up assessment. On the other hand, no interaction occurring between callous unemotional traits and conduct problems reached levels of significance, nor were any of the interactions involving the cohorts. Even so, results sustaining the worth of callous unemotional traits for calculating future difficulties included the 12-month follow-up, when self-reported delinquency was used. Callous unemotional traits often forecast self-reports of delinquent behavior, especially violence and aggression, whereas the existence of conduct problems did not increase significance to this prediction. That is, youth exhibiting conduct problems with no presence of callous unemotional traits, did not have elevated instances of self-reported delinquency. However, children possessing elevated callous unemotional traits and conduct problems, as well as those with elevated callous unemotional traits alone, reported higher instances of delinquency.

Callous unemotional traits could be vital, not only for specifying children whose behavior places them in a high risk category for delinquency, but could potentially help researchers ‘type’ children that may be in danger for future delinquency but have not, thus far, exhibited any of tell-tale behavioral signs showing its presence. These results are significant because many school psychologists use anti-delinquency measures primarily based on the presence of conduct problems as the only means of determining risk. In addition, a calculation regarding the likely behavior of “psychopathic” children could be prepared. Examples of callous unemotional traits include a lack of regard for human life, malignant narcissism, and lack of empathy.

Using an analysis of covariance (ANCOVA), Frick et al. (2003) found that proactive aggression (aggression that is expressed without anger; violence or aggression

used to get what one wants) approached significance, $F(1, 85) = 3.68, p < .05$, with the same configuration appearing across groups. The group possessing elevated scores on both callous unemotional traits and conduct problems showed more proactive aggression than did those with elevated scores on conduct problems only, with the second group showing little differentiation from the other groups regarding their amount of proactive aggression. Another attribute concerning all four groups at the first assessment that could have affected the results at the 1-year follow-up was the existence of ADHD. Frick et al. found that while no meaningful effects were found using a 2 x 2 logistical model analysis, almost half of the individuals with heightened levels of callous unemotional traits and conduct problems possessed a prior, research based diagnosis of ADHD, as detailed in both parent and teacher report at the original screening. Thus, it is possible, that the comorbid ADHD and conduct problems, at least in this specific group, may have been the source for their more serious problems.

Likewise, Frick et al. (2003) reasoned that their findings indicated an additive effect of callous unemotional traits and conduct problems, which was seen in the highly elevated rates of problem behavior in the group high on both callous unemotional traits, and conduct problems. For both scales regarding the seriousness of conduct problems, the group with heightened scores on both callous unemotional traits and conduct problems was higher at the 1-year follow-up assessment.

One major limitation of the study was the passage of time from original assessment to the follow up (12.99 months). While supplying a significant starting point in understanding the function of callous unemotional traits in calculating later aggression and delinquency, assessments regarding the prognostic efficacy of these traits over more extended periods is desperately needed. Another limiting factor was that no assessment

for aggression or delinquency was taken during the first testing session. This would have made Frick et al.'s (2003a) findings stronger as it would have indicated the stability of psychopathic traits.

One methodological concern that is significant when interpreting the findings of the above study is the manner of sample formation. Children with elevated callous unemotional traits and conduct problems were over sampled and consequently it was ensured that these groups matched the population from which they were taken, in terms of demographic variables. Another limitation of the study centered on the fact that only self-reports of delinquency were used. One aspect of this limitation is that the argument could be made that children possessing callous unemotional traits might be more likely to disclose delinquent acts since they care little about what others think. Another limitation centers on the fact that the sample size was too small for distinguishing any of the higher order interactions, especially those using all three independent variables. Moreover, the sample was too small for the researchers to test the interactions' moderating effects of gender. One possible limitation not discussed was examiner bias, but its presence may have had an impact on the diagnoses as detailed by Seagrave and Grisso (2002). If an examiner does not like the juvenile being assessed, he/she might label the individual as being psychopathic, but not because of any specific behavior patterns; rather, the adolescent receives the label because the examiner thinks it should be so.

Relationship between ADHD and psychopathy

Kaplan and Cornell (2004) investigated the relationship between psychopathic traits and ADHD in juvenile offenders. Participants were 122 male adolescents, ages 13 to 18 years, with an average age of 16 years. All were held in the Reception and

Diagnostic Center, located within the Virginia Department of Juvenile Justice. Of the 122 participants, 64% had a history of violent offenses and 15% had a documented history of sex crimes. Twenty-five percent received a diagnosis of ADHD, 32% had ODD, 61% had CD, and 33% had a mood disorder diagnosis. Of the participants, 24% had a dual diagnosis of ADHD and CD and 60% had a dual diagnosis of ADHD and ODD.

To ascertain whether or not the 122 participants had the criteria for psychopathy, the researchers administered the PCL:YV and the Attention Deficit Hyperactivity (ADH) scale of the Personality Inventory for Youth (PIY). In order to study whether a connection existed between psychopathy and ADHD, Kaplan and Cornell (2004) used three sets of analyses to measure three separate measures of ADHD. The first analysis contained evaluations of psychopathy scores for the PCL: YV Total, factor 1 -- which consists of interpersonal and affective features, or “the selfish, callous, and remorseless use of others”, and factor 2 -- which consists of the behavioral features, or a lifestyle that is both unstable and antisocial (Forth et al., 1990) for teens with and without a diagnosis of ADHD. The second analysis contrasted psychopathy scores of participants with no record of taking psychostimulant medicine to those that had. The third analysis correlated the psychopathy scores for the Attention Deficit Hyperactivity scale of the PIY.

Using one-tailed t-tests, analyses indicated that the mean PCL: YV Total and Factor 1 scores did not differ for those who did or did not meet ADHD criteria. On the other hand, statistically significant differences were found between mean factor 2 scores $t(120) = -2.46, p < .05$; factor 1, $t(120) = -2.34, p < .05$. Factor 2, $t(120) = -2.10, p < .05$, scores were heightened notably for individuals with a history of taking psychostimulant medication with each accounting for 2%, 4%, and 3% of the variance, respectively. In regards to the PCL: YV, Total and factor scores, no significant correlation was found

with the PIY ADH scale (Kaplan & Cornell, 2004), which indicated that ADHD, as measured by the PIY, had a small link with psychopathy.

In addition, ADHD was found to share an association with factor 2 scores, but not total scores or factor 1 scores. On the PCL: YV, factor 2 scores were significantly elevated for individuals with ADHD and for those with a history of ingesting psychostimulant medicine. As mentioned above, factor 2 assesses behavioral components of psychopathy, such as impulsivity and the desire for stimulating activities. Both are also features shared with people diagnosed with ADHD, so a degree of equivalence would seem likely. However, this connection was not strong, primarily because adolescent offenders with ADHD did not attain significantly elevated total psychopathy scores, and no connection linking ADHD and other psychopathic characteristics was found (Kaplan & Cornell, 2004). Further, ADHD traits did not enhance the ability to predict aggressive behavior in contrast to ratings of juvenile psychopathy. For instance, measures of ADHD did not accurately predict brutal institutional conduct; however, when psychopathy scores were added, the prediction regarding violent behavior while jailed was accurate.

One regression analysis engendered support for the belief that ADHD hallmarks could be used to predict future criminal behavior. According to the total scores received on the PCL: YV, as well as psychostimulant medication, ADHD played a crucial role concerning the differences between instrumental and reactive violence. Scores received for psychopathy were correlated with instrumental aggression, while the psychostimulant use was linked with reactive violence. Kaplan and Cornell (2004) felt this suggested a probable disassociation between psychopathy and ADHD because they are correlated with varying types of violent behavior.

Kaplan and Cornell (2004) speculated as to why the prior use of psychostimulants led to elevated scores on factor 2 of the PCL:YV. They felt that the link might be a relic of the common symptoms specifically found in ADHD (i.e., the DSM-IV criteria for diagnosing ADHD recognizes that symptoms of ADHD can be caused by an array of other disorders; APA, 2000). Furthermore, they believed that it could be that psychopathic adolescents engaged in such a surfeit of brash, unruly behavior that the legal authorities came to believe that the teens had ADHD and thus, treated their externalizing behaviors with psychostimulants.

This study had several identified limitations. First, the researchers depended on diagnoses of ADHD given by the clinical staff. Although the staff performed thorough evaluations and had the advantage of conducting observations of the participants for several weeks, standardized clinical interviews were not used as part of the diagnostics (Kaplan & Cornell, 2004). Thus, the diagnoses were based more on personal impressions than standardized diagnostic guidelines. Another major limitation was the researchers' dependence upon archival data for a number of measures regarding violent behavior. Kaplan and Cornell stated that some records had missing information records and the question that arises is: Would the missing information have changed the diagnoses? Another limitation was the review of files used in tandem with the PCL:YV. A requisite part of the administering the PCL:YV is a review of the adolescent's file and the interviewer's familiarity with the youth's criminal background could very well affect how the adolescent was rated.

Summary

Although researchers have shown that adolescent psychopathy exists and that it has high costs, scholars disagree concerning the etiology of the disorder and all agree that it is rare. Researchers estimate that for the general population, the estimate falls at approximately 1%, but can rise up to 25% when the group being studied consists of incarcerated individuals (50 to 80% have APSD, but only 20 to 25% are judged psychopathic).

With regard to characteristics, one primary component of adolescent psychopathy is the existence of callous unemotional traits, with many researchers thinking it is the primary quality separating psychopathy from the more typical antisocial behavior. Some research (Wootton et al., 1997) indicates that adolescents who exhibit conduct problems with high callous unemotional traits are the individuals most likely to be diagnosed psychopathic. Usually, individuals with these traits exhibit little regard for others, search out situations which are dangerous (bungee jumping, completely disregarding the speed limit and driving at extreme speed, heavy abuse of alcohol and drugs, etc.), and are highly aggressive. Further, much of the illegal behavior we see in adults was extant during adolescence and, therefore, could have been predicted and, possibly, prevented through early intervention. Moffitt (1993) wrote that criminal behavior begins in childhood, not in adulthood and thus, it is highly relevant to understand the relationships between certain behavior and adolescent psychopathy.

Thus, if adolescent psychopathy were better understood, the advantage to society would be incalculable. Two personality traits found in most adolescent psychopaths are conduct problems and ADHD (Abramowitz et al., 2004). Some of the behavior exhibited by psychopaths is strikingly similar to that found in individuals diagnosed with ADHD

and CD. Any research efforts that attempt to understand conduct problems and ADHD and their relationship with psychopathy could be of great use to fields such as psychometrics, criminology, psychology, and forensics; thus, the reason for the study is to expand the content knowledge base and record the intensity of the relationship between these disorders and psychopathy.

CHAPTER III

METHODS

Participants and Setting

The target population for this study was 80 adolescent males (ages 13-18 years) placed in alternative education settings in Mississippi school systems. The participants and their parent/guardian were informed that (a) their participation was voluntary, (b) the information they provided will be confidential, (c) they could withdraw at any time, and (d) they had the right to refuse to answer any specific question that was asked of them. Any student who had reached his 18th birthday was asked to sign an Informed Consent instead of the Parental Consent Form, as well as the Assent Form, as they are considered adults in the state of Mississippi (see Appendix A for IRB approval letter). The only requirement for participation was to be a student in an interim alternative education setting, have parental consent, child assent, and have a valid response set as measured on the BASC-2 V Index (i.e., did not fall within the extreme caution range).

The demographic information of the participants showed that participants were males ranging in age from a low of 13 years to a high of 18 years ($M = 14.73$, $SD = 1.62$). Of the 80 participants, 76 (95%) stated English was their first language; whereas, 4 (5%) indicated Spanish was their primary language. Demographics of participants are shown in Tables 1 and 2, with both presenting information on the behavioral difficulties of the participants as a whole.

Table 1 Demographics of Participants ($n = 80$)

Variable	Number	Percentage
Race		
White	18	22.5
Black	54	72.5
Other	4	5.0
Grade		
Sixth	15	18.8
Seventh	13	16.3
Eighth	12	15.0
Ninth	16	20.0
Tenth	13	16.3
Eleventh	9	11.3
Twelfth	2	2.3

Table 2 Participant History of Behavior Difficulties ($n = 80$)

Variable	No	Yes	Mean number of times
School Expulsion	58	22	1.72 (.44)
Police Custody	39	41	.88 (1.03)

Note. Parentheses indicate the standard deviation

Students attending interim alternative educational settings within three school districts were included in the current study. District 1 contained approximately 1,600 students, of which 48% were female and 52% were male. The racial makeup of the district was 93.41% Black, 5.33% White, and 2.09% Other (See Table 3). Roughly, 90% of the district's students were eligible to receive a free, reduced lunch and out of its yearly budget, District 1 spent approximately \$9,000 per pupil in current expenditures, with 56% being spent on instruction, 37% on support services, and 6% on other elementary and secondary expenditures. It has 13 students for every full-time equivalent teacher,

with the state average being 15 students per full-time equivalent teacher. District 1 had a grades 9-12 dropout rate of 7%, while the national grades 9-12 dropout rate is 4.4%. Fifteen percent of District 1's students have an Individualized Education Program (IEP), which is a written plan for students eligible for special needs services. It has one Level-4 (Exemplary) school, three Level-3 (Successful) schools, and one Level-2 (Underperforming) school.

District 2 had approximately 4,500 students enrolled. In terms of gender, 50% were female and 50% were male, with a racial makeup consisting of 91.30% Black, 6.40% White, and 2.3% Other (See Table 3). Roughly, 79% of the district's students were eligible to receive a free, reduced lunch. District 2 spent approximately \$9500 per pupil in current expenditures, with 58% being spent on instruction, 36% on support services, and 6% on other elementary and secondary expenditures. It has 14 students for every full-time equivalent teacher, with the state average being 15 students per full-time equivalent teacher. District 2 had a grades 9-12 dropout rate of 10%, while the national grades 9-12 dropout rate was 4.4%. Sixteen percent of the students in District 2 had an IEP. It has two Level-4 (Exemplary) schools, three Level-3 (Successful) schools, and four Level-2 (Underperforming) schools.

