Assessing Common Variance in Psychopathy Measures

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ASSESSING COMMON VARIANCE IN PSYCHOPATHY TEST MEASURES

A Dissertation
Submitted to the School of Education

Duquesne University

In partial fulfillment of the requirements for
the degree of Doctor of Philosophy

By
Rochelle Taormina

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ASSESSING COMMON VARIANCE IN PSYCHOPATHY TEST MEASURES

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ASSESSING COMMON VARIANCE IN PSYCHOPATHY TEST MEASURES

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Youth who demonstrate callous and unemotional traits along with aggressive antisocial behaviors are more likely than youth who do not display callous and unemotional traits to continue those acts into adulthood. Similarly there is support in the literature that the psychopathy construct measured in adulthood are evidenced in youth. For example, psychopathy traits measured by the Psychopathy Check List-Revised (PCL-R), noted as the gold standard assessment measure of psychopathy in adults, has been slightly modified for use with youth (i.e., Psychopathy Checklist – Youth Version [PCL-Y V]). The PCL-YV has been identified as a useful predictor of aggressive behaviors among youths in juvenile facilities and psychiatric hospitals. However, research in this area is relatively new and there are a limited number of studies dedicated to its study. Additionally, several self, teacher, and parent report questionnaires have been developed to measure psychopathy in youth. These include Antisocial Processing Screening Device
(APSD) or the Inventory of Callous-Unemotional Traits (ICU). To date, there are limited studies examining the relationship of these measures to the PCL-YV. The purpose of the current study is to compare test measures used to assess the construct of psychopathy in youth. The current study examines the data collected within an alternative school setting where youth whose aggressive behavior has required direct, focused and sustained intervention to benefit from their educational environment. Seventy-four adolescent males ages 14-18 from a pre-existing database were included in the sample. The results indicate that the 3 and 4-factor models of psychopathy were supported. Further, the APSD 3 factors (narcissism, impulsivity, and callous/unemotional) accounted for 95% of the common variance in the PCL-YV. Further, consistent with previous research, there was little item correspondence between the APSD measures and the PCL-YV. Documenting the similarities and differences in regard to the construct of psychopathy is necessary in order to compare research findings and clinical reports using these different instruments. Results of the current study may be useful for educators working with youth who are not incarcerated and attending school.

Keywords: psychopathy, youth, factor structure, common variance, PCL-YV, APSD, ICU
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CHAPTER 1
INTRODUCTION

Often the most extreme and violent type of offenders present with characteristics consistent with psychopathy (Hare, 1993). Behaviorally, individuals high on psychopathic traits are risk-takers and sensation seekers. They are described as grandiose and manipulative; affectively, they display shallow emotions and lack empathy or remorse (Lynam, 1996). As reported in Gacono and Hughes, 2004, psychopathy in both adults and youth has been associated with the most severe violent behaviors, poor treatment outcomes, and high rates of recidivism. In addition, these individuals commit a large percentage of violent crimes compared to individuals who may also be aggressive but are not high on psychopathy traits (Gacono & Hughes, 2004). The developmental course for those high on psychopathic traits includes offending behaviors that start in late adolescence and often continue into their late 40’s (Hemphill, Hare, & Wong, 1998; Porter, Birt, & Boer, 2001) as compared to offenders who are not high on psychopathy who tend to offend between the ages of 15-24 (Meloy, 2000).

Psychopathy, like other personality characteristics, are thought to be present at an early age and remain stable into adulthood (Lynam, Caspi, Moffit, Loeber, & Stouhamer-Loeber, 2007). For example, children high on callous unemotional (CU) traits, a primary symptom of psychopathy (Glenn, Raine, Venables, & Mednick, 2007) showed a low emotional reactivity temperamental style when presented with aversive stimuli (Glenn et al., 2007). Glenn and colleagues conducted a study looking at whether temperaments exist early in life in those that exhibit a psychopathic personality in adulthood. They tested whether individuals who are more psychopathic in adulthood would be less fearful
and inhibited and more excitement seeking and sociable at age 3. In addition, they also analyzed whether individuals would demonstrate reduced skin conductance (SC) responsivity.

In a community sample of 335 three year olds, behavioral measures of temperament and electrodermal activity were recorded in response to orienting and aversive tones. Then, at age 28, the Hare’s Self Report Psychopathy Scale (SRP-II; Hare, 1991) was administered to this same group as a follow-up measure. Comparisons of gender and identity revealed that the sample consisted of more males (61%) than females (39%). Consequently, gender was included as a moderator in all analyses. Results indicated small to moderate effect sizes in all cases, suggesting that individuals scoring higher on psychopathy were less fearful, less inhibited, more social, and displayed longer SC half-recovery times to aversive stimuli compared with the controls at age three (Glenn, et al., 2007). However, contrary to the authors’ hypotheses, these individuals showed increased autonomic arousal and skin conductance orienting. As such, these results suggest that there may be a link between early temperament and the development of psychopathic characteristics beginning in childhood and continuing throughout adulthood (Glenn et al., 2007). Children’s fearfulness contributes to the development of moral emotions; children who are more fearful tend to feel remorse after wrongdoing (Frick, 2004). This study indicates that children with low levels of fearfulness are at risk for the development of a psychopathic personality in adulthood (Glenn et al., 2007).

Similarly, Lynam and colleagues (2007) assessed data from 250 males with severe disruptive behavior problems that were a part of the Pittsburgh Youth Study from early adolescence (age 13) into young adulthood (age 24). In brief, boys attending the
fourth grade in a public school system in inner-city Pittsburgh (about 1000 in each grade) were randomly selected from schools across the city. The study examined the relation between psychopathy at age 13 using the Childhood Psychopathy Scale (CPS) and psychopathy assessed at age 24 by using the interviewer-rated Psychopathy Screening Version (PCL-SV). Psychopathy from early adolescence to adulthood was found to be moderately stable (Lynam et al., 2007). The authors found stability across the four factor model: the correlations were .17 (interpersonal), .15 (affective), .30 (lifestyle), and .33 (antisocial). Physical punishment and peer delinquency were associated with psychopathy at age 13 and predicted psychopathy scores at age 24. Boys who scored high on psychopathy at age 13 tended to remain high on psychopathy at age 24 (Lynam et al., 2007). Because some researchers have demonstrated that psychopathy remains fairly stable through adulthood, it is important to understand how psychopathy manifests in children and adolescence (Viding, 2004).

Psychopathy is typically present within 1% of the world’s population; however, when examining criminal justice settings, psychopathy is present in 1% to 20% of the population (Salekin, Neumann, Leistico, DiCico, & Duros, 2004). Similarly to their adult counterparts, youth offender prevalence rates are reported as up to 21.5% (Salekin et al., 2004; Schmitt, McKinnon, Harprett, & Brownlee, 2006). The prevalence rate is consistent across ethnicities; however, males are indicted as having a higher incidence of psychopathy when compared to females (Schmitt, McKinnon, Harprett & Brownlee, 2006). It is important to note that majority of studies measuring psychopathy are conducted with incarcerated individuals, yet psychopathy traits can occur within the general population as well (Grann, 2000; Schmitt et al., 2006). There have been few
studies examining psychopathy in the general population. These individuals may be very different from incarcerated samples.

Significance of the Problem

Attention has been given to understanding psychopathy in youth, including applying the definition to children and adolescents, assessment practices, and examining the developmental trajectory of risk factors associated with violence, aggression, and psychopathy (Frick, 1998; Seagrove & Grisso, 2002). Due to recidivism rates, poor prognosis, and stability of psychopathy traits into adulthood reported in the extant literature, it is important to further understand the construct of psychopathy in children and adolescents. It is vital that youth offenders be further understood not only for the safety of our communities but also to better target individuals for treatment (Gacono & Hughes, 2004; Lynam et al., 1997).

Construct of Psychopathy

The definition used to classify psychopaths has changed over time. The most commonly used definition of psychopathy is Cleckley’s 1941 definition, which is still referenced today. He described 16 traits based on personality characteristics that included a lack of remorse or shame, absence of nervousness/psychoneurosis, inadequately motivated antisocial behavior, general poverty in major affective reactions, and a failure to follow any life plan to describe those with psychopathy (Cleckley, 1976). Currently researchers have sought to clarify how Cleckley’s original traits cluster together to form the construct. Hare (1991) divided Cleckley’s traits into 2 factors: personality and antisocial behaviors, which have been empirically supported and validated. The first factor is comprised of personality traits including characteristics such
as callousness, self-centeredness, and a manipulative personality. The second factor is antisocial is composed of behavioral components including a need for stimulation, proneness to boredom, impulsivity, and lack of realistic goals.

Hare’s two factor model has also been examined. Cooke and colleagues developed a definition of psychopathy that included three factors: Arrogant, Deceitful, Interpersonal style (ADI); Deficient Affective Experience (DAE); and Impulsive/Irresponsible Behavior Style (IIB). Hare and Neumann (2005) developed the four factor model of psychopathy based on Hare’s original constructs including interpersonal, affective, lifestyle, and antisocial factors. Many have argued that the four factor model is simply a hierarchical model where the original two factors subsume the four showing distinct variance (Cooke & Michie, 2001). Further, the four factor model incorporates 18 of the 20 traits whereas the three factor model only includes 13 traits (Hare & Neumann, 2006).

Researchers have recently begun to focus on understanding how the construct of psychopathy applies to children and adolescents. A downward extension of adult criteria to youths is problematic since some of the characteristics clearly do not apply (i.e., multiple marriages or parasitic lifestyle). Further, temporal stability has not been established for all youth high on psychopathy; given the negative connotation of the term psychopathy these cautions should be explicit when reporting psychopathy traits in youth (Salekin, 2006).

Frick and colleagues (1994) used factor analysis to identify characteristics of psychopathy in youth based on adult criteria. Two factors emerged in youth that related to adult characteristics; these factors were impulsivity/conduct problems and
callous/unemotional traits (Frick, O’Brien, Wootton, & McBurnett, 1994). Hare (1991) reported that the impulsivity/conduct problems factor is similar to Factor 2 in adults which included behaviors such as impulsivity, poor impulse control, and delinquency (Frick et al., 1994). The callous/unemotional factor was characterized by a lack of guilt, lack of empathy, and superficial charm (Frick et al., 1994) consistent with Hare’s Factor 1 criteria. Other researchers have identified a 3-factor structure in youth. Along with the callous/unemotional and impulsivity/conduct problem factors, a narcissism factor was specified. This model was tested with both clinic referred and community samples (Frick, Barry, & Bodin, 2000).

Assessment of Psychopathy

As stated, assessment techniques were first developed to identify adults with psychopathic characteristics. The original Psychopathy Checklist (PCL) consisted of 22 items and the revised Psychopathy Checklist (PCL-R; Hare, 1985) consists of 20 items and is divided into 2 factors, personality characteristics and behavioral characteristics. A cutoff score of 30 is used to determine psychopathy in adults. Recently, the construct of psychopathy has extended downward to children and adolescents. This is not surprising given the perspective that the disorder has an early age onset and key symptoms that are identified in adolescence (Johnstone & Cooke, 2004). The most commonly researched and utilized measure for youth is the Psychopathy Checklist-Youth Version (PCL-YV). The PCL-YV is based on most of the same items from the original PCL, but was tailored for adolescents (Neumann et al., 2006: Kosson Cyterskim, Steurwald, & Walker-Matthews, 2002). The wording of the questions, criteria used to score questions, and the
sources of information have been modified to ensure the different contexts in which adolescents function and attend to developmental norms (Neumann et al, 2006).

Other psychopathy tests have been designed based on the PCL (Farrington, 2005). For example, the Antisocial Process Screening Device (APSD) was developed by Frick and Hare in 2002. The rating scale has versions to be completed by the child, parent, and teacher. The scale is a three point ranking scale (0=not true at all, 1=sometimes true, 2=definitely true), and the questions fall onto three constructs. These constructs are Callous/Unemotional (6 items), Narcissism (7 items), and Impulsivity (5 items) (Gacono & Hughes, 2004). The APSD has been utilized in numerous studies indicating significant associations with antisocial outcomes. Further, the APSD has been used to highlight the primary symptoms of psychopathy in adults (i.e., callous and unemotional traits) are not only present but are the defining features for youth (Frick, 2004).

The Inventory of Callous-Unemotional Traits (ICU; Frick, 2003) is based on the six-item Callous/Unemotional scale from the APSD. The ICU was created to overcome the psychometric limitations of the CU subscale on the APSD (Kimonis, Frick, Skeem, Marsee, Cruise & Munoz, 2008) and to determine if it was a more efficient measure to assess callous unemotional (CU) traits (Essau, Sasagawa, & Frick, 2006). On the APSD, only 6 of the 20 items measured the CU traits making it difficult to identify facets that might relate to external criteria. There also is a limited response format. Further, five of the six items were worded in the same direction; making response sets more likely (Kimonis et al., 2008). The four items that loaded consistently on the CU scale in both community and clinical samples were used to create the ICU (Frick, Bodin, & Barry, 2000). Kimonis and colleagues explored the psychometric properties of the ICU and
reported that the total score from the ICU was moderately correlated with the six-item CU scale from the APSD, but showed improved internal consistency. This was the first study to explore the psychometric properties and suggested that further research be conducted to determine which measure (APSD or ICU) is more useful.

Comparing the PCL-YV, APSD and ICU

The APSD’s questions were constructed based on the PCL-YV, suggesting a degree of correlation between the measures. It is noteworthy to mention that the APSD is best employed with another psychopathy measure (Vaughn & Howard, 2005). A study conducted by Lee and colleagues (2003) showed that the APSD self-report had low concurrent validity when compared to the PCL-YV. The partial correlation coefficient for the total score was .39. The partial correlation for the factors were as follows: APSD Narcissism factor and the PCL-YV factor 1, .21; APSD Callous-Unemotional and PCL-YV factor 2, .24, and APSD Impulsivity with PCL-YV factor 3, .37. All partial correlations were statistically significant at the p<.005. Taken together, the APSD was found to exhibit low to moderate correlations with the PCL-YV. These correlations may be due to the APSD’s ability to assess the behavioral features of psychopathy with some validity, but not the interpersonal or affective features of the disorder (Lee, Vincent, Hart, & Corrado, 2003).

Several hypotheses have been put forth to attempt to explain why self-report measures fail to capture the interpersonal and affective features of psychopathy. It is often hypothesized (Edens, Hart, Johnson, Johnson, & Oliver, 2000) that self-report measures do not contain enough items to assess the interpersonal and affective features of psychopathy; however, this explanation seems unlikely because the APSD’s items were
selected to parallel the PCL-R (Lee et al., 2003). Self-report measures are susceptible to impression management and response distortions. Individuals with psychopathic characteristics are described as manipulative and deceitful, and portray themselves in a positive way which may explain response bias (Lee et al., 2003). The third hypothesis is that self-report measures may not be adequate in capturing interpersonal and affective features of psychopathy because psychopaths lack insight into the consequences of their behavior (Lee et al., 2003). For example, individuals that display psychopathic characteristics often blame others for their problems and do not show signs of distress (Frick, 2004; Hare, Hart, & Harpur, 1991). This may lead to an inaccurate portrayal of the interpersonal and affective traits but an accurate report of behavioral traits.

Behavioral traits are concrete and observable which may be why individuals can evaluate the behavioral traits on self-report measures. This was evidenced in the Lee and colleagues study, indicating a higher correlation between the behavioral items on the APSD and the PCL-YV.

The parent and teacher versions of the APSD have also been compared to each other. For example, Murrie and Cornell (2002) reported a PCL-YV moderate correlation of .35 with the APSD teacher ratings and .30 with APSD self-report ratings. Both values were significant at the p<.01 level. The APSD teacher ratings correlated .04 with the APSD self-report, which is not significant. As previously mentioned, issues of social desirability distortions regarding overt criminal behavior may be taken into consideration for the moderate correlations reported (Vitacco et al., 2003). It should be noted that the teacher version of the APSD was completed by staff members who were not teachers. Previous research reports that the APSD total scores combined from multiple sources
correlated moderately with the PCL-YV; however, the combination of sources is mainly used for research purposes. It cannot be used as part of the multi-informant scoring criteria (Vitacco et al., 2000).

Kimonis and colleagues conducted a study that compared the ICU to the APSD self-report with a sample of 248 incarcerated juveniles (188 boys and 60 girls) between the ages of 12 and 20. All facilities were located in or around a large metropolitan area of the Southeastern United States. Results indicated overall moderate correlations. For example, the ICU total score ($r=.45$), uncaring factor ($r=.32$), and the callousness factor ($r=.36$) correlated with the APSD at the $p<.001$ level. The unemotional factor did not correlate with the APSD ($r=.14$) (Kimonis et al., 2008). The unemotional factor may not have correlated with the APSD because its dimension was specific to emotional functioning and individuals with psychopathic characteristics lack emotional insight (Edens et al., 2000). Another hypothesis is that the Unemotional factor on the ICU has low internal consistency which may be due to the small number of items ($n=5$) (Kimonis et al., 2008). To date, there have been no known studies comparing the ICU to the PCL-YV; however, it is noteworthy to mention the APSD was designed after the PCL-YV and the ICU was designed after the APSD (Vaughn & Howard, 2005).