District 3 serves over 12,700 students in grades KG through 12 (See Table 3). In terms of yearly budget, it spent approximately \$7,397 per pupil in current expenditures, 57% on instruction, 37% on support services, and 6% on other elementary and secondary expenditures. Approximately 45.9% of the district's students were eligible to receive a free, reduced lunch. It has 18 students for every full-time equivalent teacher, with the state average being 15 students per full-time equivalent teacher. It has a grades 9-12 dropout rate of 8% while the national drop out rate was 4.4%. Eleven percent of students

in the district have an IEP. It has six Level-5 (Superior Performing) schools, four Level-4 (Exemplary) schools, and seven Level-3 (Successful) schools.

Table 3 Demographics of 3 School Districts

Race		Percentage
White	District 1 = ~ 1,600	5.33
Black		93.41
Other		1.26
White	District 2 = ~ 4,500	6.40
Black		91.30
Other		2.30
White	District 3 = ~ 12,750	68.65
Black		26.10
Other		5.25

Materials

Three self-report measures were used in this study: The Antisocial Process Screening Device-Youth version (APSD-Y), the Conners'-Wells' Adolescent Self-Report Scale-Long (CASS:L) version, and the Behavior Assessment System for Children-Second Edition (BASC-2). Each will be presented below with information including a description, each test's respective psychometric properties, and limitations.

The Antisocial Process Screening Device

The APSD was developed from the Psychopathy Checklist-Revised (PCL-R; Hare, 1998), the leading instrument used for diagnosis of psychopathy in adult populations. Originally known as the Psychopathy Screening Device (Frick et al., 2000), the APSD was designed as a downward extension of the PCL-R to be used with children, with the idea that if psychopathy exists in adults then some individuals could possess it as children (Frick et al.). Initially, the APSD was developed for use with children ages 6 to

13 years (referred to here as the S-APSD; Frick & Hare, 2002) and much of the psychometric information and existing research has been conducted with this version of the APSD. The adolescent version of the APSD (referred to as the APSD-Y), developed several years after the S-APSD, is intended for use with youth ages 13 to 18 years. Because much of the extant information is based on the S-APSD, that instrument will be presented first with additional detail provided for the APSD-Y as is appropriate.

The S-APSD and APSD-Y contains 20 items in which the child is rated using a three point Likert scale (Caputo et al., 1999). However, slight modifications were made to the S-APSD such that an adolescent could provide self-reported responses on the APSD-Y. This self-report version asks adolescents for their own appraisal of psychopathic traits. Each item on the APSD is scored either 0 (*not at all true*), 1 (*sometimes true*), or 2 (*definitely true*), with the scores ranging from 0 to 40. For both instruments, a total score is calculated. Designed for adolescents' self-appraisal of their psychopathic traits, this 20-item measure yields a single total score (range of 0 to 40). A score of 30 or above on the APSD-Y indicates 'psychopathy'; 20 to 29 indicates behavior that is 'likely antisocial'; and scores below 20 are considered 'normal'.

Notably, the factor composition of both versions of the APSD remains imprecise. The initial evaluation regarding the S-ASP (Frick, et al., 1994) showed it contained two-factors, an Impulsive/Conduct Problems factor and a Callous Unemotional factor. A later study (Frick et al., 2000a) revealed the three-factor structure (i.e., Narcissism, Impulsivity, and Callous Unemotional traits). Based on a follow up study with residential employees as raters, Green and Youngstrom (2002) stated a 2-factor solution might be the most suitable for the S-APSD. Green and Youngstrom state that the callous unemotional factor may be the most appropriate for the APSD-Y.

There are a number of reasons the APSD-Y would be beneficial to researchers. First, the use of the instrument is especially important when assessing antisocial attitudes and behaviors (Jolliffe, Farrington, Hawkins, Catalano, Hill, & Kosterman, 2003) because covert behavior or affective styles may not be readily evident to observers (Kamphaus & Frick, 2002). Second, a self-report measure is useful when the individual of interest comes from a dysfunctional family with a potentially significant history of out-of-home placements and, as such, parents may not be available to provide information or may not have enough recent contact with their child to provide ratings of current characteristics (Loney et al., 2003). As such, Loney et al. provides a compelling rationale for this self-report scale of psychopathic features among adolescents, stating that evidence shows that accuracy of self-reported psychopathology increases during adolescence, while that of parent and teacher report decreases (Kamphaus & Frick, 1996). Finally, researchers have found evidence of strong psychometric properties in the APSD-Y. The following section provides validity and reliability studies, as well as correlational studies conducted on this measure of psychopathy.

As the APSD-Y is a non-published test, no norms regarding the instrument have been released.

Reliability and validity of APSD-Y

There has been some promising support for the validity for the APSD-Y. First, the three factor structure (Narcissism, Impulsivity, Callous Unemotional traits) is consistent with the factor structure of the adult measure, PCL-R (Cooke & Michie, 2001) and was evidenced in the parent and teacher versions of the S-APSD (Frick et al., 2001). Additionally, this same structure has been supported for the self-report version of the

APSD-Y in institutionalized adolescents (Vitacco, Rogers & Neumann, 2003). Second, total scores from the APSD-Y have identified more severe and violent groups of juvenile offenders (Caputo et al., 1999) who have been associated with early onset of offending (Silverthorn, Frick, & Reynolds, 2001). Additionally the APSD-Y has predicted institutional antisocial behavior (e.g., aggression, administrative infractions) and poor treatment progress in adjudicated adolescents (Spain, Douglas, Poythress, & Epstein, 2004).

Considering that the APSD-Y is a relatively new assessment, much research has been conducted investigating its reliability and validity. One study compared the association between the APSD-Y and PCL-R with external criteria. For instance, scores on the APSD-Y showed comparable correlations with number of arrests ($r = 0.33$), and number of violent arrests ($r = 0.25$) with the youth version of the PCL-R ($r = 0.36$ to 0.28 ; all $p < 0.05$) in an adolescent offender sample (Salekin, Leistico, Neumann, DiCicco, & Duros, 2004). Third, scores on the self-report APSD have been associated with deficits in emotional functioning (Kimonis, Frick, Fazekas, & Loney, 2006) and with a lack of sensitivity to punishment in social situations (Pardini, Lochman, & Frick, 2003). One study (Murrie, Cornell, Kaplan, McConville, & Levy-Elkon, 2004) examined 113 incarcerated, male adolescents and found that the APSD-Y significantly predicted violence in institutionalized adolescents, as well as future violence. These findings were considered important as it helped to substantiate the test's prognostic utility.

Concurrent validity studies with the APSD-Y and the Psychopathy Checklist: Youth Version (PCL:YV) show moderate correlations between total measure scores ($r = .30 - .40$). Predictive validity for the APSD-Y was supported in a study of sex offenders

(Caputo et al., 1999). Adolescent male sex offenders were contrasted with other adolescent offenders regarding the extent of aggressive behavior. Participants were 70 incarcerated male adolescents, ages 13 to 18, from three offender categories: 23 sex offenders, 17 violent offenders, and 30 non-contact offenders. What was found was that the APSD-Y indicated that the sex offenders possessed more Callous Unemotional traits than did the other offenders. The APSD-Y has also shown predictive validity: correlations with program noncompliance ($r = .31, p < .05$); recidivism ($r = .33, p < .05$); and total scores ($r = .38, .36, p < .001$; Falkenbach, Polythress, & Heide, 2003). The subscale scores (i.e., Callous and Unemotional traits and Impulsivity) have been shown to predict violent behavior such as aggravated assault and rape (Kruh et al., 2005). In addition, significant correlations with arrest records of $r = .22, p < .05$; institutional records of $r = .30, p < .01$; and violent acts while incarcerated of $r = .25, p < .01$, (as measured by higher levels of self-reported rates and variety of delinquency) have also been found (Murrie & Cornell, 2004).

Frick, Kimonis, Dandreaux, and Farell (2003), in a study of 98 children that spanned four years, found that the APSD showed reasonable stability in repeated administrations over a 4-year interval among children drawn from a community sample. Test-retest reliability was assessed at three yearly intervals; the intraclass correlation for total scores across time (stability) was $r = .76 (p < .001)$; subscale intraclass correlational scores for Callous Unemotional traits were $r = .67$; Narcissism at $r = .52$; and Impulsivity at $r = .71$ with all three scores being significant at .001 level. Rogers, Vitacco, Cruise, Sewell, and Neumann (2002) examined 77 adolescents drawn from a juvenile detention center and found that social desirability reliability, using Cohen's d , was .94 for the APSD total, and 1.41 for social nonconformity; the PCL:YV effect sizes were also

significant at .79 and 1.10, respectively. Spain and colleagues (Spain et al., 2004) looked at 85 male juvenile offenders and found internal consistency of total score alpha ($r = .78$), Narcissism ($r = .69$), Impulsivity ($r = .50$), and Callous Unemotional ($r = .56$).

It should be noted that although correlations between the APSD-Y and the PCL:YV have been unexceptional (typically correlations of $r = .30$ to $.40$; Lee, Vincent, Hart, & Corrado, 2003), APSD scores indicate correlations with number of arrests ($r = .33$) and number of violent arrests ($r = .25$) to the PCL:YV ($r = .36$ and $r = .28$, all $p < .05$) in an adolescent offender sample (Salekin et al., 2004). In addition, callous unemotional traits as measured by the APSD-Y have been associated with deficits in emotional functioning (Loney et al., 2003) and with a lack of sensitivity to punishment in social situations (Pardini et al., 2003) which, as noted previously, are important for causal theories of the development of these traits.

Limitations

As previously mentioned, the most valuable aspect of the APSD-Y is its measure of the affective traits related to the callous unemotional factor, but there are a few limitations. Six of the 20 items on the APSD-Y measure Callous Unemotional traits, but this relatively small number of items probably contribute to its modest internal consistency in many samples (Loney et al., 2003). This small number of items often makes it difficult to determine if there are important facets of callous unemotional traits that may be differentially related to relevant external criteria (Lynam, Caspi, Moffitt, Raine, Loeber, & Stouthamer-Loeber, 2005). In addition, items on the APSD-Y are rated on a limited three-point Likert scale with item responses ranging from 0 (Not at all true)

to 2 (Definitely true). This limited response format restricts the range and variability of scores (Munoz & Frick, 2007).

Murrie and Cornell (2002) compared two instruments, the APSD-Y and the Millon Adolescent Clinical Inventory (MACI), with the PCL: YV using 117 male adolescents at a Virginia juvenile justice facility. A modest correlation of $r = .30$ was found between the PCL: YV and the APSD-Y. However, the authors stated this could be because the PCL: YV uses an interview format, whereas the APSD-Y is completed by the juvenile as a self-report questionnaire. The point is that what someone writes about him/herself may differ from what is said to an interviewer, thus the low correlation might arise from the psychopathy construct.

Summary

The primary reason for the development of the original APSD was to gauge the downward extension of psychopathy from adults, as measured by the Psychopathy Checklist-Revised (PCL-R) to children (ages 6 to 13). This, in turn, led to the development of the APSD-Y, as an upward extension of the APSD. The research regarding the APSD-Y indicates that it is as effective as the PCL-R in predicting future violence (Caputo et al., 1999; Falkenbach et al., 2003; Kruh et al., 2005). Moreover, a significant correlation has been found between arrest records, institutional records, and violence while incarcerated (Murrie et al., 2004).

In summary, the APSD-Y is an assessment for determining if an adolescent possesses the criteria needed for a diagnosis of psychopathy. Thus far, it has shown to work effectively at that task, though reservations have arisen. For instance, some researchers have questioned the use of self-report measures while others (Seagrave &

Grisso, 2002) speculate the morality of placing the label of “psychopath” on an adolescent. Additionally, researchers (Lynam, et al., 2005) believe the total APSD-Y score is more relevant. Nonetheless, the research data supports the notion that the APSD-Y is effective in diagnosing adolescent psychopathy and for this study, the total APSD-Y score was used to measure psychopathy.

The Conners-Wells Adolescent Self-Report Scale-Long Version

The Conners-Adolescent Self-Report Scale-Long version (CASS:L; Conners, 1997) was designed to evaluate problem behaviors by obtaining reports from teachers, parents, and adolescents. Long and short versions of the norm-referenced scale are available and reflect a wide variety of DSM-IV criteria for childhood disorders. The primary purpose of the Conners Rating Scale -Revised (CRS-R; the name of the form filled out by adolescents) is to assist in the assessment of ADHD and related problem behaviors in children and adolescents (ages 3 to 17 years). The Conners is composed of three versions: The aforementioned CRS-R, the Conners Rating Scale – Parents (CRS-P), and the Conners Rating Scale –Teachers (CRS-T). The parent and teacher versions are completed by the respondents concerning the child/adolescent’s behavior. The third version is the Conners-Wells Adolescent Self-Report Scale (CASS), and is completed by the adolescent. Two versions are available: the CASS:L (the long version of the scale that takes approximately 15 to 20 minutes to complete with 87 items) and the CASS-S (the short version that takes approximately 5 to 10 minutes to complete and has 27 items), with both requiring a 6th grade reading level. For this study, the CASS:L will be used because it provides more complete information about the test-takers’ pathology, if any

exists. For the purposes of this study, the following CASS:L scales scores were used in this study: (a) Internalizing, (b) ADHD, and (c) Externalizing.

The CASS:L yields a norm-referenced T score ($M = 50$; $SD = 10$) for all scales. These T scores are rated as follows: T scores less than 30 are considered ‘Markedly Atypical’ (e.g., with below expected levels); T scores 30 - 34 are considered ‘Moderately Atypical’; T scores 35 - 39 are considered ‘Mildly Atypical’; T scores 40 - 44 are considered ‘Slightly Atypical’; T scores 45 - 55 are considered ‘Average’; T scores 56 - 60 are considered ‘Slightly Atypical’; T scores 61 - 65 are considered ‘Mildly Atypical’; T scores 66 – 70 are considered ‘Moderately Atypical’; and T scores of 70 or more are considered ‘Markedly Atypical’. Thus for the purposes of this study, interpretation of T scores are as follows: (a) T scores of 55 or below are not a cause of concern (e.g., average); (b) T scores of 56 to 60 are of concern; (c) T scores of 61 to 65 indicate a possible significant problem (e.g., ‘at-risk’ or ‘borderline’); and (d) T scores of 66 to 70 indicate a significant problem and scores above 70 indicate a greater than significant problem (i.e., both categories within the ‘clinically significant’ range).