**Problem Statement**

Taken together, the extant literature shows that youth high on psychopathic traits are more likely to have negative outcomes in both childhood, adolescents and may continue into adulthood (Lynam et. al., 2007). The measurement of psychopathy has been accomplished in several ways. First, the PCL-R has been established as the gold standard to measure psychopathy in adults. Next, the PCL-YV was developed to aid in the
identification of youth exhibiting psychopathic traits (Johnstone & Cooke, 2004). At present, the PCL-YV has research support showing its usefulness with incarcerated or highly aggressive samples where it has been used to predict future crime and violence among youths even in juvenile centers and psychiatric hospitals (Corrado et al., 2004; Edens & Campbell, 2007; Salekin et al., 2004).

For example, Vincent, Odgers, McCormick, and Corrado (2008) reported that the PCL-YV was predictive of non-violent and violent recidivism among juvenile males. The association was primarily due to the deviant lifestyle features. Welsch and colleagues (2008) also indicated similar results, with the total PCL-YV score predicting general and violent recidivism. Based on Frick’s (2004) work showing that callous and unemotional traits are the hallmark symptoms of psychopathy that are evident in youth (Glenn et. al., 2007; Lynam et. al., 2008; Pardini & Loeber, 2008;) and can be measured with self (i.e., ICU) teacher and parent report (i.e., APSD) questionnaires, the question of how these measures are related needs to be clarified. To date, there are limited studies comparing the PCL-YV to the APSD and no studies comparing the ICU to the PCL-YV. Further, there have been few studies comparing psychopathy measures in samples that are typical in the school settings (e.g., alternative education placements). The purpose of the current study is to comparing test measures used to assess the construct of psychopathy in youth. Clarifying the construct that is measured across these measures will help to inform the interpretation of research findings as well as the clinical reports used from different instruments. Results of the current study may be useful for educators working with youth who are not incarcerated and attending school.

Research Questions and Hypotheses
Research Question 1: What is the factor structure of psychopathy in a community sample of children attending an alternative education school as assessed by each of the following measures:

a) PCL-YV  
b) APSD self-report  
c) APSD teacher-report  
d) ICU self-report  

Hypothesis 1: Previous research has supported the three and four factor models of psychopathy  

On the PCL-YV (Kosson et al., 2002; Neumann, et al., 2006; Sevecke, Palcrop, Kosson, & Krischer, 2009).  

Based on Essau and colleagues’ 2006 research, which was further confirmed by Kimonis’s study (2008), the ICU will consist of three factors: Uncaring, Unemotional, and Callousness. Each APSD version has been identified as having three factors: callous-unemotional, narcissism, and impulsivity (Frick & Hare, 2002), and it is hypothesized that the APSD self-report and teacher-report measures will yield 3 factors. This is based on previous research (Bijittebier & Decoene, 2009; Frick & Munoz, 2009).  

Research Question 2: Which model(s) provide the best factor structure for the PCL-YV based on the current sample: the 3-factor or 4-factor model?  

Hypothesis 2: Based on previous research, literature supports the 3 and 4-factor models (Cooke & Michie, 2001; Forth & Mailloux, 2000; Hare & Neumann,
The 4-factor model is more inclusive. Therefore, it is hypothesized that the 4-factor solution will provide the best fit for this sample.

Research Question 3: How much common variance exists between the PCL-YV total score and each of the following test measures: APSD self-report, APSD teacher-report, and the ICU self-report?

Hypothesis 3: It is hypothesized that common variance will exist among the measures’ total scores. The APSD was based on the PCL-YV and the ICU was based on the APSD. The ICU has been compared to the APSD. Overall, the ICU correlated moderately with the APSD total score ($r=.45$), uncaring factor ($r=.32$), and the callousness factor ($r=.36$) at the $p<.001$ level. The unemotional factor did not correlate with the APSD ($r=.14$) (Kimonis et al., 2008). To date, there have been no known studies comparing the ICU to the PCL-YV. Lee and colleagues (2003) examined the APSD self-report with the PCL-YV. The partial correlation coefficient for the APSD self-report total score was .39 when compared to the PCL-YV. Further, Murrie and Cornell (2002) reported that the total score on the PCL-YV and APSD teacher-report version (that was administered to staff members) total score indicated a .35 correlation, while the total score on the APSD self-report indicated a .30 correlation.

Research Question 4: Is there a relationship between the corresponding items on the APSD self-report and the APSD teacher-report?

Hypothesis 4: Based on past literature, there will be little agreement between the items. Murrie and Cornell (2002) reported that when examining a juvenile
Research Question 5: Is there a relationship between the corresponding items on the APSD self-report and the APSD teacher-report with the PCL-YV psychopathy measure?

Hypothesis 5: Based on previous literature, it is hypothesized that the APSD items will exhibit little agreement with their PCL-YV counterpart items. Murrie and Cornell (2002) reported that 9 of the staff items correlated with the PCL-YV items, while only 6 self-report items correlated with their PCL-YV counterparts.

Overall, there are limited studies examining the relationship of these measures to the PCL-YV. The purpose of the current study is to compare test measures used to assess the construct of psychopathy in youth. The current study examined the data collected within an alternative school setting where youth whose aggressive behavior has required direct, focused and sustained intervention to benefit from their educational environment.
CHAPTER 2  
LITERATURE REVIEW

Juvenile violence has decreased since the mid 1990’s, but still remains at historically high levels; public concern continues to rise in recent high profile youth crime in communities (Connor, 2004). Aggression is related to issues of crime and violence. The focus on childhood aggression is necessary because adult antisocial behaviors are first witnessed in childhood (Neumann, Kosson, Forth, & Hare, 2006). Those youth demonstrating extreme antisocial behaviors are likely to continue these behaviors into adulthood.

Aggression is a heterogeneous condition. Various terms are applied to the same construct causing the study of aggression to be complicated. Various systems that apply these terms for children and adolescents have developed their own specific languages describing the behavior. The terms “aggressive,” “violent,” “conduct-disordered,” “oppositional,” “psychopathic,” “under-aroused,” “delinquent,” and “antisocial” are often used in describing youth that exhibit aggressive behaviors (Connor, Anderson, Steingard, Cunningham, & Melloni, 2004). Aggression is important to identify because of its negative effects on an individual’s development, family cohesion, and the social and financial costs to community agencies (Connor et al., 2004).

There are two types of aggression, maladaptive and adaptive. Adaptive aggression is known as “appropriate” aggression, whereas maladaptive aggression is “excessive” or “inappropriate” (Connor et al., 2004). Adaptive and maladaptive types of aggression are not used to serve the same purpose. Adaptive aggression occurs in order to ensure the survival of a person; maladaptive aggression is a means of harmful intent (Connor et al.,
Maladaptive aggression is a societal concern, and it is important to differentiate between the two types of aggression for intervention purposes (Connor, 2004).

Attempts have been made to subtype aggression into heterogeneous categories because it is often seen as a homogeneous phenomenon. It is difficult to grasp the elements in different aggressive behaviors and to conceptualize different developmental pathways children may follow (Loeber & Schmaling, 1985). Subtyping aggression increases the validity of antisocial behavior developmental models, which help to identify children most at risk (Loeber & Schmaling, 1985). Aggression is one of the most common and costly behaviors confronting individuals who treat clinic referred children and adolescents (Connor et al., 2004). Subtyping categories of aggression may help identify treatment modalities and facilitate a common communication for staff working with aggressive children (Connor et al., 2004; Loeber & Schmaling, 1985).

Overt and covert aggression is a subtype of aggression (Loeber & Schmaling, 1985). Overt aggression is confrontational, including behaviors such as arguing, fighting, and exhibiting temper tantrums. Covert aggression refers to antisocial behaviors that are concealed, such as stealing, truancy, or fire starting (Loeber & Schmaling, 1985).

Proactive and reactive aggression is another subtype of aggression. Proactive aggression is a form of instrumental gain which is deliberate and coercive (Connor et al., 2004). Reactive aggression is a state of high emotional arousal, which can occur in response to being threatened or frustrated (Frick et al., 2003). A study conducted by Conner and colleagues (2004) indicated children younger in age exhibited higher levels of reactive aggression when compared to proactive aggression; these findings are consistent with the developmental trajectory. Younger children are more physical and
unrestrained in their aggression. Verbal IQ was lower for children exhibiting higher levels of aggression, which may be linked to their inability to communicate resulting in behaviorally acting out (Connor et al., 2004). Relationally aggressive children are three to four times more likely to be rejected by their peers (Dodge, Harnish, Lochman, Bates, & Pettit, 1997).

Disorders of Aggression

The Diagnostic and Statistical Manual of Mental Disorders-Fourth Edition-Text Revision (DSM-IV-TR) identifies numerous disruptive behavioral disorders. Aggression is a set of broad behaviors that may be part of a syndrome in relation to various disorders in the DSM including Oppositional Defiant Disorder (ODD) and Conduct Disorder (CD). ODD and CD may eventually lead to the development of Antisocial Personality Disorder (APD) which can be diagnosed at the age of 18 (Connor et al., 2004). The development of aggression in children, adolescents, and adults are most commonly associated with these diagnoses. Each is described below.

*Oppositional Defiant Disorder (ODD)*

ODD is described in the DSM-IV-TR as a pattern of hostile and defiant behavior in which four or more of the following symptoms are presented for at least six months: often loses temper, often argues with adults, often actively refuses to comply with adults’ requests, often deliberately annoys people, often blames others for his or her mistakes, is often touchy or easily annoyed by others, is often angry or resentful, and is often spiteful or vindictive (American Psychological Association [APA], 2000). The disturbance in behavior causes significant impairment in social, academic, or occupational functioning (APA, 2000). In order to diagnosis ODD, these behaviors must not occur during a mood
or psychotic disorder, and the criteria cannot be met for CD or APD (APA, 2000). ODD is usually diagnosed in a child before the age of eight and typically no later than early adolescence (APA, 2000).

**Conduct Disorder (CD)**

A second DSM disorder with symptoms of aggression is CD. CD refers to a form of childhood psychopathology involving a repetitive and persistent pattern of behavior in which the basic rights of others or major age-appropriate societal norms or rules are violated (APA, 2000). CD is the most common psychiatric disorder that clinicians often use to diagnosis children with excessive aggression (Connor, 2004). Criteria for meeting CD include: aggression to people and animals, destruction of property, deceitfulness or theft, and serious violation of the rules. Each of these main criteria includes subheadings listed in the DSM-IV-TR of traits a child can exhibit. The DSM-IV-TR criteria for CD states that a person must have exhibited three or more of the criteria previously listed within the past 12 months and one within the past six months. It is further divided into two different types, childhood-onset type and adolescent-onset type. Childhood-onset type occurs in children under the age of 10, whereas in the Adolescent-Onset type the child does not show characteristics until after he or she has reached 10 years of age (APA, 2000). There is a distinction between children who begin exhibiting severe conduct problems in childhood verse those with an onset of severe antisocial behavior occurring at the beginning of puberty.

Children in the childhood-onset group tend to exhibit mild conduct problems as early as preschool or the beginning of elementary school. Their behavior problems tend to increase in rate and severity throughout childhood and continue into adolescence.
The childhood-onset type of CD suggests that this group has a disturbance which may have resulted from a transactional process between a vulnerable temperament in the child and his or her experience of an inadequate environment (Frick et al., 2003).

The second type of CD is the adolescent-onset type. Conduct problems are exhibited with the onset of adolescence. These children show less temperamental and psychosocial adversity, but still exhibit a severe and impairing pattern of antisocial behavior (Frick et al., 2003). Even though the adolescent-onset type does not show significant problems in childhood (Frick, 2004), this does not mean that the early environmental and familial risk factors do not have an effect on the individual. The adolescent-onset group tends to show a higher rate of affiliation with deviant peers, and they have trouble obeying authority figures (Frick, 2004). Moffit (1993) proposed a different causal model for the adolescent-onset type when compared to the childhood-onset type. This model proposes that the adolescent-onset group of children is conceptualized as showing an exaggeration of the normative process of adolescent rebellion because they exhibited fewer of the dispositional and contextual risk factors than the childhood-onset group (Moffit, 2003). This indicates that these children did not encounter all of the risk factors such as difficult temperament, inconsistent parenting styles, and insecure attachment relationships. Therefore, their delinquent actions are more severe than typically developing children. During adolescence, delinquency becomes normative because now there is a gap between biological and social maturity. Adolescents are mimicking their antisocial peers’ delinquent behavior to assert their autonomy (Clarizio, 1997). These youth observe the antisocial peers’ actions in achieving
the adult privileges; however, criminal careers tend to be brief because of the earlier mastered prosocial behavior (Clarizio, 1997).

**Antisocial Personality Disorder (APD)**

If an adolescent diagnosed with CD continues to exhibit extreme behavioral problems, at the age of 18, APD can be diagnosed. There must be a pervasive pattern of disregard for and violation of the rights of others occurring since age 15. APD is characterized by four criteria. Three or more of the following criteria must be present: failure to conform to social norms, deceitfulness (lying and conning others), impulsivity, irritability/aggressiveness (indicated by physical fights and assaults), reckless disregard for safety of self and others, consistent irresponsibility, and lack of remorse (APA, 2000). The individual must be at least 18 years of age in which there was evidence of CD before age 15 (APA, 2000). The antisocial behaviors displayed by the individual cannot occur simultaneously with the course of Schizophrenia or a manic episode. The development of ODD and CD are hierarchically related as part of the course of antisocial behavior that leads to APD (Burke, Lober, & Lahey, 2007). The diagnosis of APD is largely based on antisocial behaviors. This fails to take into account the personality dimension argued to be essential in describing psychopaths (Gacono & Hughes, 2004). It has been argued that the exclusive behavioral definition allows for the over diagnosis of psychopathy in criminals and the underdiagnosis in non-criminals (Viding, 2004).

Conceptualizing psychopathy as consisting of two factors, personality traits and behaviors, results in conflicting base rates for psychopathy and APD. Rates of APD in the community are estimated at 5.8% for men and 1.2% for women; however, in forensic populations, 50-80% of individuals meet the criteria for APD diagnosis (Gacono, Loving,
& Bodholdt, 2000). Even with the high number of APD individuals, only 15-20% will classify as psychopaths (Forth & Mailloux, 2000). APD and psychopathy are not equivalent because APD is homogenous indicating that extremely different individuals are being placed under a single diagnosis. Most psychopaths meet APD criteria, but most individuals with an APD diagnosis are not psychopaths (Gacono & Hughes, 2004). Psychopathy holds a higher risk for offending and violence (Gacono & Hughes, 2004). It is important to gain an understanding and awareness of psychopathy characteristics.

Psychopathy

The word *psychopathy* literally means “mental illness” derived from psyche (mind) and pathos (disease), and refers to the most severe group of offenders in the adult population (Hare, 1993). Pritchard developed the concept of “moral insanity” to explain irresponsible and socially damaging behavior that did not fit under any form of mental disorder (Blair, 2000b). The term psychopathy has further developed since the nineteenth century. The classic definition of psychopathy was first proposed by Cleckley in his book, *The Mask of Sanity*, published in 1941. Current research extends Cleckley’s original constructs which he termed as the definition of psychopathy. He described psychopathy based on his case studies using 16 specific traits. These traits are listed below.

Table 1

*Cleckley’s Psychopathy Characteristics*

<table>
<thead>
<tr>
<th>Characteristics</th>
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<tr>
<td>superficial charm/good intelligence</td>
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no delusions/irrational thinking
absence of nervousness/psychoneurosis
untruthfulness and insincerity with/without drink
lack of remorse or shame
inadequately motivated by antisocial behavior
poor judgment/failure to learn
pathologic egocentric/incapacity for love
general poverty in major affective reactions
unreliability
unresponsiveness in general interpersonal relations
fantastic and uninviting interpersonal relations
suicide rarely carried out
sex life impersonal, trivial, and poorly integrated
failure to follow any life plan

Based on Cleckley’s characteristics and research, Hare and colleagues (1993) identified 20 characteristics used to describe psychopathy. These characteristics were divided into two groups known as factors. Factor 1 refers to personality traits and Factor 2 refers to socially deviant behaviors or antisocial behaviors. These factors developed by Hare are often referenced today as the definition of psychopathy and are the basis of the Psychopathy Checklist (PCL), which will be referred to throughout the paper.

Table 2

Hare’s Psychopathy Traits

<p>| Factor 1 | Factor 2 |</p>
<table>
<thead>
<tr>
<th>Personality Traits</th>
<th>Socially Deviant Behaviors</th>
</tr>
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<tbody>
<tr>
<td>pathological lying</td>
<td>need for stimulation</td>
</tr>
<tr>
<td>callous/lack of empathy</td>
<td>proneness to boredom</td>
</tr>
<tr>
<td>glibness/superficial charm</td>
<td>irresponsibility</td>
</tr>
<tr>
<td>lack of remorse or guilt</td>
<td>parasitic lifestyle</td>
</tr>
<tr>
<td>shallow affect</td>
<td>early behavioral problems</td>
</tr>
<tr>
<td>conning/manipulative</td>
<td>juvenile delinquency</td>
</tr>
<tr>
<td>failure to accept responsibility</td>
<td>poor behavioral controls</td>
</tr>
<tr>
<td></td>
<td>revocation of conditional release</td>
</tr>
<tr>
<td></td>
<td>promiscuous sexual behavior</td>
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<tr>
<td></td>
<td>impulsivity</td>
</tr>
<tr>
<td></td>
<td>criminal versatility</td>
</tr>
<tr>
<td></td>
<td>lack of realistic long-term goals</td>
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<td></td>
<td>many short-term marital relationships</td>
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Cleckley’s characteristics were divided into three separate categories: positive adjustment, chronic behavioral deviance, and emotional-interpersonal deficits. Hare’s characteristics were divided into two factors, eliminating the positive adjustment category (Hare & Neumann, 2006). Cleckley described the psychopath as having superficial charm and “good intelligence.” This can be argued that item 1 on the PCL-T (glibness and superficial charm) is comparable to Cleckley’s criterion. However, this is not true.
because item 1 includes insincerity. The emphasis of Hare’s item is on the “too good to be true” self-presentation, whereas Cleckley’s criteria states that the psychopath is a happy and well-adjusted person (Hare & Neumann, 2006). Hare does not include a positive adjustment item because it was eliminated when the concept failed to combine with the larger proportion of pathological indicators (Patrick, 2006).