Norms

During norm development, reliability coefficients ranged from $r = .83$ to $.88$ for the CASS:L. As a result of high internal consistencies, standard errors of measurement were low, indicating minimal error for scores received on the CASS:L. Alpha coefficients for the CASS:L ranged from $r = .73$ to $.89$ for all subtests and $r = .73$ to $.80$ for ADHD-specific subtests (Conners, 1997a). Approximately 11,000 adolescents were included in the standardization and well over 8,000 adolescents in the normative sample. Data was collected from over 200 schools across 45 states, as well 10 provinces

throughout the United States and Canada. Notably, ethnic minority students were underrepresented; for instance, though they are approximately 12% of the population, Blacks comprised only 4.3 to 4.8% of the normative sample (Conners, Wells, Parker, Sitarenios, Diamond, & Powell, J. (1997b).

Reliability and validity of CASS:L

The majority of extant research centers on the CRS-R, which is the name of the assessment instrument of which the CASS:L is an integral part. Internal reliability for the CASS:L ranged from $r = .75$ to $.92$. Test-retest intervals between six and eight weeks were studied for each scale using 50 children (Mean age 14.8), with the coefficients ranging from $r = .73$ to $.79$. Internal validity of the CRS-R was measured by examining the intercorrelations between the subscales to determine if they met theoretical expectations and to test the replicability of the subscale structure. Low to moderate correlations among the seven subscales of the long form across males (*mdn* $r = .34$) and females (*mdn* $r = .32$) provide evidence that the instrument assesses distinct dimensions of problem behavior and psychopathology. The pattern of intercorrelations was compared across gender and found to be nearly identical. Confirmatory factor analysis supported a three-factor model for the short versions of the CRS-R, and results of additional confirmatory factor analyses were similar for the various forms of the scale (i.e., long, short, parent, teacher, and self-report).

Evidence for convergent and discriminant validity was explored through correlations among the teacher, parent, and self-report forms; correlations among the CRS-R subscales and other self-report scales; and correlations between the CRS-R and performance measures (Hale, How, Dewitt, & Coury, 2001). Low or nonsignificant

correlations were reported between parent and adolescent ratings and teacher and adolescent ratings for both the long and short forms. Exceptions include moderate correlations identified between self-report and parent ratings of Cognitive Problems ($r = .53$ to $.45$ for males and females, respectively). Self-report and teacher ratings of Cognitive Problems also were moderately correlated ($r = .41$ to $.40$ for males and females, respectively). Correlations on ratings for the *ADHD* Index across groups ranged from $r = .16$ to $.49$. These findings are consistent with cross-informant results of other behavior rating scales (Achenbach, McConaughy, & Howell, 1987).

Subscales correlated well with other commonly used rating scales and performance measures. The correlation between the CRS-R and the Children's Depression Inventory was high ($r = .74$) for cognitive problems and inattention. A significant correlation ($r = .33$) also was identified between the Continuous Performance Test (Conners, 1995) and the Conners Parent Rating Scale -Revised DSM-IV Symptoms Inattention subscale. A comparison of the CRS-R revealed moderate to high correlations between subscales for which constructs were theoretically similar ($r = .32$ to $.94$ for parent and teacher long forms; Conners, 1997a).

Predictive validity of the CRS-R was examined by comparing a nonclinical group with a group of children diagnosed with *ADHD*. Prevalence data were consistent with the prevalence of the disorder in the general population (3.85% from teacher ratings and 2.30% from parent ratings). Significant differences were reported on all subscales (except Perfectionism) between the clinical and nonclinical groups for the teacher and parent ratings. A second study (Conners, 1997b), was conducted comparing a sample of students with *ADHD* and a group of children experiencing 'emotional problems.' Consistent with the principal features of *ADHD*, the *ADHD* group scored significantly higher than the

emotional problems group on several subscales from the parent form (Inattention, Hyperactivity, Impulsivity, and other ADHD characteristics). The emotional problems group scored significantly higher than the ADHD group on the Oppositional, Perfectionism, and Social Problems subscales (Conners, 1997b).

Limitations and Summary

According to the test manual, over 8,000 children and adolescents were used when norming the CASS:L (Conners, 1997b). However, no detail is given regarding the traits that made up the sample, nor is any information given about SES data. The authors state that the sample included African American, Asian American, Caucasian, Hispanic/Latino, Native American, and other children/adolescents, but no data regarding the percentages of each group was given. In summary, the Conners has been found to be an excellent tool for determining the ADHD status of children and adolescents, as well as internalizing and externalizing behaviors. For the purposes of this study, the Internalizing, Externalizing, ADHD, and conduct problems subscales were used.

The Behavior Assessment System for Children-Second Edition (BASC-2)

The BASC-2 is considered a multimethod instrument because of the inclusion of five separate components that allow clinicians to obtain information in a number of ways from multiple sources and settings. The use of an integrated, multimethod assessment system helps to reduce threats to validity that would be present if only one type of assessment were used (Reynolds & Kamphaus, 2004). Specifically, the BASC-2 was designed to assess numerous aspects of behavior, including both adaptive and maladaptive behavior, and purportedly is useful for identifying the clinical diagnosis of disorders that are usually apparent in childhood or adolescence, and the behavioral and

emotional status of children and adolescents with sensory impairments. Moreover, the BASC-2 can purportedly be used to assess all aspects of the federal definition of severe emotional disturbance, to design Individualized Education Programs (IEPs) for children with emotional disturbances in the manifestation determination process, and to develop family service plans (Reynolds & Kamphaus).

The BASC-2 evaluates personality and behavioral problems and levels of emotional disturbance, and is one of the few instruments that identify positive or adaptive characteristics. Identifying these strengths may facilitate the therapeutic process. Additionally, the BASC-2 aids in the differential diagnosis and educational classification for children with a range of emotional and behavioral disorders, thereby increasing the prospects for successful treatment plans (Reynolds & Kamphaus 1992). Although the BASC-2 does allow for information from multiple sources to be compared regarding one individual, the present study utilized the BASC Self-Report of Personality (BASC-2 SRP) to examine cluster-derived typologies of males in a juvenile offender sample. The adolescent form (BASC-SRP-A; ages 12-18 years) used in the present study consists of statements using a True-False response set yielding 14 different scales and four broad composite scores (Reynolds & Kamphaus).

Of the 14 scales, 10 are clinical scales measuring maladjustment with high scores representing negative or undesirable characteristics. Included here are: *Anxiety*, *Attitude to School*, *Attitude to Teachers*, *Atypicality*, *Depression*, *Locus of Control*, *Sensation Seeking*, *Sense of Inadequacy*, *Social Stress*, and *Somatization*. The remaining four scales are included in the Adaptive scales measuring positive adjustment with high scores representing positive or desirable characteristics. These scales include: *Interpersonal Relations*, *Relations with Parents*, *Self-Esteem*, and *Self-Reliance*. The composite scales

include *School Problems Composite*, which is a broad measure of a child's adaptation to school, *Internalizing Problems Composite*, which is a broad measure reflecting clinical, internalizing problems, *Inattention/Hyperactivity Composite* which is a broad measure reflecting ADHD problems, and *Personal Adjustment Composite* which is a composite of the adaptive scales and provides information regarding interpersonal relationships, self-acceptance, identity development, and ego strength. The final composite score, *Emotional Symptoms Index*, is the instrument's most global indicator of serious emotional disturbance, particularly with regard to internalized disorders (Reynolds et al.).

The BASC-2 yields norm referenced T scores ($M = 50$, $SD = 10$) by age groups for the subscales, composite, indices, and total scores. These scores are generally rated as follows: (a) T scores of 20 - 60 are considered 'normal' or 'average'; (b) T scores of 61 – 70 are considered 'elevated', 'at-risk', or 'borderline'; and (c) T scores of 71 or higher are considered 'extremely elevated' or 'clinically significant'.

Norms

The self-report of personality-adolescent (BASC-SRP-A) is an instrument standardized on a large national sample that is representative of the general population of U.S. children with regard to gender, race/ethnicity, and clinical or special education classification. The total number of 3,400 adolescents was used for norming the BASC-2 SRP. The sample closely matched the 2001 Current Population Survey with respect to sex, socioeconomic status (as indicated by mother's education level), race/ethnicity, geographic region, and special education classification (Reynolds & Kamphaus, 2004).

There are 186 questions in the format of 'True-False' loading into different clinical scales as well as scales of adaptive functioning, for pinpointing specific

syndromes or strengths. Also included are composite scales that are helpful for summarizing responses and making broad conclusions regarding different types of adaptive and maladaptive personality tendencies. In addition, validity scales are included: *F* index indicating the tendency to be unusually negative, the *L* ('fake good') index, and the *V* index used to detect invalid responses for reasons related to poor reading comprehension, failure to follow directions, or poor contact with reality (Reynolds et al., 1992).

Reliability and validity of BASC-2

Reliability of the BASC-SRP-A scales is good as indicated by a variety of methods (Kamphaus et al., 2002). Median internal consistency coefficients are generally in the $r = .80$ s for both the general and clinical samples. Test-retest coefficients taken at a 1-month interval are generally in the $r = .70$ s (Reynolds et al., 1992). Internal consistency coefficients ranged from $r = .60$ to $.90$ for the both general and clinical norms. The composite range is from $r = .80$ to $.90$ and the scales range is from $r = .60$ to $.90$. However, for the SRP, the form being used for this study was somewhat lower with coefficients ranging from the middle $r = .70$ s to low $r = .90$ s. Interrater reliability was lower than the internal and test-rest, but the age and scale being considered greatly varied the results (Stein, 2004).

In terms of validity, the BASC-2 SRP was correlated with five self-report scales, as well as the BASC SRP form. Sufficient correlations were acquired, except for correlation between the SRP Alcohol Abuse Scale and ASEBA Substance Use Scale ($r = .42$), and the correlation between the SRP Depression Scale and the Total Children's Depression Inventory Score ($r = .29$) (Kovacs, 1992) at the child level. The SRP

Somatization Scale has a low correlation ($r = .35$) with the Minnesota Multiphasic Personality Inventory–2 (MMPI-2) Hypochondriasis clinical scale (Butcher, Graham, Ben-Porath, Tellegen, Dahlstrom, & Kaemmer, 2001), but a moderate correlation ($r = .45$) with the MMPI-2 Health Concerns content scale. Unlike the other two BASC-2 forms (the Teacher Rating Scale and the Parental Rating Scale), the BASC-2 SRP could not be rescored to obtain original BASC SRP scores, because the response formats for some items had been altered.

Limitations and Summary

Extensive data regarding the meaning of the assorted content scales and their psychometric properties was provided. However, insufficient information was given concerning on how the scales were created and how they could be used and interpreted. In addition, a certain amount of redundancy was found within the BASC-2. For instance, it is possible for Anger Control to be a subset of Emotional Self-Control. In general, the BASC-2 is an excellent tool for use with children/adolescents; likewise, it has excellent validity and reliability. When used properly, the BASC-2 provides information that could augment educational testing of student behavior

Procedure

This research study was conducted across two days at each respective school. On Day One, consent forms were provided to students to bring to parents/guardians. On Day Two, participant assent/consent was obtained and the demographics form, the APSD-Y, BASC-2, and CASS: L were completed in groups. The measures were counter balanced in administration order across groups (i.e., Group One at one school, Group Two at the second school, and Group Three and Group Four at the largest school) to control for

response set. See Figure 3.1 for how the measures were counterbalanced across the four groups.

First Group	Second Group	Third Group	Fourth Group
APSD-Y	BASC-2	CASS:L	Demographics
BASC-2	APSD-Y	Demographics	CASS:L
CASS:L	Demographics	APSD-Y	BASC-2
Demographics	CASS:L	BASC-2	APSD-Y

Figure 2 Counterbalancing of Instruments

Following administration of the APSD-Y, CASS:L, and BASC-2, each measure was hand scored using the manual instructions for each test (i.e., CASS:L and BASC-2). The APSD-Y was hand scored by totaling the numbered of responses.

The current study obtained adolescents' self-reported behavior to examine potential relationships between psychopathic traits and common behavior problems (i.e., ADHD, Conduct Disorder) using the Connors Adolescent Self-Report Scale-Long version (CASS:L), the Behavior Assessment Scale for Children-Second Edition Youth Self-Report Form (BASC-2) and Antisocial Personality Screening Device for Youth (ASPD-Y).

Procedural Integrity and Interscorer Agreement

The researcher administered all procedures with an assistant (i.e., a trained graduate student) present. The assistant was present for 100% of the sessions of the study to determine if all steps (e.g., directions read, materials used, instruments in

counterbalanced order) were implemented in accordance with the outlined methods. The procedural integrity was 100%.

To establish interscorer agreement a trained research assistant (e.g., graduate student) rescored approximately 33% of the instruments. The interscorer agreement of 92% was determined using the formula below.

$$\frac{\text{Agree-Disagree}}{\text{Total}} \times 100 = \text{Interscorer Agreement} \quad (\text{Eq. 1})$$

Research Design

The study's primary purpose was to gauge the strength of the relationships between ADHD and conduct problems, and how they were related to scores of adolescent psychopathy. In their study, Abramowitz et al. (2004) used self-report inventories and semi-structured interviews. One argument regarding the ADHD symptom scores reflect the fact that the results came via a self-report inventory; whereas, information used to score conduct problems came from using a semi-structured interview format. Specifically, individuals might have remembered more information or have been more attentive to direct questioning than completing a questionnaire. In this study, conduct problems and ADHD were measured with self-report formats using the BASC-2 and the CASS: L, with no interviewer ratings being used.

The present study used the Internalizing, Externalizing, Conduct Problems, and ADHD subscales of the CASS:L and BASC-2 and the APSD-Y to answer the following hypotheses:

1. Participants' Internalizing T scores obtained from the subscales of the CASS:L and the BASC-2 will fall within the average range.