Definitions of psychopathy continue to be modified as more information and research is conducted. In 2001, Cooke and Michie applied Conformatory Factor Analysis (CFA) and Exploratory Factor Analysis (EFA) techniques to 2,067 North American participants to evaluate the validity of the two factor model and reported that this model did not provide an acceptable fit to the data (Normed Fit Index of .77 and Goodness of Fit Index of .86). They developed a definition of psychopathy that included three dimensions.

Table 3

*Cooke and Colleagues Dimensions of Psychopathy*

<table>
<thead>
<tr>
<th>Arrogant, Deceitful, Impulsive/Irresponsible (ADI) (IIB)</th>
<th>Deficient Affective Experience (DAE)</th>
<th>Behavior Style</th>
</tr>
</thead>
<tbody>
<tr>
<td>glibness</td>
<td>low remorse</td>
<td>boredom</td>
</tr>
<tr>
<td>superficial charm</td>
<td>weak conscience</td>
<td>excitement seeking</td>
</tr>
<tr>
<td>self-centeredness</td>
<td>callousness</td>
<td>lack of long-term goals</td>
</tr>
<tr>
<td>grandiose sense of worth</td>
<td>low empathy</td>
<td>impulsiveness</td>
</tr>
<tr>
<td>lying</td>
<td>shallow affect</td>
<td>failing to think</td>
</tr>
</tbody>
</table>
These factors were developed by using the PCL-R in confirmatory factor analysis (Cooke & Michie, 2001). Factor saturation for the three factors measuring the greater construct of psychopathy was .77. In this model, the eight items in factor 1 were split into two dimensions; one focused on interpersonal style and the other focused on affective deficits (Neumann et al., 2006). Cooke and Michie retained only five of the nine items that were originally on factor 2 for a dimension reflecting impulsive, irresponsible behavior (Neumann, et al., 2006). The emphasis is no longer on specific behaviors, and it is argued that psychopaths are present in society, not just within criminal groups (Cooke & Michie, 2001). Further, they argued that antisocial behavior should not be a defining feature of psychopathy because they believed that criminal activity is only a result of the behavior (Sevecke et al., 2009). The description of the three dimensions appears to consist of rewording the personality and behavioral dimensions originally identified by Cleckley and then further identified by Hare.

Hare and Neumann (2005) developed the two factor-four faucet hierarchical model of psychopathy that was aimed to critique the three factor model. They questioned whether the items left out (e.g. poor behavioral controls, early behavior problems) were conceptually different from the other items (e.g. impulsivity, irresponsibility). Further, they believed that some of the items that were included in the model (e.g. conning, manipulation) were actually antisocial in nature (Neumann et al., 2006). These items refer to under-controlled or early behavior problems, including serious antisocial
behavior. Empirically, the emergence of early and persistent antisocial behavior is an important predictor of the development of externalizing behavioral problems in youth (Neumann et al., 2006) and also play a role in the development of psychopathy (Frick et al., 2003). These researchers believed that eliminating these antisocial items would narrow the construct of psychopathy. Four latent dimensions to propose the construct of psychopathy were composed. Factor 1 is comprised of interpersonal and affective facets and factor 2 features lifestyle and antisocial facets. The item break down is seen in Table 4 below.

Table 4

*Hare and Neumann (2005) Four Faucet-Two Factor Model*

<table>
<thead>
<tr>
<th>Interpersonal</th>
<th>Affective</th>
<th>Lifestyle</th>
<th>Antisocial</th>
</tr>
</thead>
<tbody>
<tr>
<td>pathological lying</td>
<td>callousness</td>
<td>need for stimulation</td>
<td>juvenile delinquency</td>
</tr>
<tr>
<td>glibness</td>
<td>shallow affect</td>
<td>irresponsibility</td>
<td>poor behavior</td>
</tr>
<tr>
<td>_Release</td>
<td>lack of remorse</td>
<td>parasitic lifestyle</td>
<td>revocation of cond.</td>
</tr>
<tr>
<td>conning</td>
<td>failure to accept resp.</td>
<td>lack of goals</td>
<td>criminal versatility</td>
</tr>
<tr>
<td>manipulative</td>
<td>impulsivity</td>
<td></td>
<td>early behavior problems</td>
</tr>
</tbody>
</table>

Some argue that the four factor model is superior to the three factor model because it incorporates 18 of the 20 characteristics whereas the three factor model includes only 13 characteristics (Hare & Neumann, 2006). Further, Neumann and colleagues tested the theory that each first order factor loaded onto a higher second order factor, psychopathy.
Results indicated that the higher order factor accounted for the majority of the variance in the Affective \( (R^2=86\%) \), Lifestyle \( (R^2=93\%) \), and Antisocial \( (R^2=62\%) \) factors as well as nearly half the variance in the Interpersonal \( (R^2=44\%) \) factor. Salekin and colleagues sampled adolescents from a juvenile justice setting in Florida. Confirmatory factor analyses were conducted and results indicated that both the 3 and 4-factor models were a good fit (Salekin, Brannon, Zalot, Leistico, & Neuman, 2006). The 4-factor model incorporates the 3-factor model while also adding a fourth factor (Salekin et al., 2006). The fourth factor had the weakest loading and continues to be debated, although some researchers believe it should be considered because it incorporates more of the items (Salekin et al., 2006). Neumann and colleagues (2006) examined the factor structure of psychopathy in incarcerated adolescents living in the United States and Great Britain. Their results also reported that the 3 and 4-factor models are a good fit for psychopathy. They also agreed that the 4-factor model is a better fit for use because it is more robust than the 3-factor model and included the majority of Hare’s factors (Neumann et al., 2006).

Psychopathy Definition in Children

Constructs pertaining to antisocial behavior in children and adolescents are well-established in the forms of ODD and CD; however, increasing attention has focused on the study of psychopathy in children and adolescents (Burke et al., 2007). Personality disorders are mainly diagnosed in adulthood, but are believed to have a set of traits that originate in childhood. Psychopathy is a syndrome that is believed to consist of a stable set of maladaptive personality traits, attitudes, and behaviors that originate in childhood.
Behaviorally, childhood antisocial tendencies are one of the earliest indicators of adult psychopathy (Neumann et al., 2006) and have correlated adult criminality with early antisocial behavior (Farrington, 1995). Research also shows that identifying psychopathic traits in youth decreases the heterogeneity of antisocial behaviors (Andershed, Gustafson, Kerr, & Statin, 2002). Psychopathy in children has gained an increased importance for the following reasons: to facilitate early identification, prevention, and clinical intervention; to assist in the formulation of risk management strategies; and to assist social and legal agencies responsible for decisions regarding placement and supervision (Johnstone & Cooke, 2004).

Factor analyses demonstrate two psychopathic dimensions that emerged in adjudicated and clinic-referred youth: a callous-unemotional (CU) factor and a conduct problem factor (I/CP) (Frick et al., 1994; Pardini et al., 2003). In a community sample of 1,136 elementary school-aged children, three factors were evidenced (Frick, et al., 2000). The three factors in the community sample included callous-unemotional traits, narcissistic traits, and impulsive behaviors (Frick, et al., 2000). Studies indicated that the narcissism and impulsivity factor are highly inter-correlated in youth; however, narcissistic traits load on Factor 1 in adult populations (Bijttebier & Decoene, 2009). Other studies have shown that with clinic-referred children, the narcissism and impulsivity factor do not differentiate in youth (Bijttebier & Decoene, 2009; Christian, Frick, Hill, Tyler, & Frazer, 1997) Further, in youth, the narcissism factor was strongly associated with ODD (Bijttebier & Decoene, 2009). Pardini and colleagues’ (2003) results indicated that the CU factor was strongly associated with deficits in cognitive and emotional empathy. Factor analysis reveals that the I/CP factor for children includes
impulsivity, poor impulse control, and delinquent behaviors (Frick et al., 1994). The I/CP factor is related to increased levels of dysregulated behavior referring to youth becoming hyper-vigilant in emotional situations (Pardini et al., 2003). Children that are elevated in impulsivity and antisocial behaviors that do not exhibit CU traits may show a different pattern of emotional processing. For example, children that exhibit the I/CP factor often experience increased levels of emotional distress (Loney et al., 2003). They exhibit highly aroused responses to emotional stimuli, such as negative feedback during a concept-learning task and social communication with peers (Loney et al., 2003). The I/CP factor, which is the basis for defining Factor 2 psychopathy in youth, appears to overlap with ADHD (not the inattentive type), ODD, and CD in the DSM-IV-TR (Pardini et al., 2003; Frick et al., 2003). The impulsivity related to externalizing disorders includes a difficulty in inhibiting activated responses and acting without considering consequences. This suggests that the I/CP identifies a large set of juveniles, while the presence of CU traits delineates a group of children whose behaviors may stem from low levels of fearlessness.