2. Participants' Externalizing T scores obtained from the subscales of the CASS:L and the BASC-2 will fall within the clinically significant range.
3. The T scores on measures of Conduct Problems on the CASS:L and the BASC-2 will have a significant relationship to the scores obtained on the APSD-Y
4. The T scores on measures of ADHD on the CASS:L and the BASC-2 will have a significant relationship to the scores obtained on the APSD-Y.

Data Analysis

All analyses were conducted using the statistical analysis package, SPSS version 18. First, means and standard deviations were computed for variables of interest (e.g., demographics, instrument scores). These statistics were used to evaluate Hypotheses One and Two. Additionally, the Pearson Product Moment correlation, utilized to determine if a relationship exists between two continuous variables, was the analysis used to answer the statistical questions related to Hypotheses Three and Four within this study. The value for the correlation (shown as ' r ') can fall between -1.00 (perfect negative correlation), and 1.00 (perfect correlation). Other factors such as group size will determine if the correlation is significant. The level of significance for this study was set at .05 using a two-tailed test. When a statistical test is used for inference, the given statistical hypothesis, the H_0 (null hypothesis) will be rejected when the value of the statistic is either sufficiently small or sufficiently large (i.e., $p \geq .05$). The test is named after the 'tail' of data under the far left and far right of a bell-shaped normal data distribution, or bell curve (Wiersma, 2000).

Once the preliminary data was gathered, a secondary analysis was run to examine the variables as they related to the APSD-Y scores when grouped into low (i.e., <20 or average range) and high, (i.e., ≥ 20). The decision to run an Independent t-test was made

based on the range of scores found with the APSD-Y. Independent t-tests aid in understanding whether a statistical significance of a possible difference between the means of two groups on some independent variable and the two groups are independent of one another. If the two samples were drawn from the same population, we would expect the difference between these samples to be equal to 0. Thus, our null hypothesis would indicate that the two population means are equal. If all possible samples and calculated differences between each pair of sample means, the distribution of sample mean differences would be symmetrical, and its mean would be equal to the difference between the population means (Shannon & Davenport, 2000). Under the null hypothesis, the difference between the two populations is 0; however, the null hypothesis would be rejected if the probability of being wrong is low (e.g., $\leq .05$). On the other hand, if the probability of being wrong is too high, the null hypothesis would be retained and thus, the differences between the two means are most likely due to chance (Shannon & Davenport).

CHAPTER IV

RESULTS

The primary purpose of this study was to explore the relationship between Attention-Deficit Hyperactivity Disorder (ADHD) and conduct problems with adolescent psychopathy using 3 assessment instruments: (a) The Antisocial Process Screening Devise-Youth version (APSD-Y) which measures psychopathy, (b) the Conners-Wells' Adolescent Self-Report Scale – Long Version (CASS:L) which assesses problematic behaviors, and (c) the Behavior Assessment System for Children-Second Edition (BASC-2) which also assesses problematic behaviors. Adolescent males who had been placed at an interim alternative educational setting in a southeastern state were the subjects for the current study. The analyses for this study were conducted in two stages.

Preliminary Analyses

Preliminary analyses were conducted to determine mean scores for each of the measures and demographic information for 80 adolescent males, age 13 to 18 years ($M = 14.73$) who attended school at their district's interim alternative educational setting. Table 4.1 provides the mean scores and standard deviations for each of the variables of interest. Each of the variables will be discussed in the following sections. The participants consisted of 18 White adolescents (22.5%), 58 Black adolescents (72.5%), and 4 Other (5.0%).

Antisocial Process Screening Device (APSD-Y)

The total score on the APSD-Y for each participant was entered into SPSS. Participants' APSD-Y scores ranged from 5 to 35, with a mean of 21.00 ($SD = 5.91$). The mean score for participants fell within the likely antisocial range (See Table 4). As can be seen in Figure 3, the distribution of APSD-Y scores for participants' clusters around the score of 20. This score has been identified by the test authors (Frick & Hare, 2002) as the cut score between average individuals and those who are likely antisocial (e.g., person engaging in illegal activity and/or risky behavior that harms self or others).

Table 4 Obtained Scores on the Variables of Interest ($n = 80$)

Measure	Mean	Standard Deviation	Range
APSD-Y	21.00*	5.91	5 – 32
CASS:L Internalizing	43.70	4.46	37 – 53
CASS:L Externalizing	65.07	12.12	41 – 83
CASS:L ADHD	54.75	8.38	43 – 80
CASS:L Conduct Problems	66.07*	12.17	44 – 85
BASC-2 Internalizing	49.10	6.59	36 – 69
BASC-2 Externalizing	66.83*	15.74	30 – 96
BASC-2 ADHD	53.43	4.90	45 – 65
BASC-2 Conduct Problems	71.50**	15.23	45 – 100

Note. * indicates scores within the moderately atypical or at-risk range; ** indicates scores within the markedly atypically or clinically significant range.

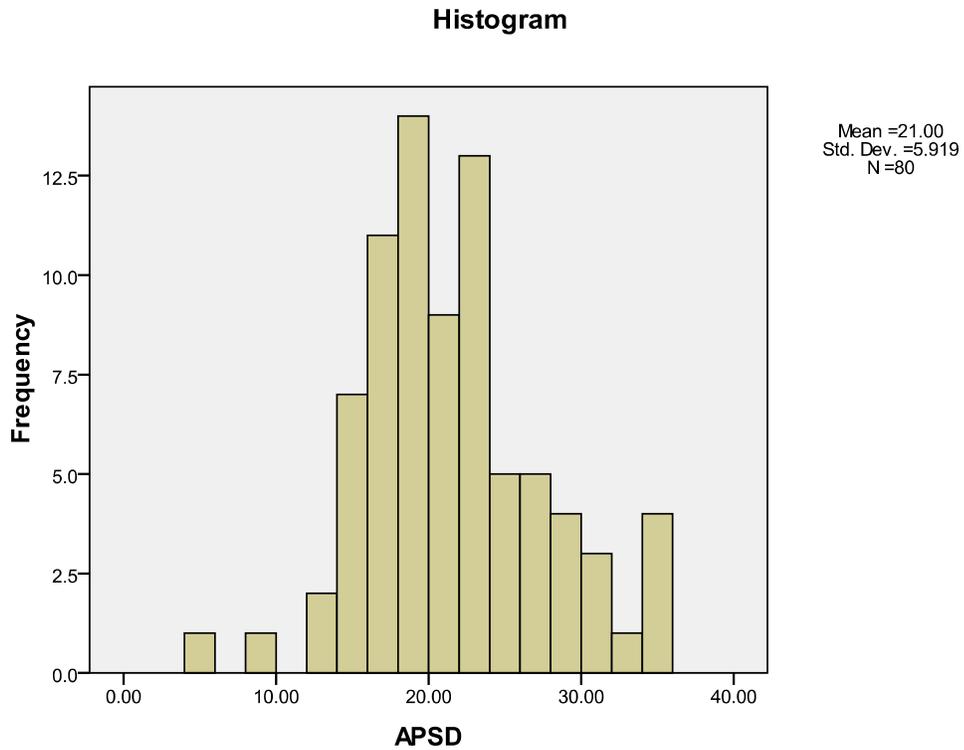


Figure 3 Histogram showing score range of APSD-Y

To better understand the distribution of APSD-Y scores for the population of adolescent males in this study, Table 5 provides information for three categories (i.e., average, at-risk, psychopathic). Of note, just fewer than half of the population (44%) obtained scores within the average range; consequently, approximately 66% of the participants obtained sufficiently elevated scores to be notable on the APSD-Y measure. Of further note, only eight (10%) obtained scores in the significant range (i.e., psychopathic).

Table 5 Frequency of Scores for the APSD-Y

Category	Range	Frequency	Percentage
Average	5 – 19	36	44%
At-Risk	20 – 29	37	46%
Significant	30 – 35	8	10%

Note. Average range = scores less than 20; At-risk = scores from 20 to 29; Significant = scores greater than 30.

Conners-Adolescent Self-Report Scale-Long version (CASS:L)

The CASS:L Internalizing scale T scores for all participants ranged from 37 to 53 ($M = 43.70$, $SD = 4.46$). The CASS:L Conduct Problems scale T scores for all participants ranged from 44 to 85 ($M = 66.07$, $SD = 12.17$). T scores on the CASS:L ADHD scale ranged from 43 to 80 ($M = 54.75$, $SD = 8.38$) (see Table 4). Conners (1997) stated that T scores falling below 55 are within the average range, those that fall between 56 and 65 are within the at-risk range, and those 66 and above are within the clinically significant range. Table 6 provides the distribution of the CASS:L scores.

To better understand the distribution of CASS:L subscale scores for the population of adolescent males in this study, Table 6 provides information for the three categories (i.e., average, at-risk, clinically significant) for the Internalizing, Externalizing, ADHD, and Conduct Problems subscales. The participants T scores on the CASS:L Internalizing subscale all fell within the average range; however, for more than half (53.3%) of the participants, the obtained Externalizing T scores fell within the clinically significant range (i.e., T score > 66). In addition, the more than half (53.8%) of the T scores received on the ADHD subscale fell within the average range, whereas half

(49.8%) of the T scores received on the Conduct Problems subscale fell within the clinically significant range

Table 6 Frequency of T-scores for the CASS:L

Category	Range	Frequency	Percentage
Internalizing			
Average	37 – 53	80	100%
At-Risk	56 – 65	0	0
Significant	>66	0	0
Externalizing			
Average	41-54	23	28.8%
At-Risk	56-65	15	18.9%
Significant	>66	42	52.3%
ADHD			
Average	43 – 55	51	64.0%
At-Risk	56 – 65	20	25.2%
Significant	>66	9	10.8%
Conduct Problems			
Average	44 - 55	25	31.3%
At-Risk	57 – 65	15	18.9%
Significant	>66	40	49.8%

Note. Average range = T scores less than 56; At-risk = T scores from 56 to 65; Significant = T scores greater than 66.

Behavior Assessment System for Children- Second Edition (BASC-2)

For the BASC-2, data was categorized into four dimensions: (a) Internalizing (with T scores that ranged from 36 to 69; $M = 49.10$, $SD = 6.59$); (b) Externalizing (with T scores that ranged from 30 to 96; $M = 67$, $SD = 15.75$); (c) ADHD (with T scores that ranged from 45 to 65; $M = 53.43$, $SD = 4.90$); and (d) Conduct Problems (with T scores that ranged from 45 to 100; $M = 71.50$, $SD = 15.23$).

Table 7 shows each assessment's mean, standard deviation, and range of scores. The test authors (Reynolds & Kamphaus, 1992) have identified that scores falling below 60 are within the average range, those that fall between 61 and 70 are within the at-risk range, and scores above 71 are within the clinically significant range. Table 7 provides the distribution for each subscale. Seventy-six (95%) of the participants T scores on the BASC-2 Internalizing subscale fell within the average range. Externalizing T scores for 19 participants (23.7%) fell within the at-risk range, while 32 participants (40%) scored within the clinically significant range; thus, 63.7% of the participants scored within the at-risk to clinically significant range on the externalizing subscale. For the ADHD subscale, 77 participants (96.3%) scored within the average range, and for the Conduct Problems subscale, 19 participants (23.9%) scored within the at-risk range and 38 (48.6%) scores within the clinically significant range; therefore, 72.5% of the participants scored within the at-risk to clinically significant range on the BASC 2 conduct problems subscale.

Table 7 Frequency of T-scores for the BASC-2

Category	Range	Frequency	Percentage
Internalizing			
Average	36 – 60	76	95%
At-Risk	61 – 70	4	5.0%
Significant	>70	0	0.0%
Externalizing			
Average	30 – 60	29	36.3%
At-Risk	61 – 70	19	27.7%
Significant	>70	32	40.0%
ADHD			
Average	45 – 60	77	96.3%
At-Risk	61 – 65	3	3.7%
Significant	>70	0	0.0%
Conduct Problems			
Average	45 - 60	22	27.5%
At-Risk	61 – 70	19	23.9%
Significant	>70	38	49.6%

Note. Average range = T scores 20 to 60; At-risk = T scores from 61 to 70; Significant = T scores greater than 71.

Relationships Between Measure Scores

To examine the relationships between internalizing and externalizing behaviors including conduct problems and ADHD, a Pearson Product Moment correlation was

computed for all variables of interest across the three measures (i.e., the ASPD-Y, CASS:L, and BASC-2). These correlational data are presented in Table 8. Significant positive correlations were found between the ASPD-Y and the BASC-2 Externalizing and CASS:L Externalizing scales ($r = .74$ and $.68$, respectively). Additionally, significant positive correlations were found between the ASPD-Y, conduct problems of the BASC-2 and CASS:L Conduct Problems ($r = .72$ and $.70$, respectively). Additionally, significant positive correlations were found between all four externalizing scales (range of $r = .78$ to $.98$). The BASC-2 ADHD scale also had a significant relationship with the BASC-2 Externalizing, CASS:L Externalizing, BASC-2 Conduct Problems, and CASS:L Conduct Problems ($r = .35$, $.30$, $.31$, and $.26$, respectively). Smaller positive correlations ($p = .05$) was found between the CASS:L Conduct Problems and CASS:L ADHD ($r = .25$). Further, small but still significant ($p = .05$) negative correlations were found between the BASC-2 Internalizing and CASS:L Externalizing scales ($r = -.23$) and between the BASC-2 Internalizing and BASC-2 ADHD scales ($r = -.23$).

Table 8 Correlations Table

Measure	1	2	3	4	5	6	7	8	9
APSD-Y	-	-.16	-0.12	.74**	.68**	.72**	.70**	.22	.15
BASC-2 Int.		-	0.28	-.21	-.23*	-.20	-.22	-.26*	-.08
CASS:L Int.			-	-.09	-.17	-.15	-.20	-.06	.21
BASC-2 Ext.				-	.84**	.98**	.81**	.35**	.20
CASS:L Ext.					-	.81**	.95**	.30**	.21
BASC-2 Con						-	.78**	.31**	.15
CASS:L Con.							-	.26**	.25*
BASC-2 ADHD								-	.20
CASS:L ADHD									-

Note. Int. = Internalizing, Ext. = Externalizing, Con = Conduct Problems, significant correlations are bolded, * = significant at the .05 level, ** = significant at the .01 level or beyond.