The presence of CU traits may delineate youths that exhibit severe patterns of delinquent behavior that and an underlying unique etiology (Salekin, et al., 2006; Pardini et al., 2003). “CU traits refer to a specific affective (e.g., absence of guilt, constricted display of emotion) and interpersonal (e.g., failure to show empathy, use of others for one’s own gain) style that is characteristic of a subgroup of children with severe conduct problems” (Frick et al., 1994, p.412). Identifying CU traits is important because they are presently not a part of the childhood diagnostic criteria for child psychopathology in the DSM (Burke et al., 2007). “A growing body of literature reveals limitations in the current
diagnostic system’s chief reliance in the single diagnosis of CD to identify youth with socially deviant behavior,” (Petrila & Skeem, 2003, p. 689). Identifying CU traits can aid the researcher in determining an adolescent’s risk for psychopathy. Also, appropriate interventions can be implemented, rather than treating conduct disordered youth as a homogeneous group.

Children with conduct problems and CU traits are not the same as children who do not exhibit CU traits, indicating that different methods of identification and interventions are needed. Children with conduct problems that also exhibit CU traits tend to lack behavioral inhibition, such as a preference for dangerous activities and a decreased sensitivity to punishment cues (Frick et al. 2003), engage in thrill seeking behaviors, exhibit low anxiety (Barry et al., 2000), and are less sensitive to cues of punishment when a reward-oriented response set is primed (Loney, Frick, Clements, Ellis, & Kerlin, 2003). These characteristics suggest children with conduct problems and CU traits may possess a low emotional reactivity temperamental style to aversive stimuli (Frick et al., 2003). Research has indicated that a low behavioral inhibition temperament can contribute to the development of CU traits in children (Glenn et al., 2007). Low behavioral inhibition could place a child at risk for missing early precursors of empathy which can lead to the insensitivity of caregivers. This may result in the focusing of rewards by exhibiting antisocial behavior, not realizing the harmful effects of their actions (Frick et al., 2003). These children tend to overestimate the probability that positive consequences will result from aggression (Frick et al., 2003; Pardini, et al., 2003). For example, children that exhibit CU traits are more impaired in their moral reasoning and expect more instrumental gain from aggressive behavior (Pardini et al., 2003). Higher CU traits are
related to an increase in expectations associated with positive rewards of aggression and decreased expectations associated with negative consequences and deviant behavior (Pardini et al., 2003). Children that exhibited CU traits were compared to those without the presence of CU traits. There was no relation between CU traits and the use of aggression to prevent future conflict with a proactive peer, specifying that CU traits pertain to the immediate benefits of using aggression, rather than the delayed benefits (Pardini et al., 2003). Children with the presence of CU traits have lower expectancies to inhibit aggressive behaviors because less fear is experienced when punished (Frick et al., 2003). Other studies have indicated that children with CU traits were of higher intelligence and display a greater number and variety of conduct problems, including a stronger history of police contacts (Christian et al., 2003). Studies have also linked a family history of APD (Christian et al., 2003)

The majority of research has utilized samples in forensic settings; therefore, it is unclear as to whether antisocial traits associated with CU traits are characteristic of all children or just children who exhibit serious antisocial behavior. A sample of outpatient referrals was examined, rather than the commonly used participants from forensic settings. Results indicated a distinction between children that exhibited CU traits compared to children that did not (Barry et al., 2000). Children high on CU traits exhibited a lack of fearlessness, had a reward dominant style, and were less distressed by their behavioral problems (Barry et al., 2000). Further, a non-referred sample of children from two public school systems in the third, fourth, fifth, and sixth grades in the southern United States yielded the same results which also supported the extension of adult research to childhood psychopathic characteristics. For example, the group high on both
CU traits and behavioral problems illustrated the greatest level of dysregulation. They specifically exhibited behavioral inhibitions, such as a preference for dangerous activities and a decreased sensitivity to punishment cues (Frick et al., 2003). The traits discussed in the two previous studies are also typically associated with psychopathy in adults.

Some children that develop CD do not display CU traits indicating a different developmental pathway. These children tend to be highly reactive to emotional and threatening situations (Frick et al., 2003). This is also an example of poor emotion regulation which begins in the child’s early years of development (Frick et al., 2003). A child will often become impulsive resulting in unplanned aggressive acts. This emotional dysregulation displayed can lead to the impairment of social-cognitive skills weakening the child’s ability to effectively process and respond to information in social situations (Frick & Morris, 2004). Social information processing can also be used to describe general patterns of deviant behavior. When this occurs, aggressive children have difficulty paying attention to cues in an unbiased manner leading to incomplete encoding, mental representation, and response accessing (Dodge, 1993). Aggressive children tend to focus on fewer cues than their non-aggressive counterparts because they stay focused on hostile cues. This results in difficulty diverting their attention away from these cues, which causes aggressive responses (Dodge, 1993). These children also have difficulty with mental representation and store the encoded images based on hostile cues, causing them to view others’ acts as aggressive. This results in deficits understanding emotion and reasoning of others (Dodge, 1993). The responses children with CD formulate tend to focus more on deviant acts when compared to children that do not display deficits in social-cognitive functioning.
Research has recently begun focusing on CU traits in children that remain stable through adulthood, indicating different developmental pathways than children without CU traits. A defining feature in adult psychopathy is exhibiting a callous interpersonal style. A callous interpersonal style includes being deceitful, manipulative, showing superficial charm, lacking empathy and guilt, and not accepting responsibility for one’s own actions. These features have been defined in adolescents as well (Pardini & Loeber, 2008). Based on adult literature, a study was conducted hypothesizing children with CU traits would exhibit a low emotional reactivity temperamental style to aversive stimuli. Glenn and colleagues (2007) conducted a skin conductance (SC) responsivity study with a population of three year olds. Behavioral measures of temperament were taken as well as electrodermal activity to aversive tones. A follow-up of Hare’s Self Report Psychopathy Scale was administered at the age of 28. Results indicated that individuals scoring higher on the measure were less fearful, less inhibited, more social, and displayed longer SC half-recovery times to aversive stimuli when compared to the controls at age 3. These results indicated a possible link between temperament and the development of psychopathic characteristics that remain stable through adulthood (Glenn et al., 2007).

Pardini and Loeber (2008) engaged in a longitudinal study examining interpersonal callousness and antisocial behavior of boys during adolescence and into young adulthood. Results indicated that interpersonal callousness is stable throughout the years; however, there was individual variability in the interpersonal callousness growth trajectories. Some individuals experienced decreases while others experienced increases, which may have attributed to unstable parent reporting (Pardini & Loeber, 2008). Interpersonal callousness was unrelated to internalizing problems. Those with the highest
interpersonal callousness levels in adolescents who experienced the least amount of decline in scores were the youth exhibiting the highest level of antisocial personality characteristics in young adulthood. Longitudinal studies previously indicated that psychopathy characteristics can be present in childhood and remain stable over time. However, there is less research on constructs moderating protective factors in psychopathy from adolescence to adulthood. Lynam, Loeber, & Stouthamer-Loeber (2008) assessed data from 250 participants in the Pittsburgh Youth Study beginning in early adolescence and followed them into young adulthood. Physical punishment and peer delinquency were associated with psychopathy at age 13 to predict psychopathy scores at age 24. Boys high on the psychopathy scale at age 13 tended to remain high on psychopathy at age 24 (Lynam et al., 2008). There were indications that boys low in psychopathy that grew up poorer, had antisocial friends, and experienced more physical punishment exhibited a higher number of psychopathic characteristics over time when compared to boys low on psychopathy that grew up in wealthier families, had less physical punishment, and less antisocial friends. The latter group of boy’s low psychopathic traits continued to be low in adulthood (Lynam et al., 2008). These studies have highlighted both stability and change in psychopathy from children into adulthood.