Secondary Analyses

To further explore the results of this study, the population was split into two groups: (a) those students who obtained scores on the APSD-Y within the average range (i.e., scores < 20; $n = 36$) termed Low ASPD-Y participants; and (b) those within the at-risk range (i.e., scores 20 to 29; $n = 37$) plus those within the significant range (i.e., scores > 30; $n = 8$), which were termed High APSD-Y participants ($n = 44$). Table 9 provides scores for the Low and High APSD-Y students across the variables of interest (i.e., APSD-Y, CASS:L, BASC-2). Table 10 shows the correlations for students grouped by Low APSD-Y and High APSD-Y.

Table 9 Test Scores for Low APSD-Y and High APSD-Y Participants

Measure	Low APSD-Y			High APSD-Y		
	Mean	SD	Range	Mean	SD	Range
APSD-Y	16.06	2.99	5 – 19	32.63	2.13	20 – 35
BASC-2 Int.	49.36	6.55	39 – 69	43.63	5.90	36 – 52
CASS:L Int.	43.69	4.29	37 – 52	44.13	4.91	38 – 50
BASC-2 Ext.	57.61	13.00	30 – 79	91.50	3.85	84 – 96
CASS:L Ext.	58.58	10.65	41 - 79	81.63	1.06	80 – 83
BASC-2 Con.	62.81	12.71	45 – 87	94.63	6.27	82 – 100
CASS:L Con.	59.19	9.69	44 – 80	83.50	2.27	80 – 85
BASC-2 ADHD	52.56	5.19	45 – 65	54.25	4.95	45 – 60
CASS:L ADHD	54.44	6.86	43 – 72	59.50	12.58	44 – 80

Note. Ext. = Externalizing, Int. = Internalizing, Con. = Conduct Problems.

There are several significant differences between the Low APSD-Y and the High APSD-Y groups. Within the High APSD-Y group, the mean for the BASC-2 Externalizing subscale was 91.50 with a standard deviation of 3.85 and a range from 84 to 96, while the mean for the BASC-2 Conduct Problems subscale was 94.63 with a standard deviation of 6.27 and a range from 82-100. These scores are noteworthy as the BASC-2 considers any T scores above 66 to be within the clinically significant range and for this study, both Externalizing and Conduct Problems Scores have a mean higher than 90.

Likewise, the scores received within the High APSD-Y group for the CASS:L Externalizing subscale were noteworthy with a mean of 81.63 and a standard deviation of 1.06 and a range of 80 to 83 (see Table 9). In addition, the scores for the CASS:L

Conduct Problems subscale were also notable with a mean of 83.50 with a standard deviation of 2.27 and a range from 80 to 85. Any T score for the CASS:L above 66 is considered clinically significant and here, both subscales had a T score in the low 80s.

Table 10 Correlations for Students Grouped by Low APSD-Y and High APSD-Y

Measure	1	2	3	4	5	6	7	8	9
APSD-Y	-	-.22	.06	.30	.31	.26	.20	.20	.08
BASC-2 Int.	-.44**	-	.13	-.10	-.05	-.10	-.05	-.35*	-.15
CASS:L Int.	-.06	-.05	-	-.35*	.32	-.37*	-.22	-.27	.25
BASC-2 Ext.	.78**	-.32*	.07	-	.80**	.97**	.73**	.50**	.24
CASS:L Ext.	.70**	-.40**	-.09	.77**	-	.77**	.94**	.31	.20
BASC-2 Con	.78**	-.30**	-.03	.97**	.74**	-	.70**	.49**	.17
CASS:L Con.	.72**	-.37*	-.09	.75**	.94**	.71**	-	.29	.23
BASC-2 ADHD	.12	-.18	.12	.16	.21	.08	.14	-	.27
CASS:L ADHD	.23	-.03	.19	.21	.25	.16	.29	.16	-

Note. Int. = Internalizing, Ext. = Externalizing, Con = Conduct Problems, significant correlations are bolded, * = significant at the .05 level, ** = significant at the .01 level or beyond.

Low ASPD-Y group relationships.

For those with Low APSD-Y, there was a strongly significant (at $p \leq .01$) positive relationship between the BASC-2 Externalizing T scores and the CASS:L Externalizing T scores, the BASC-2 Conduct Problems T scores, the CASS:L Conduct Problems T scores, and the BASC-2ADHD T scores ($r = .80, .97, .73$, and $.50$, respectively). See Table 4.7 in which relationships between T scores for the Low APSD-Y group are presented above the diagonal and those for the High APSD-Y group are below the

diagonal. There was also a strongly significant positive relationship between the CASS:L Externalizing T scores and the BASC-2 Conduct Problems T scores and CASS:L Conduct Problems T scores ($r = .77$ and $.94$, respectively) for those who were grouped into the Low ASPD-Y. Finally, for those in the Low APSD-Y group there was also a strong positive relationship between the BASC-2 Conduct Problems T scores and CASS:L Conduct Problems T scores and BASC-2 ADHD T scores ($r = .70$ and $.49$, respectively). There was a smaller ($p \leq .05$) negative relationship between the CASS:L Internalizing T scores and the BASC-2 Externalizing T scores and BASC-2 Conduct Problems T scores ($r = -.35$ and $-.37$, respectively); and also a smaller negative relationship between the BASC-2 Internalizing T scores and the BASC-2 ADHD T scores ($r = -.35$).

High ASPD-Y group relationships.

For those within High APSD-Y, there was a strongly significant (at $p \leq .01$) positive relationship between the ASPD-Y scores and the BASC-Externalizing T scores, CASS:L Externalizing T scores, BASC-2 Conduct Problems T scores, and CASS:L Conduct Problems T scores ($r = .78$, $.70$, $.78$, and $.72$, respectively). For those within the High ASPD-Y group, there was also a strong positive relationship between the BASC-2 Externalizing T scores and the CASS:L Externalizing T scores, the BASC-2 Conduct Problems T scores, and the CASS:L Conduct Problems T scores ($r = .77$, $.97$, and $.75$, respectively). There was also a strongly significant positive relationship between the CASS:L Externalizing T scores and the BASC-2 Conduct Problems T scores and CASS:L Conduct Problems T scores ($r = .74$ and $.94$, respectively) for those who were grouped into the High ASPD-Y. Finally, for those in the High APSD-Y group there was

also a strong positive relationship between the BASC-2 Conduct Problems T scores and CASS:L Conduct Problems T scores ($r = .71$). There was a strong negative relationship between the BASC-2 Internalizing T scores and the ASPD-Y scores and the CASS:L Externalizing T scores ($r = -.44$ and $-.40$, respectively). There was a smaller ($p \leq .05$) but still significant negative relationship between the BASC-2 Internalizing T scores and the BASC-2 Externalizing T scores, BASC-2 Conduct Problems scores, and the CASS:L Conduct Problems T scores ($r = -.32$, $-.30$, and $-.37$, respectively). A strong negative correlation was found to exist between the CASS:L Externalizing T scores and the BASC-2 Internalizing T scores ($r = .40$; $p \leq .01$).

Comparison of Means for Low and High APSD-Y Groups

To explore potential differences between the Low and High APSD-Y groups on the variables of interest (i.e., the CASS:L and BASC-2 subscales), an independent t-test was computed (see Table 11). An Independent t-test aids in understanding whether a statistical significance of a possible difference between the means of two groups on some independent variable and the two groups are independent of one another.

A significant difference was found between the two APSD-Y groups for both externalizing scores (i.e., BASC-2 and CASS:L) with the BASC-2 Externalizing ($t = -5.57$, $p > .001$) with the High APSD-Y group $M = 74.39$ ($SD = 13.57$) compared to the Low APSD-Y $M = 57.61$ ($SD = 12.82$), and the CASS:L Externalizing ($t = -5.57$, $p > .001$) with the High APSD-Y group $M = 70.39$ ($SD = 10.55$) compared to the Low APSD-Y $M = 58.58$ ($SD = 10.50$). A significant difference was also found between the two APSD-Y groups for the two conduct problems scores (i.e., BASC-2 and CASS:L) with the BASC-2 Conduct Problems ($t = -5.37$, $p > .001$) with the High APSD-Y group

$M = 78.61$ ($SD = 13.26$) compared to the Low APSD-Y $M = 62.81$ ($SD = 12.53$), and the CASS-Conduct Problem scores ($t = -5.29$, $p > .001$) with the High APSD-Y group $M = 71.10$ ($SD = 11.01$) compared to the Low APSD-Y $M = 59.19$ ($SD = 9.55$). In each of these cases, the mean of the High APSD-Y groups significantly exceeded the mean of the Low APSD-Y group. The significance statistic for each of these subtests is .000; thus, a significant difference was found between the low APSD-Y test-takers and the high APSD-Y test-takers on a number of problematic behaviors.

Table 11 Follow up Analyses to Examine Mean Differences for Low and High APSD-Y

Measure	<i>t</i>	<i>P</i>	Cohen's <i>d</i>	<i>es</i>
CASS: L Int.	0.01	.992	na	na
CASS:L Ext.	-5.57	.000	1.12	.49
CASS:L ADHD	-.29	.770	na	na
CASS:L Con.	-5.29	.000	1.16	.50
BASC-2 Int.	.32	.751	na	na
BASC-2 Ext.	-5.57	.000	1.27	.54
BASC-2 Con.	-1.47	.147	na	na
BASC-2 ADHD	-5.37	.000	1.22	.52

Note. $df = 78$.

CHAPTER V

DISCUSSION

Interpretation of Hypotheses

The current study sought to examine the relationship between internalizing and externalizing behaviors, conduct problems, Attention-Deficit Hyperactivity Disorder (ADHD), and adolescent psychopathy. To accomplish this, 80 adolescent males (ages 13-18 years) placed in interim alternative education settings within three Mississippi school districts were administered three self-report assessment instruments: (a) The Antisocial Process Screening Device---Youth (APSD-Y), (b) the Behavior Assessment System for Children-Second Edition (BASC-2), and (c) the Conners-Wells' Adolescent Self-Report Scale: Long Version (CASS:L). The APSD-Y measures adolescent psychopathy; the BASC-2 and CASS:L are commonly used to measure psychological functioning (e.g. depression, anxiety, ADHD, and conduct disorders). Once the data was obtained, T scores for each subject were input into SPSS to examine the data. An interpretation of the results, in relation to the research hypotheses, follows below.

Hypothesis One: Participants' Internalizing subscale T scores obtained on CASS:L and the BASC-2 of the participants in this study will fall within the 'average' range.

The SPSS results supported the hypothesis with regard to internalizing behavior T scores. For the CASS:L, T scores in the average range were those less than 55; scores in the at-risk range were those from 56 to 65; significant scores were those greater than 66, as shown in Table 4.1. In the present study, the mean for the CASS:L internalizing T

scores was 43.70 with a standard deviation of 4.46. The range of scores was 37 to 53; thus, all 80 adolescents' scores (100%) fell within the average range (See Table 6).

For the BASC-2, T scores from 20 to 60 are average; at-risk scores are those ranging from 61 to 70; significant scores are those greater than 71. In the present study, the mean for the BASC-2 internalizing scale was 49.10 with a standard deviation of 6.59. The range of T scores was 36 to 69. Seventy-six of the 80 students (95%) scored within the average range, while 4 scored within the at-risk range (5%) (See Table 7).

Children with internalizing behaviors, such as anxiety, social inhibition, and depression, have problems that primarily affect the internal focus of the child; that is, the environment around them does not affect an internalizing child as much as it would children lacking an internalizing personality (Rankin-Williams, et al. 2009). Reid Meloy (1988) wrote, in his seminal book *The Psychopathic Mind*, (1988) that psychopathy and internalizing problems are two problems that seldom coexist with each other.

Anxiety is a typical pattern of behavior and usually indicates expectation concerning something that might cause problems, such as uneasiness about standing before one's peers and speaking or facing an unknown situations (Huberty, 2008). Depression may be defined as an illness that encompasses a person's body, as well as affecting his/her frame of mind. It can influence the quality of sleep and its length; likewise, it affects how a person feels about himself/herself, as well as how one views the world (Henrissen & Rydell, 2006).

The students sent to interim alternative educational settings do not ordinarily exhibit signs of anxiety and/or depression (if they do, they often hide it from others) and are usually overlooked by their teachers due to their relative quietude as compared to their externalizing classmates (2006). In essence, internalizing disorders and their ensuing

problems are the diametric opposites of externalizing disorders. Individuals with the former are often worried about a number of events (e.g. wondering if someone likes them, fearful that they did not do well on a test, etc) and thus, due to the nature of their problem, they often receive little attention by teachers and school personnel (2006).

Hypothesis Two: Participants' Externalizing subscale T scores obtained on the CASS:L and the BASC-2 will fall within the 'clinically significant' range.

The SPSS results supported the hypothesis as the relationship that the externalizing behavior T scores for participants in this study would fall in the clinically significant range, as shown in Table 4. In the present study, the mean for the CASS:L externalizing T scores was 65.07 with a standard deviation of 12.12, while the range of scores was from 41 to 83. Twenty-three respondents (28.8%) received average T scores of 41 to 54; 15 respondents (18.9%) scored within the at-risk range (scores of 56 to 65); and 42 respondents (52.3%) scored within the significant range (scores greater than 66) (See Table 6). For the BASC-2, the mean was 66.83 (which was significant at the .05 level) and had a standard deviation of 15.74. The scores ranged from 30 to 96. Twenty-nine respondents (36.3%) scored within the average range of 30 to 60; 19 respondents (23.7%); and 32 respondents (40.0%) received scores within the clinically significant range (scores greater than 70) (See Table 7).

The term 'externalizing behavior' covers a wide array of activities that often include violence, impulsivity, delinquency, hyperactivity, and drug use. Children exhibiting externalizing behavior may be noncompliant, disparaging of others, and frequently performs acts of aggression against others (Van Acker, 2007). Moreover, these behaviors are associated with peer rejection, being at risk for dropping-out, and acting in an overly aggressive manner (Pedersen, Vitaro, Barker, & Borge, 2007). Externalizing

disorders include ADHD, Conduct Disorder (CD), and Oppositional Defiant Disorder (ODD).

Extensive research has shown a powerful relationship between externalizing behaviors with a broad assortment of poor psychosocial outcomes, including illegal behavior, substance abuse, interpersonal problems, as well as mental health difficulties. Additionally, adolescents with externalizing disorders are at greater risk for an eventual diagnosis of CD, ODD, and Antisocial Personality Disorder (once they reach the age of 18 years) (Kernberg, Weiner, & Bardenstein, 2000).

Some research has indicated that alternative schools are not as effective in dealing with students exhibiting externalizing behaviors, contrary to what was previously thought (Kim & Taylor, 2008; Van Acker, 2008). Over 3,500 adolescents sent to area learning centers and interim alternative educational settings were surveyed in Minnesota to see if the institutions helped in the manner stated by its pundits. Not surprisingly, the students were more apt to come from dysfunctional homes with experiences of both physical and sexual abuse, as well as substance abuse, than were the students at typical schools. However, the researchers found while placed within an alternative setting, the students were more likely to exhibit disruptive behavior than they normally would within a general educational setting (Minnesota State Department of Education, 1991).

Hypothesis Three: The T scores for the conduct problems on the CASS:L and the BASC-2 will have a significant relationship to the scores obtained from the APSD-Y.

The SPSS results supported the hypothesis as the relationship between conduct problems T scores and the APSD-Y scores for psychopathy were clinically significant, (See Table 10). For the individuals scoring in the low range of the APSD-Y (score under 20), a clinically significant relationship (at $p \leq .01$) was found to exist between the

BASC-2 conduct problem T scores and the CASS:L conduct problem T scores, the BASC-2 ADHD T scores, the CASS:L Internalizing T scores (at $p \leq .05$), the BASC-2 Externalizing T scores, and the CASS:L Externalizing T scores (both at $p \leq .01$) ($r = .70, .49, .37, .97, .77$, and $.71$, respectively). For the high scorers on the APSD-Y (a score of 20 or above) a clinically significant relationship (at $p \leq .01$) was found to exist between the BASC-2 conduct problems T scores and the APSD-Y, the BASC-2 Internalizing T scores (at $p \leq .05$), the BASC-2 Externalizing T scores, and the CASS:L Externalizing T scores (CASS:L conduct problems T scores, ($r = .78, -.30, .97$, and $.74$).

For the CASS:L conduct problems T scores, for the individuals with low APSD-Y scores, a clinically significant relationship (at $p \leq .01$) was found to exist with the BASC-2 Externalizing T scores, the CASS:L Externalizing T scores, and the BASC-2 conduct problems scores ($r = .73, .94$, and $.70$, respectively). For those scoring in the high range of the APSD-Y, a clinically significant relationship (at $p \leq .01$) was found to exist with the APSD-Y, the BASC-2 Internalizing T scores (at the $.05$ level), the BASC-2 Externalizing T scores, the CASS:L Externalizing T scores, and the BASC-2 conduct problems T scores ($r = .72, -.37, .75, .94$, and $.71$, respectively).

The correlations indicate that a strong positive relationship exists between conduct problems and psychopathy. A particularly high correlation was found between externalizing behavior and conduct problems; however, this was expected as conduct problems are externalizing behaviors. For the low scorers, a clinically significant negative relationship was found between the BASC-2 conduct problems T scores and the CASS:L Internalizing T scores ($r = -.37$; at $p \leq .05$), and for the high scorers, a clinically significant relationship was found between the BASC-2 conduct problems and the BASC-2 Internalizing T scores ($r = .30$; at $p \leq .05$). Likewise, a strong, clinically

significant negative relationship was found between the CASS:L conduct problems T scores and the BASC-2 Internalizing T scores ($r = .37$; at $p \leq .05$). In other words, as conduct problems grows stronger, the less likely someone is to suffer from internalizing problems like depression and anxiety.

The third research hypothesis centered on the relationship between conduct problems and adolescent psychopathy. The current study supported the hypothesis of Abramowitz, Kosson, and Seidenberg (2004) that stated conduct problems have the strongest relationship with psychopathy. However, their study looked at adult inmates, whereas the current study looked at adolescents sent to various interim alternative educational settings in Mississippi. While the correlation coefficients received from the BASC-2 and CASS: L assessing conduct problems were clear and specific (See Table 8), it is possible that the coefficients could have been higher, as the scores were dependent upon the students assigned to the school. In other words, it is possible that the number of “bad” adolescents had decreased before the assessment instruments had been administered; moreover, the percentage of such students could have increased after the assessments were concluded.

Conduct problems is a broad category for children/adolescents composed of externalizing behaviors such as a continually infringing upon the rights of others and/or disregarding societal mores and rules, consisting of actions such as bullying, violent or intimidating conduct towards people or animals, the intentional destruction of property, dishonesty or stealing, with the behavior causing major problems in communal, scholastic, and/or work-related activities (.Babisnki, Hartsough, & Lambert, 1999).

Many of the behaviors exhibited by adolescents sent to alternative educational settings are similar to those incarcerated at state training schools; consequently, it was felt

that studying adolescents attending an alternative school would allow the researcher to gauge the relationship between conduct problems and adolescent psychopathy. It should be noted that psychopathy and conduct problems are completely independent of one another, yet are interrelated in children/adolescents, comparable to the manner in which illegal activities and psychopathy work together in adults (e.g., smooth talking and manipulating others; Myers, Burket, & Harris, 1995). The prominent adolescent attributes for psychopathy include grandiosity, irresponsibility, and a heightened propensity toward boredom; these traits are also correlated with adolescents exhibiting conduct problems (Meloy, 1992). Differentiating the adolescents that are psychopathic versus the ones possessing only conduct problems (e.g. CD and/or ODD) could hinge on determining whether the individual expresses callous and unemotional traits.

Hypothesis Four: The T scores on measures of ADHD on the CASS:L and the BASC-2 will have a significant relationship to the scores obtained on the APSD-Y.

The SPSS results did not support the hypothesis as the relationship between both the CASS:L and the BASC-2 ADHD T scores and the APSD-Y scores were not clinically significant. The fourth research hypothesis centered on the relationship between ADHD and psychopathy; specifically, it predicted that a significant relationship would exist between the two. The current study supports what Abramowitz et al. (2004) wrote; that is, ADHD, while an externalizing problem, does not significantly influence the development of psychopathy. In addition, it supports an older study conducted by Lillienfeld et al. (1990) that stated that the only influence of ADHD on subsequent criminality is that hyperactive children are at increased risk for developing conduct problems, which in turn places them at risk for later serious antisocial behavior.

It should be noted that the results of this study refute research by other psychologists. For example, Lynam (1997) examined the connection between adult psychopathy and children/adolescents, focusing on the hyperactive behaviors found in ADHD, as well as comorbid conduct problems. Lynam stated that boys with hyperactivity and conduct problems were ‘fledgling psychopaths,’ and in his study, 430 boys with both ADHD and conduct problems had behaviors similar to adult psychopaths. Moreover, he found them to be the most criminalistic, the least restrained, while possessing the greatest neuropsychological impairments. In essence, children with hyperactivity and conduct problems manifested behaviors found in adult psychopaths (1997). The following year, Lynam (1998) wrote that adolescent males with comorbidity of ADHD and CD possessed greater psychopathic features, violent tendencies, little inhibition, neuropsychological problems, and heightened rates and enhanced flexibility of criminals than did adolescents with ADHD and CD alone. He stated that children with both disorders were ‘fledgling psychopaths’ and with time, would become adult psychopaths.

Interpretation of Secondary Analyses

The next section provides an interpretation and discussion of the results of the secondary analyses conducted. These include discussion of the correlation findings for the other subscales of the CASS:L and BASC-2 for the entire group and for the two groups (i.e., Low APSD-Y and High APSD-Y). Additionally, the results of the t-tests comparing the two groups on each of the variables of interest (e.g., subscales scores on the CASS:L and BASC-2).

Correlations

In order to better understand the relationship existing between the other subscales for both the BASC-2 and the CASS-L (e.g., Externalizing, Internalizing) and the APSD-Y, all possible correlations were studied (see Table 8). Additionally, correlations were calculated for each of the two groups (i.e., Low APSD-Y and High APSD-Y) for all subscales on the CASS:L and BASC-2 (see Table 10). The findings of these correlations are discussed below.

Correlations for the total group

The correlations for the both Externalizing T scores (i.e., CASS:L and BASC-2) had a significant correlation ($r = .68$ and $.74$, respectively) with the APSD-Y scores. This relationship is not surprising in that behaviors measured by these two subscales are the very behaviors for which a student would be placed at an interim alternative educational setting. Additionally, it is important to note that were significant correlations between all the measures of conduct disorder and the externalizing scales. Interestingly, only the BASC-2 ADHD subscale had a significant relationship with the other subscales, including a negative correlation ($r = -.26$) with the BASC-2 Internalizing scale. These results show strong internal consistency for the scores across all measures.

Correlations for each of the two groups

This section will discuss the correlations for the Low APSD group followed by those for the High APSD group. For the individuals scoring in the low range of the APSD-Y (scored under 20), interestingly, no significant relationships were found between the APSD-Y and any of the other measures. However, several statistically significant relationships were found to exist. The strongest of these relationships were the

conduct disorder subscales and the externalizing behaviors and with the similar scale (e.g., Conduct Problems to Conduct Problems) on both the CASS:L and the BASC-2 (r ranged from .70 to .97). Additionally, the BASC-2 T scores showed significant relationships among the other BASC-2 subscales including the Externalizing subscale ($r = .50$), the Conduct Problems ($r = .49$), and the Internalizing subscale ($r = -.35$). Again, these relationships are expected given the population of individuals targeted for this study (i.e., students placed at interim alternative educational settings). For the high scorers on the APSD-Y (a score of 20 or above) a statistically significant relationship was found between the APSD-Y and all the externalizing behavior scores (e.g., BASC-2 and CASS:L Externalizing, BASC-2 and CASS:L Conduct Problems; r ranged from .70 to .78). The externalizing scores (BASC-2 and CASS:L) showed significant correlations with each other and conduct problems (r ranged from .71 to .97). Additionally, a significant negative correlation was found between the APSD-Y and the BASC-2 Internalizing subscale ($r = -.35$). Several other negative correlations were found between the BASC-2 Internalizing subscale and the externalizing and conduct problems measures obtained on the BASC-2 and CASS:L (r ranged from -.30 to -.40).

These scores indicate a stronger relationship among the variables for the High APSD-Y group than for the Low APSD-Y group. Additionally, the APSD-Y scores were only significant with other measures for the High APSD-Y group. This potentially shows that there was greater consistency of scores across participants in that group than within the Low group; that is if a participant scored high on one measure, he was likely to score high on other measures that captured similar behavior (e.g., externalizing behaviors) or low on dissimilar measures (e.g., internalizing behaviors). Notably, across both groups

the measures of ADHD were not found to be related to any of the other measures except each other.

Independent t-tests

To explore potential differences between the Low and High APSD-Y groups on the variables of interest (i.e., the CASS-L and BASC-2 subscales), an independent t-test was computed (see Table 11). The results indicated that there were four significant differences between the two APSD-Y groups. There was a significant difference between the two groups on the CASS-L Externalizing, the BASC-2 Externalizing, BASC-2 Conduct Problems, and the CASS-L Conduct Problems subscale T scores. These results are consistent with the previous findings this study (e.g., highest correlations found for externalizing behaviors within the High APSD-Y group).

Summary

Almost half (44.4%) of the students taking the APSD-Y obtained scores in the average range (score below 20); however 46% scored within the ‘at-risk’ range (scores of 20 to 29), with 10% scoring within the clinically significant range (scores 30 or above). The Internalizing T scores for CASS-L all fell within the average range (100%); whereas, for the BASC-2 Internalizing T scores, the figure was 95%. For the CASS-L Externalizing T scores, the correlation for the ‘at-risk’ and the ‘significant’ T scores reached 70%; likewise, for the BASC-2, the T scores for the same groups reached almost 64%. The CASS-L ADHD T scores showed that more than half of the sample (53.8%) scored average, with 25.2% within the ‘at-risk’ range and 21% within the significant range. This contrasts with the BASC-2 ADHD T scores: 96.3% of the sample obtained T scores within the average range, with only 3.7% within the ‘at-risk’ range. The CASS-L

Conduct Problems T scores indicated that 18.9% of the sample scored within the ‘at-risk’ range, with 49.8% scoring within the significant range. The BASC-2 Conduct Problems T scores showed that 23.9% of the students obtained scores within the ‘at-risk’ range, with 48.6% obtaining scores considered significant.

It is possible that scores were not higher for the APSD-Y because the students with the most advanced psychopathy had been suspended or expelled; thus, not allowing for their assessment. In addition, the ADHD scores (except for less than 4% with the BASC-2) were all average. This could be because the school districts that were used for the current study had a plan in place that would ensure that children exhibiting ADHD behavior, but not conduct problems, received services at their respective schools. In addition, the BASC-2 and the CASS-L reported that few of the adolescents suffered from any internalizing problems (95% within the average range for the BASC-2, and 100% within the average range for the CASS-L). This could be for a number of reasons. First, some adolescents may have had internalizing problems but refused to discuss it. Second, it could be that the students with internalizing problems were not assigned to the IAES used in the current study; that is, though they had problems, the school personnel thought it better to keep them there instead of sending them to an alternative school.

Implications

One important outcome of the research focuses on the clinically significant relationship found between conduct problems and adolescent psychopathy. Externalizing behavior includes constructs such as aggression, impulsivity, antisocial behavior, hyperactivity, and drug abuse and although a common thread runs through each, not every child/adolescent presenting with conduct problems means they are alike. Many

school administrators and/or teachers are quick to send students to interim alternative educational settings if the individual exhibits impulsive behavior (Clough, Garner, Pardeck, & Yuen, 2004).