In summary, children who exhibit conduct disordered symptoms and CU traits differ from other children not exhibiting these traits. Children with CU traits illustrate more forms of severe aggression and antisocial behavior (Frick, 2004). Their temperamental style includes a lack of fearful inhibitions and conscience development deficits; however, these characteristics only account for a small percentage of children in the childhood-onset type of CD (Frick, 2004). Emotion regulation in reference to
conduct problems is often displayed through the context of high emotional arousal. This occurs when the emotional arousal negatively influences the child’s ability to encode cues from social interactions, resulting in difficulty interpreting cues. The child then over-reacts to situations or interprets them as deviant and negative, even without evidence. Children with CU traits do not exhibit this emotional arousal and designate a distinct group of behaviorally dysregulated children similar to adults with psychopathy (Frick et al., 2003).

Theories of Psychopathy

There are multiple theories explaining psychopathy in adulthood and overall there is a general consensus that the development of psychopathy cannot be explained by one theory. Some theoretical perspectives that have considered antisocial behavior and psychopathy include genetic, personality, neurobiological, and cognitive.

Genetic

Genetic research has investigated twin and adoption studies to learn more about the etiology of antisocial behavior that can lead to psychopathic behaviors. A meta-analysis of 51 twin and adoption studies reported that on average 41% of the variance in antisocial behavior was due to genetic factors, 16% was due to shared environmental influences, and 43% was due to non-shared environmental influences indicating the possibility that antisocial behavior is moderately inheritable (Rhee & Waldman, 2002). There were no significant results between males and females (Rhee & Waldman, 2002).

In another longitudinal study, the Twin Study of Child and Adolescent Development, data was collected at ages 8-9, 13-14, and 16-17. Data collected at the ages of 16-17 examined three psychopathic personality dimensions (grandiose/manipulative,
callous/unemotional, and impulsive/irresponsible). Genetic influence was found to contribute 43-56% variance in all three of the dimensions when examining each dimension separately. Non-shared environmental influence was found to explain 37% of the variance (Larsson, Andershed, & Lichtenstrein, 2006). Unique genetic influences were found in the callous/unemotional and impulsive/irresponsible dimensions, but not the grandiose/manipulative dimension. These results suggest an influence based on the genetic factors that uniquely impacts the interpersonal callousness and impulsive/irresponsible dimensions of the psychopathic personality (Larsson et al., 2006).

**Personality**

There are multiple personality theories that offer explanations for the psychopathic personality. The Big 5 Personality Theory and Esyenck’s theory are two examples widely discussed in the literature. These will be discussed briefly below.

**The Big 5 Personality**

The Big 5 Personality Theory or Five Factor Model (FFM) includes five domains, each with six specific components used as descriptors of basic personality. These domains include: Neuroticism (N; anxiousness, anger, hostility, trait depression, self-consciousness, impulsiveness, vulnerability), Extraversion (E; warmth, gregariousness, assertiveness, activity, excitement seeking, positive emotions), Openness to Experience (O; fantasy, aesthetic, feelings, actions, ideas, values) Agreeableness (A; trust, straightforwardness, altruism, compliance, modesty, tender mindedness) and Conscientiousness (C; competence, order, dutifulness, achievement striving, self-discipline, deliberation) (Derefinko & Lynam, 2007). Neuroticism assesses emotional adjustment and stability, and Extraversion assesses an individual’s proneness to positive
emotions and sociability (Lynam et al., 2005). The Openness to Experience domain assesses an individual’s interest in culture and preference for new activities and emotions (Lynam et al., 2005). Agreeableness examines people’s interpersonal relationships and strategies; people that are high in Agreeableness are trusting and empathic whereas those low on Agreeableness are manipulative and arrogant (Lynam et al., 2005). The Conscientiousness factor relates to differences in the ability to plan, organize, and complete behavior tasks (Lynam et al., 2005). Lynam and Widiger (2007) reported from an adult sample that items on Hare’s Factor 1 scale are almost all indicators of low agreeableness. In contrast, Factor 2 items assess low agreeableness and low conscientiousness exhibiting minimal representations of high neuroticism and high extraversion (Lynam & Widiger, 2007). These results acknowledge that there are personality factors present in both factors of the PCL-R.

Three of the Big 5 Personality factors connected to psychopathy in children and adolescents. Agreeableness was strongly correlated with Hare’s definition of Factor 1. Conscientiousness and Neuroticism is believed to be related with Factor 2. Psychopathy is negatively correlated with conscientiousness and agreeableness (Lynam et al., 2005).

*Eysenck’s Theory*

Eysenck’s theory (1977, 1996) focuses on a model known as PEN which includes three independent dimensions of personality: Neuroticism-Stability (N), Psychoticism-Superego (P), and Extraversion-Introversion (E). These dimensions are defined by Eysenck’s Personality Questionnaire (EPQ). The N dimension replicates strong responses in stressful situations that result from activity in the limbic system (Kosson, Gacono, & Bodholdt, 2000). The E dimension represents the level of cortical arousal. The P
dimension is also related to arousal. Eysenck argues that psychopathic individuals exhibit lower arousal and weaker conditionability. They also tend to have higher mean scores on all three dimensions.

**Neurobiological Theories**

Neurobiological theories also describe the development of antisocial behavior and psychopathic characteristics. Specific theories developed concerning psychopathy include the Somatic Marker Hypothesis, Left Activation Hypothesis (LHA), and the Frontal Lobe Dysfunction Hypothesis. It is also suggested that the amygdala is one of the core neural systems associated with the psychopathy pathology (Blair, 2006a). The amygdala is impaired in the following tasks: (1) aversive conditioning, the augmentation of the startle reflex to visual threat patterns (Patrick et al., 1993; Verona, Putnam, & Shutter, 2004), passive avoidance learning (Mitchell, Colledge, Leonard, & Blair, 2002), activation of autonomic responding in expression of basic emotion reactions, such as fear (van Honk et al., 2002), and the development of moral socialization.

**Somatic Marker Hypothesis**

Executive emotional processing, primarily somatic marking, is one of the broad conceptualizations of the neurocognitive impairments that underlie the antisocial personality disorders (Blair, 2007; van Honk et al., 2002). Damasio’s Somatic Marker hypothesis states that emotional learning is established by “somatic markers” that are bodily responses to stimuli, including automatic responses that guide reasoning and decision making (Blair, 2007; van Honk et al., 2002). It states that cognition selects appropriate behavior based on emotion (van Honk et al., 2002). This theory conceptualizes deficits associated with the Orbitofrontal Cortex (OFC) (Mitchell, et al.,
2002). It suggests that during decisions of emotional significance the somatic marker labels options as either good or bad, which results in constraining the incentive value of that particular choice (Mitchell et al., 2002). An emotion-governed bio-regulatory system adapts and constrains decision making (van Honk et al., 2002). This system relates the choice between alternatives in decision making to positive or negative emotional states (Losel & Schmucker, 2004). “Difficulty in selecting appropriate behaviors occurs when response options (cognitions) are not marked by somatic states (emotions)” (Schmitt, Brinkley, & Newman, 1999, p.538). Patients with OFC lesions showed reduced autonomic responding to emotionally arousing stimuli (Damasio, 1990; van Honk et al., 2002). The Iowa gambling task, a paradigm mimicking real-life uncertainty of reward and punishment, has been used with orbitfrontal lesion patients. Typical participants learn to choose advantageously in the first half of the game (van Honk et al., 2002). Patients that have orbitfrontal lesions exhibit impaired decision making because they do not develop conscious or unconscious markers; they continue to choose from the risky, punishing deck of cards after they have been made aware of the disadvantage (van Honk et al., 2002).

Damasio (1990) suggests that dysfunction in this system aids in the development of psychopathic characteristics. It is applicable to consequences of fearlessness and impulsive reward craving (van Honk et al., 2002). In a study conducted by Mitchell and colleagues (2002), results are consistent with this hypothesis; however, it does not predict findings with developmental pathology. The study reported that psychopathic adults and adolescent boys show a selective impairment to stimuli, particularly sad and fearful expressions, but not to threat cues (Mitchell et al., 2002).
The Left Activation (LFA) Hypothesis

The second hypothesis, The Left Hemisphere Activation (LFA) Hypothesis, states that psychopathic individuals have deficits that only occur under circumstances that selectively activate the left hemisphere (Lopez, Kossonm, Weissman, & Banich, 2007). It proposes that psychopathic individuals’ antisocial behavior is partially due to a deficiency in information processing under conditions that place demands on the left hemisphere. Recent studies document attention deficits in psychopathic individuals which place heavy demands on the left hemisphere processing systems in divided attention (Lopez et al., 2007). When the stimuli are presented within the left visual field, which would require a right hemispheric activation, psychopaths classify the targets as well the non-psychopathic group. Lopez and colleagues (2007) took psychopathic adults and compared them to non-psychopathic adults when examining whether a target stimulus matched one of the comparison stimuli shown. Half of the trials appeared within the same visual field, while the other half appeared in the opposite visual field. Results indicated that psychopathic participants were slower in processing conditions that primed the left hemispheric systems. The deficits under the LHA conditions are also consistent with inter-hemispheric abnormalities (Hiatt & Newman, 2007).