In the minds of many school personnel, ‘externalizing behavior problems’ and ‘antisocial’ are equivalent (Liu, 2004; Laird, Jordan, Dodge, Petit, & Bates, 2001); that is, the child that ‘acts out; (e.g. exhibits aggression, hyperactivity, delinquency) is the exact type of child whom school administrators send to alternative school. Moreover, school personnel are apt to label all students acting in such a manner (e.g., externalizing behaviors) as ‘problem students.’ This could be a mistake. Impulsive behavior by itself shows only that the student experiences problems with maintaining control over his/her conduct---it does not mean that he/she is ‘bad,’ or belongs with problem students. By placing all students with externalizing behavior together, one risk is that ‘good’ students will associate and imitate the habits of the ‘bad’ students. As the study conducted by the Minnesota State Department of Education (1991) showed, students placed within alternative interim education settings are more likely to pick up maladaptive behavior than learn how to act in a proactive manner. In other words, not all misbehaving students should be sent to an alternative school; rather, school personnel should try to send only those with more serious conduct problems to IAES.

The current study indicated that conduct problems have a statistically significant relationship with adolescent psychopathy (as measured by the APSD-Y), supporting past research (Pajer, 1998; Loeber & Keenan, 1994; Frick, Cornell, Barry, Bodin, & Dane, 2003a). Teachers and/or school personnel should be taught how to gauge the differences between various conduct problems and their severity (e.g. talking in class versus overt acts of violent aggression). By being vigilant, even as early as kindergarten, teachers can

ensure that children exhibiting such behavior receive an appropriate intervention that instructs the student upon proper conduct. By intervening at an early stage of development, school personnel could greatly enhance the odds that a child avoids the myriad problems arising from conduct problems including alcohol and drug use, crime, incarceration, and early death.

In order to ensure that only students exhibiting the requisite behaviors are sent to alternative school, each school system could offer empirically-based social skills training. Several models for teaching social skills is available, but all merge skills training with a key focal point on eradicating negative conduct and all are typically conducted by school staff. Some social-skills programs emphasize working with individual children (for instance, token programs in the classroom or at recess; Pffifner, 1996) and some are schoolwide (such as peer mediation programs; Abramowitz, 1994).

Losel (2003), in a detailed meta-analysis, looked at 851 articles that dealt with social skills training as a tool for decreasing and/or stopping disruptive behavior in children and youth, with the total number of children/adolescents examined reaching $N = 16,723$. Although there was a broad assortment of positive and negative effect sizes, Losel's primary finding substantiated the idea that social skills training works. In essence, he wrote that social-skills training for targeted, at-risk groups were better than a 'one size fits all' perspective (Losel).

By teaching social skills, each individual would have an opportunity to show that his/her behavior does not rise to a point where alternative school placement is needed. For instance, an adolescent exhibiting the impulsive behavior of talking back to his/her teacher could receive training and be taught better ways of communicating with adults.

Instead of going to an IAES, the student learns why he/she gets into trouble, as well as to how change it (Spence, 2003).

School districts could also use Positive Behavior Interventions and Supports (PBIS) as a means of keeping students out of alternative schools. Using PBIS allows an entire school to become involved in possibly extinguishing any targeted negative behaviors for all children, not just those going to alternative school (Safran, 2006). One major improvement that comes from PBIS is the importance placed on devising proactive strategies for classifying, instructing, and supporting appropriate student behaviors to produce a positive school environment. In addition, the positive behavior supports for the students are not implemented in the classroom; rather, support is provided all areas of the school (e.g., the lunchroom, the playground, the restroom, etc.) and at anytime (if a student is at school, he/she falls under the purview of PBIS) (Netzel & Eber, 2003).

Response to Intervention (RtI) is defined as “the practice of providing high-quality instruction and interventions matched to student need, monitoring progress frequently to make decisions about changes in instruction or goals, and applying child response data to important educational decisions” (Batsche et al., 2006). There are three levels of intervention using the RtI model: (a) primary, (b) secondary, and (c) tertiary.

The focus at the primary level is on effective core instruction and strategies for all students and thus, this level is for all students. Students at any grade level will receive the core curriculum. Since the primary level is a common experience for all students, it is clearly the most important foundation to successful RTI implementation (Fuchs & Fuchs, 2006).

The secondary level pertains to students demonstrating an insufficient responsiveness to the intervention at the primary level. Instruction in Tier 2 (about 15%

of the student population), emphasizes targeted short-term interventions, along with core teaching (Batsche et al., 2006). Tier 2 instruction does not take the place of the institution's core curriculum, but it does supplement it. Some students will not respond to secondary intervention and will receive a more intense intervention at the third level, known as the tertiary level. Some RtI models have the tertiary level consisting of special education placement, whereas in others, it might initiate a referral for special education evaluation if the RtI interventions are thought ineffective (Fuchs & Fuchs, 2006). Students at this level often are adjudicated and are placed in Adolescent Offender Program and/or alternative placement due to their behavior (Fuchs & Fuchs).

Positive Behavior Support (PBS) is a process that is consistent with the core principles of RtI. Similar to RtI, PBS offers a range of interventions that are systematically applied to students based on their demonstrated level of need, and addresses the role of the environment as it applies to development and improvement of behavior problems. Putting the two together could keep adolescents out of alternative schools, which have been shown to be ineffective in some instances (Minnesota State Department of Education, 2001). Some possible programs include Second Step program (Cooke, Ford, Levine, Bourke, Newell, & Lapidus, 2007), the Dina Dinosaur program (for younger children; Webster-Stratton, 2002), and the Sure Start program (Hutchings et al., 2007).

Being less vulnerable to social sanctions and interpersonal influence could be one reason why psychopathic adolescents do not suffer from internalizing problems. They likely feel that any problems they experience arise not as a consequence of their maladaptive behavior but from quaint restrictions that do not apply to them. They never acquire internal constraints like conscience and empathy--- two qualities found in

abundance with internalizing disorders. As a result, the probability of the adolescent engaging in antisocial behavior increases (Lykken, 1995). As mentioned earlier, Lynam (1997) looked at the relationship between adult psychopathy and children/adolescents and stated that adolescents' comorbid with conduct problems and ADHD were 'fledgling psychopaths.' The results of the current study showed that the relationship between ADHD and psychopathy was not statistically significant for the participants in this study.

One possible explanation for the difference in results between the current study and Lynam's 1997 study is that his participants were children/adolescents obtained from the Pittsburgh Youth Study, a longitudinal study initiated in 1987 with more than 1,500 boys drawn from the inner city schools of Pittsburgh. Each individual included within the study had an extensive history of delinquency, as well as a long-term pattern of violent conduct (Lynam, 1997; Stouthamer-Loeber, Loeber, Wei, Farrington, & Wikstrom, 2002). The individuals in the current study were not screened; that is, no one was interviewed before being administered the various assessment instruments. Here, the only two factors for inclusion were being male and being assigned to the respective interim alternative educational settings. If the adolescents had been screened beforehand, it is possible that the relationship between ADHD and psychopathy would have been more significant.

Another possible reason for the disparity of results between the current study and Lynam (1997) centers on the type of adolescent. In Mississippi, the district superintendent has the authority to decide which offense is grave enough to be sent to an alternative school (Miss. Code of 1972, § 37-13-92, 2000); thus, some of the reasons are behaviors that are not delinquent in nature (e.g. chewing gum, dressing provocatively, and not doing homework). The majority of students assessed in the present study had

little experience with the criminal justice system, as indicated by the demographic results (See Table 3.2), though they had a history of trouble at school. Those assessed in the Pittsburgh Youth Study had a history of both, so a difference in results would be expected.

Limitations

In order for a study to be considered worthwhile, validity needs to be present. Internal validity alludes to the researcher's capacity to conclude whether a causal connection exists between the independent variable and the dependent variable, rather than to any extraneous variables (anything not related to the experiment) (Erford, 2008). External validity is better known as generalizability and anything that can potentially inhibit this is considered a threat (2008).

One major limitation of the current study and one that was a threat to internal validity centers on history; that is, the number of times the participants had taken the BASC-2 and the CASS:L. Without fail, at each institution, several of the individuals asked why they had to take the assessment instruments again. Some students suggested that the researcher could find their scores in their school file! Participants who have taken an assessment a number of times can lead to bias (Erford, 2008). For instance, an individual might recall how he/she answered before and give the same answer, even if it is no longer true. Many of the participants in the current study had taken the two personality inventories, so it is possible that taking each instrument several times led to bias on their part.

In addition, another threat to internal validity centered on the situation in which the participants completed the inventories; specifically, the situation in which the

instruments were administered. At each site, though care was taken to make things as quiet as possible, the participants heard the phone ring several times while the principal stuck his/her head in the door to see how things were going (likely making the students nervous). It is possible that the situation affected their scores. Another possible threat to internal validity was selection bias. Selection bias is an error due to a non-random sample of a population, which leads some individuals of a specific population to be under represented; thus, resulting in a biased sample. The individuals in the present study were not randomly chosen since the students, due to some type of behavioral problem, had been enrolled at an alternative school. In order to ensure random sampling, each student within a school system would need testing, an option not available in the current study.

Another possible explanation is that the students that were assessed might have wanted to appear 'tough,' and so they answered each question in a manner that would indicate their masculinity. While the instruments stated that the answers were both reliable and valid, an individual with a sharp eye could conceivably respond in a way that made him look 'bad,' while ensuring the consistency of his scores.

The primary threat to external validity was that the results could not be generalized to the population at large. The majority of the students in the present study were Black, and arguments could be made that due to cultural differences, the results cannot be universally applied to students of other races. In addition, only three school districts were used and the ability to generalize to other school districts might be tenuous.

The primary purpose of the study was to gauge the relationship between ADHD, conduct problems, and adolescent psychopathy. Many students with the largest behavioral problems may not have been enrolled at their respective interim alternative educational settings due to their expulsion from the school district for the remainder of

the academic semester and/or the remainder of the academic year. It is possible that if they had been present, the coefficients would have likely increased in statistical significance

Another limitation centered on the fact that no females were used in the study. Most of the extant research dealing with adolescent psychopathy focuses on males, primarily because males tend to exhibit the classic symptoms (e.g. aggressive behavior, impulsivity, glibness, etc.) and is more common within males than females. Future studies should emphasize how conduct problems and ADHD interact within female adolescents, especially since the number of female adolescents engaging in illegal activities has increased considerably in comparison with their male counterparts (Stahl, Puzzanchera, Sladky, Finnegan, Tierney, & Snyder, 2007). By investigating the role of ADHD and conduct problems in adolescent females, a clearer picture regarding each construct's relationship with psychopathy will be possible.

The BASC-2 has a reading level requiring a third grade level (Reynolds & Kamphaus, 2004), whereas the CASS:L requires a sixth grade reading level (Conners, 1977a). Although the answering patterns on the CASS:L did not indicate any test-taker's inability to comprehend the material, it is nonetheless possible that such a situation arose.

Future Research

Children and adolescents with callous unemotional traits present with much more severe and violent behavior patterns and is thought to be the dividing line between CD and psychopathy (Frick et al., 2003) and is thought to be an antecedent for adult psychopathy. One possible avenue for future research could focus on the relationship between callous unemotional traits and conduct problems in younger children. The earlier

behavioral problems are dealt with, the greater the likelihood for success. The current study showed that a significant relationship exists between conduct problems and adolescent psychopathy; however, one primary hallmark of psychopathy is the presence of callous and unemotional traits. Children exhibiting conduct problems with callous and unemotional traits demonstrate a greater ruthlessness and diversity of illegal behavior with more contact than do children with only conduct problems (Christian et al., 1997). Moreover, children presenting with conduct problems and callous unemotional traits express a predilection for excitement and actively seek out dangerous activities (Frick et al., 1994). The current study showed that a strong relationship exists between conduct problems and adolescent psychopathy; however, as the results are somewhat limited due to the racial makeup of the participants, more research is needed to see if the results generalize to other populations.

It is believed that as a child grows older, his/her behavior patterns will become more entrenched. (Huesman & Eron, 1984). By their very nature, conduct problems are costly both to the individual and society, but are amenable to treatment if detected at an early stage of development (Gardner, Shaw, Dishion, Burton, & Supplee, 2007).

Externalizing behavior found in children may include disobedience, overt aggression toward playmates and/or peers, high levels of energy, and poor impulse control. For some children, the symptoms will persist into adolescence and adulthood.

Future research could emphasize the teaching of behavioral skills that moderates the influence of conduct problems, such as social skills training for an individual or small groups, and/or PBIS for an entire school. Individuals that have been sent to an IAES could receive this training to gauge its effectiveness; that is, if someone in the past acted out severely enough to be sent to an IAES, his/her behavior could be charted after the

application of training. This would allow the psychologist and the district for which he/she works to see whether or not the intervention works. If it does not work as well as intended, changes could be made to better ensure success.

One topic for future studies could center on whether or not the students at an IAES received psychotropic medication. As most of the students assigned to an alternative school have a special education classification (Telzrow, 2001; Etscheidt, 2006), it is likely that many of the students assessed in the current study received medication. However, little research has been conducted comparing IAES students prescribed medication versus those that take nothing. Future research could investigate whether individuals taking medication score differently on the three assessment instruments used in the current study and/or whether a significant difference regarding behavior between the two groups varies.

In addition, the reading level of the students could be investigated. The present study used two assessment instruments (the BASC-2 and the CASS:L) that had different reading levels (third grade and sixth grade, respectively). Future research could investigate whether administering instruments possessing the same reading level would make a significant difference between the scores. Likewise, would children with average or above average reading ability show a clinically significant difference in behavior?

Lynam (1996) argued that the group of children with symptoms of both ADHD (primarily hyperactive) and conduct problems are more likely to become psychopathic adults. The current research does not support his assertions. The data collected for the present study indicated that conduct problems had a significant relationship with psychopathy, whereas ADHD did not. Other studies have shown that children with hyperactivity and conduct problems tend to exhibit criminal behavior at an early age

(Walker, Lahey, Hynd, & Frame, 1987). In addition, their behavior is usually violent with a pronounced lack of empathy toward others (Loeber, Brinthaup, & Green, 1990), and tends to toward offenses across a number of different settings (Walker et al., 1987).

One possible answer for the differences between the present study and the others is the influence of callous unemotional traits. Children or adolescents with externalizing behaviors may commit antisocial acts, but that does not automatically place them in a psychopathic category. On the contrary, the current study indicated that while conduct problems are significantly correlated with adolescent psychopathy, ADHD and its concomitant behaviors are not. Consequently, the presence of callous unemotional traits could be the factor that differentiates antisocial behavior from psychopathy. ADHD and conduct problems increases the likelihood of a child/adolescent performing poorly at school, increases both parental/peer conflict, and often leads to problems in life, but neither reach psychopathy. Future research into adolescent psychopathy should investigate specifically the relationship between conduct problems and callous unemotional traits in order to better understand if the former influences the latter.

After children have been diagnosed as having conduct problems, school personnel should focus on prevention and treatment. Several studies have shown success at lessening conduct problems in children/adolescents by teaching social skills, problem solving, and anger management strategies (Kazdin, Siegel, & Bass, 1992). However, the studies attempting to reduce conduct problems reported that the gains were only short-term solutions (Beelmann, Pfingste, & Losel, 1994; Greenberg, Kusche, Cook, & Quamma, 1995). By focusing on children, many of the problems that arise during adolescence (i.e., increase in violent, antisocial acts) could be lessened or eliminated.

Summary

The individuals used in the study were all male students assigned to alternative school within three school districts. At two of three school districts used, two had more than 93% Black students, whereas the third had over 63% that were White. The only qualifications for being included in the study were that each participant had to be male and had current enrollment at an alternative school. Eighty students were assessed in order to ensure that the study had sufficient power for generalizability. Each student received three assessment instruments: (a) the APSD-Y, (b) the BASC-2, and (c) the CASS:L.

The current study indicated that a statistically significant relationship exists between adolescent psychopathy and conduct problems (as measured by the assessment instruments), whereas the former's relationship with ADHD was average. This supports the research of Abramowitz et al. (2004) which stated that conduct problems were the dominant influence in adult psychopathy; likewise, the present research found that it is also dominant with adolescent psychopathy. While externalizing problems had a strong relationship with adolescent psychopathy, internalizing problems did not, primarily due to the different natures of each construct.

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APPENDIX A
INSTITUTIONAL REVIEW BOARD APPROVAL LETTER



MISSISSIPPI STATE
UNIVERSITY™

Compliance Division
Administrative Offices
Animal Care and Use (IACUC)
Human Research Protection
Program (IRB)
1207 Hwy 182 West
Starkville, MS 39759
(662) 325-3496 - fax

Safety Division
Biosafety (IBC)
Radiation Safety
Hazardous Waste
Chemical & Lab Safety
Fire & Life Safety
70 Morgan Avenue
Mississippi State, MS 39762
(662) 325-8776 - fax

<http://www.orc.msstate.edu>
compliance@research.msstate.edu
(662) 325-3294

August 24, 2009

Stacy Smith
201 Lynn Lane Apt. 57
Starkville, MS 39759

RE: IRB Study #09-152: The Influence of ADHD and Conduct Problems on Adolescent Psychopathy

Dear Mr. Smith:

The above referenced project was reviewed and approved via expedited review for a period of 8/24/2009 through 8/15/2010 in accordance with 45 CFR 46.110 #7. Please note the expiration date for approval of this project is 8/15/2010. If additional time is needed to complete the project, you will need to submit a Continuing Review Request form 30 days prior to the date of expiration. Any modifications made to this project must be submitted for approval prior to implementation. Forms for both Continuing Review and Modifications are located on our website at <http://www.orc.msstate.edu>.

Any failure to adhere to the approved protocol could result in suspension or termination of your project. Please note that the IRB reserves the right, at anytime, to observe you and any associated researchers as they conduct the project and audit research records associated with this project.

Please note that the MSU IRB is in the process of seeking accreditation for our human subjects protection program. As a result of these efforts, you will likely notice many changes in the IRB's policies and procedures in the coming months. These changes will be posted online at <http://www.orc.msstate.edu/human/aahrpp.php>. The first of these changes is the implementation of an approval stamp for consent forms. The approval stamp will assist in ensuring the IRB approved version of the consent form is used in the actual conduct of research. You must use copies of the stamped consent form for obtaining consent from participants.

Please refer to your docket number (#09-152) when contacting our office regarding this project.

We wish you the very best of luck in your research and look forward to working with you again. If you have questions or concerns, please contact me at cwilliams@research.msstate.edu or call 662-325-5220.

Sincerely,

[For use with electronic submissions]

Christine Williams
IRB Administrator

cc: Carlen Henington

Office of Regulatory Compliance • Post Office Box 6223 • Mississippi State, MS 39762

APPENDIX B
CURRICULUM VITAE

CURRICULUM VITAE

CARY “**STACY**” SMITH

Personal Information

Home Address: 110 Lynn Lane Apt. 22 D
Starkville, MS 39759
Cell No. (662)-617-4150
E-mail: ssmith5026@aol.com
css25@msstate.edu
CarSmith@kaplan.edu

Education

Doctor of Philosophy: **Mississippi State University**
Ph.D. graduation anticipated for August, 2010
Major area: Educational Psychology
Dissertation: The Influence of Conduct Problems and ADHD in Adolescent Psychopathy
Dissertation Proposal: Presented and accepted with minor changes on 01-30- 09.
Dissertation Defense: June 15, 2010.
Focus Area: Adolescent Psychopathy
Advisor: Dr. Carlen Henington
APA Accredited Program

Master of Science **Mississippi State University**
MS received in May 2005
Major area: Psychometrics
Advisor: Dr. Carlen Henington

Master of Education **University of Mississippi**
M.Ed. received in December 1999
Major area: Educational Psychology
Advisor: Dr. Phil Cooker

Attended Law School from 08-97 to 12-97

Bachelor of Science **University of Southern Mississippi**
B.S. received in December 1990
Major Area: Psychology
Also attended from 08-82 to 05-84, 08-86 to 05-88. Enrolled in M.S. program of counseling psychology from 08-93 to 08-94

New Orleans Baptist Theological Seminary
08-94 to 05-95
Major Area: Theology

Delta State University
Attended from 01-86 to 08-86
Major Area: Psychology

University of Memphis
Attended from 08-84 to 05-85
Major Area: Theater

Professional Experience

Kaplan University

Adjunct Instructor. I teach Introduction to Psychology, Fundamentals of Child Development, and History of Psychology.

06-08 – present. Location is virtual.

South Florida Evaluation and Treatment Center

Forensic Psychology Intern. SFECT is a psychiatric hospital; thus, I administered various assessments, group and individual counseling, and other duties related to forensic practice with adults. Administered the M-FAST, the TOMM, the MCMI, the SIRS, and the MMPI-II for malingering. In addition, administered the Rorschach and TAT for determining personality traits.

08-07 to 08-08. Located in Miami, FL.

East Mississippi Community College

Adjunct Instructor. I taught classes in Human Growth and Development

08-06 to 05-07

CART House

Alcohol and Drug Therapist for adolescents. I conducted intakes using the SASSI-3, as well as engaging in both individual and group therapy. CART House is an inpatient group home for male adolescents with behavioral problems (running away from home, addictions to various controlled substances, etc.)

07-06 to 12-06. Located in West Point, MS 39773.

Clay County Jail

Mental Health Therapist. I conducted group therapy with inmates regarding various addictions, anger management, job skills, etc. I also engage in individual therapy, as needed.

07-06 to 12-06. Located in West Point, MS 39773

Robinson-Abbott Center

Alcohol and Drug Therapist. I led a group of individuals charged with 2 or more DUIs, as well as conducting intakes and individual therapy as needed.

07-06 to 12-06. Located in West Point, MS 39773

Aberdeen City Schools

Behavior Specialist. For my graduate assistantship, teachers in the Aberdeen school system would consult with regarding problems with specific students. I would conduct Functional Behavioral Assessments in order to develop a workable treatment plan.

08-05 to 05-06

Mississippi State University

Statistics Lab Instructor. I taught both undergraduate (EPY 4214) and graduate students (EPY 6214 and EPY 8214) how to use SPSS in order to interpret statistical data.

08-03 to 08-05

Mississippi State University

Adjunct Instructor. I taught Adolescent Psychology to undergraduates.

06-04 to 08-04

Diwan College of Management

A liberal arts college in Madou, Taiwan. I taught English and psychology to undergraduates.
09-01 to 06-03

Kaohsiung Medical University

A major university in Kaohsiung, Taiwan, where I taught English and psychology to undergraduates.
09-01 to 06-03

National Pindung Institute of Commerce and Technology.

Located in Pindung, Taiwan. I taught English literature and international negotiating to undergraduates.
09-00 to 06-03

Communicare

A community mental health agency located in Oxford, MS with branches in outlying areas. I saw clients in both group and individual therapy, as well as leading an Alcohol and Drug group. In addition, I saw youth on a daily basis at Calhoun City High School due to their being placed in day treatment, a program designed to teach for teaching young people how to manage one's anger, how to study for tests, how to get along with other students, etc.

08-99 to 07-00

Books

Smith, C. S. & Hung, L. C. (2010). *The Patriot Act: Issues and controversies*. Charles C. Thomas, Publisher: Springfield, IL.

Hung, L.C. & Smith, C. S. (2008). *Why do teachers leave the teaching profession? Can alternative certificate programs eliminate the U.S teacher shortage issue?* VDM Verlag: Germany

Peer Reviewed Publications

Hung, L. C., & Smith, C. S. (In Press). Autism in Taiwan: Using social stories to decrease disruptive behavior. *British Journal of Developmental Disabilities*.

Smith, C. S., & Hung, L. C. "Megan's Law." In the *Multimedia Encyclopedia of Women in Today's World*. Thousand Oaks, CA: Sage Publications. Forthcoming in 2011.

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- Smith, C. S., & Hung, L. C. (2009). "Process theology." *Encyclopedia of Time*. Thousand Oaks, CA: Sage Publications.
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Smith, C. S. & Hung, L. C. (2010). Counseling the Chinese elderly. *Journal of Multicultural and Development*.

Books in Progress

Smith, C. S., & Hung, L. C. (2011). *The Dark World of Subclinical Psychopathy*.

Articles in Progress

Hung, L. C. & Smith, C. S. (2011). "Dangerous Drug Diversion Control Act." *Encyclopedia of Drug Policy*. To be published by Sage Publications.

Hung, L. C. & Smith, C. S. (2011). "Cambodia." *Encyclopedia of Drug Policy*. To be published by Sage Publications.

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Smith, C. S., & Hung, L. C. (2010). The influence of conduct problems and ADHD on adolescent psychopathy in Taiwan.

Smith, C. S., & Hung, L. H. (2010). Stereotype threat in Taiwan: A replication study.

Presentations

Hung, L. C., & Smith, C. S. (2007-May). *Behavior Techniques for Learning English: How to Eliminate Taiwanese Students' Anxiety*. Paper presented at the Annual Convention of the Association for Behavior Analysis. San Diego, CA.

Hung, L. C., & Smith, C. S. (2007-May). *Implementing Behavior Techniques with Taiwanese Females Diagnosed with an Eating Disorder*. Paper presented at the Annual Convention of the Association for Behavior Analysis. San Diego, CA.

Hung, L. C., & Smith, C. S. (2006-November). *Reading Strategies Enhance Lower-Level Readers' Comprehension*. Presented at the Mid-South Education Research Association, Birmingham, AL.

Hung, L. C., & Smith, C. S. (2006-November). *ESL Teachers' Culture Competence and Student Performance*. Presented at the Mid-South Education Research Association, Birmingham, AL.

- Smith, C. S., & Hung, L. C. (2006-November). *Applying Behavioral Techniques to English Language Learners*. Presented at the Mid-South Education Research Association, Birmingham, AL.
- Smith, C. S., & Hung, L. C. (2006-November). *Determinants of Successful Doctoral Completion*. Presented at the Mid-South Education Research Association, Birmingham, AL.
- Hung, L.C., & Smith, C. S. (2006). *Positive Reinforcement as a Method for the Increasing the Learning of English*, Presented at the Association of Behavior Analysis Conference in Atlanta, GA.
- Hung, L.C. & Smith, C. S. (2006). *School Uniforms in Taiwan: A Behavioral Influence Outside of the Classroom*. Presented at the Association of Behavior Analysis Conference in Atlanta, GA.
- Smith, C. S., & Hung, L. H. (2005). *Behavior Analysis of Juvenile Delinquency in Taiwan*. Presented at the Association of Behavior Analysis Conference in Chicago, IL.
- Smith, C. S. & Hung, L. H. (2005). *Teaching Behavior Analytic Technique to Help Caregivers Tend to Alzheimer's Patient*. Presented at the Association of Behavior Analysis Conference in Chicago, IL.
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- Smith, C. S. (2005). *Effective Treatment for Body Dysmorphic Disorder*. The National Association of School Psychologists conference in Atlanta, GA.
- Smith, C. S., & Hung, L. H. (2004). *Juvenile Delinquency in Taiwan: Sign of the Times* was presented on November 19 at the American Society of Criminology Conference in Nashville, TN.
- Smith, C. S., & Hung, L. H. (2004). *Modifying Student Behavior in Taiwan: Corporal Punishment Versus Time-Out* was presented at the Association of Behavior Analysis International Conference on May 30, 2004.
- Smith, C. S. (2002). *The Americanization of Taiwan: For Good or Bad?* was presented at the Kaohsiung Medical University Conference for the Social Sciences on May 12, 2002.
- Smith, C. S. (1986). *Three who Dared: Freud, Adler, and Jung* was presented at the Delta State University Behavioral Sciences annual conference.

Service

Journal of Autism and Developmental Disorders, Ad Hoc Reviewer (2009). #JADD-09-395R1

Honors and Awards

1993: Inducted into Psi-Chi, the psychology honor fraternity
 1987: Inducted into the Outstanding College Students of America
 1986: at the University of Southern Mississippi, National Dean's List
 1986: at Delta State University, nomination as a faculty scholar.
 1986: Delta Scholar at Delta State University

CERTIFICATION, LICENSURE, AND MEMBERSHIP

American Association for Correctional and Forensic Psychology
American Psychological Association: Divisions 41 and 53
American Society of Criminology
International Association of Investigative Psychology
International High IQ Society
National Association of Scholars
Ultranet

SPECIALIZED TRAINING

Hare Conference: PCL-R Training. October 12-13, 2006 in Fresno, CA.

References

Will be provided upon request