Frontal Lobe Dysfunction Hypothesis

The Frontal Lobe Dysfunction Hypothesis is the third neurobiological hypothesis discussed in this paper. Frontal lobe impairment has been related to impulsivity and antisocial behavior (LeDoux, 1988). According to Blair and colleagues (2006a), there are three strands of data that support this: (1) executive functioning impairments are shown by individuals with antisocial behavior, (2) neuron-imaging data suggests that
aggressive individuals have reduced frontal functioning (Verona, et al., 2004), and (3) patients with a frontal cortex lesion demonstrate an increased risk for aggression. It should be noted that frontal lobe positions are underspecified because they do not specifically distinguish between the executive dysfunctions (Blair et al., 2006a, Blair et al., 2006b). It also remains unclear as to whether this dysfunction relates to antisocial behavior or problems that are co-morbid with executive dysfunction (Blair et al., 2006a). For example, there are suggestions of executive dysfunction in children that have ADHD (Blair et al., 2006a). Research suggests that individuals with psychopathy tend to show deficits in the ventrolateral/orbitofrontal cortex, but the dorsolateral prefrontal cortex (DLPFC) is intact (Blair et al., 2006a). For example, Blair et al. (2006a) reported that psychopaths performed comparably to comparison individuals on the Spatial Alteration (SA) task. This task requires the participants to modulate their responses to different spatial locations for contingency change. Damage to the DLPFC, but not to the OFC disrupts performance on the SA task. These results show that only specific areas of executive function are affected in psychopathic adults.

There are multiple parts of the brain believed to be involved in the development of antisocial behavior including the OFC, the ventrolateral section, and the amygdala (Blair et al., 2006a). The OFC is involved in response reversal (Blair et al., 2006a). The OFC, which is a part of the frontolimbic circuit, leads to behavioral manifestations characterized by socially inadequate choices and irresponsible behavior. The OFC has been associated with the anticipation of punishment and reward (Birbaumer et al., 2005).

Individuals with psychopathy appear to display dysfunction in the ventrolateral and OFC when given measures used to test those specific areas of the brain such as the
motor go/no go tasks and the Porteus Maze Test (Blair et al., 2006b). These individuals also show deficits in tasks requiring response reversal and extinction. It is important to understand that individuals with psychopathy are not the only people that exhibit deficits in the ventrolateral and OFC regions. Patients that have intermittent explosive disorder, childhood bipolar disorder, and borderline personality disorder also exhibit those dysfunctions.

Amygdala

The amygdala is involved in aversive conditioning and instrumental learning. It is one of the vital areas involved with emotional processing, specifically responses to sad and fearful facial expressions (LeDoux, 1998). It is suggested that the amygdala is one of the core neural systems associated with the psychopathy pathology (Blair, 2006a). Significant impairments have been displayed in both adults and children that display psychopathic personality traits. There are three major systems that involve the amygdala with other parts of the brain (Price, 2003). The first system involved is the forebrain system which provides input to the amygdala. The structures in this system include the olfactory cortex, ascending taste and visceral pathways, posterior thalamus, and sensory association cortical areas (Price, 2003). The second system is projections from the hypothalamus to the medulla which help modulate the visceral function (Price, 2003). The visceral function is indicated in emotional stimuli. The third system also stems from the forebrain and is aided in the influence of goal-directed behavior (Price, 2003). The ventromedial frontal, rostral insular, rostral temporal cortex, medial thalamus, and ventromedial basal ganglia are the parts of the forebrain involved in this process. The amygdala is necessary for the formation of stimulus and unconditioned stimulus
responses and stimulus reinforcement associations that are either aversive or appetitive (Rogers, 2006).

Data has revealed that in psychopaths, the amygdala is impaired in the following tasks: (1) aversive conditioning, the augmentation of the startle reflex to visual threat patterns (Patrick et al., 1993; Verona et al., 2004), passive avoidance learning (Mitchell et al., 2002), activation of autonomic responding in expression of basic emotion reactions, such as fear (van Honk et al., 2002), and the development of moral socialization.

Aversive Conditioning

Aversive conditioning is impaired in individuals exhibiting psychopathic characteristics. Animal studies reveal that amygdala lesions impair aversive and appetitive classical conditioning (LeDoux, 1998). The amygdala plays a role in stimulus-reinforcement but not stimulus-response association (Mitchell et al., 2006). Imaging studies using the functional magnetic resonance imaging (fMRI) show the amygdala activated during the conditioned aversive response. Patients with amygdala lesions show impairments in aversive conditioning (Blair et al., 2006b).

Startle Responses

Data suggests that the amygdala is involved in modulated startle responses by conditioned stimuli (CS) (Patrick, Cuthbert, & Lang, 1993). The CS can increase activity of the brainstem neurons indicated in the startle reflex, suggesting that psychopathic individuals with amygdala deficits would reduce startle reflex potentiation (Rogers, 2006). Psychopathic individuals displayed inhibited startle blink responding to aversive stimuli when compared to appetitive stimuli; whereas non-psychopathic individuals typically showed greatest startle potentiation to negative images (Patrick et al., 1993).
These results have been implicated in adolescents exhibiting psychopathic characteristics in which their startle potentiation was reduced for aversive stimuli (white noise burst) (Fung et al., 2005). Overall, research suggests that psychopaths have a low level of autonomic arousal (Vien & Beech, 2006).

**Passive Avoidance Learning**

The amygdala is also involved in passive avoidance learning, which is a part of instrumental learning. Passive avoidance learning involves a stimulant and reinforcement based learning that is a part of instrumental learning (Mitchell et al., 2006). The amygdala mediates passive avoidance learning by coding motor responses and aiding in decision making (Patrick, 2007). Patients with amygdala lesions displayed impairment in stimulus-reinforcement instrumental learning; these results are consistent with psychopathic individuals and tend to be hypo-sensitive to punishment and hyper-sensitive to reward (Blair et al., 2004; Mitchell et al., 2006). Passive avoidance paradigms are used to assess learning by measuring the rate of passive avoidance errors; psychopathic individuals tend to make more passive avoidance errors than the comparison groups (Blair et al., 2004).

**Autonomic Responding**

The amygdala is also involved in the activation of autonomic responding (Blair, Jones, Clark, & Smith, 1997; Blair, 1997). Psychopaths tend to show reduced autonomic reactivity during the imagery of unpleasant and fearful experiences (Patrick et al, 1994). Psychopathic individuals exhibit distress cues when threatening stimuli are presented as shown by appropriate skin conductance responses to visual threats; however, they show reduced skin conductance responses to facial expressions of sadness (Blair et al., 1997;
Christianson et al., 1996). Findings also indicate that psychopaths exhibit an impairment in recognizing fear vocal affects (Verona et al., 2004), and experience smaller physiological changes during fear imagery relative to neutral stimuli (Patrick et al., 1994). These individuals do not discriminate normally between non-emotional and emotional cues, aversive or pleasurable. This research suggests that psychopaths are less responsive to audio representations of emotion. These results have also been reported in children that exhibit psychopathic characteristics. In a study conducted by Stevens, Charman, and Blair (2001), children with psychopathic characteristics showed selective impairments in the recognition of sad and fearful facial expressions and sad vocal tones.

*Moral Socialization Development*

Finally, deficits in the development of moral socialization are indicated in amygdala dysfunction. Moral socialization is assumed to be achieved by the use of punishment (Blair, 2006b). This process generally occurs through aversive conditioning and instrumental learning that were explained previously. A typical individual is frightened by punishment then associates the fear with the action that resulted in the punishment. The individual is less likely to engage in the antisocial behavior because of the victim’s distress, which serves as an aversive stimulus (Blair, 2006b, Blair et al., 2004). Sad and fearful facial expressions serve as unconditioned stimuli which elicit the aversive conditioning and instrumental learning (Blair et al., 2004). Amygdala dysfunction assumes the individual does not exhibit empathy based on the difficulty processing sad and fearful facial expressions. This then disrupts the learning process for moral socialization (Rogers, 2006). Psychopathic individuals tend to display impairment when processing sad and fearful facial expressions causing a reduction in autonomic
responses to these expressions (Stevens et al., 2001) These results are also applicable to adolescents (Stevens et al., 2001; Blair et al., 2001).

Children with psychopathic characteristics also demonstrate impairment in the judgment of moral transgressions. Appropriate moral socializations are divided into two groups of moral transgressions, victim-based (e.g. hitting another); and conventional transgressions, which are societal based (e.g. talking in class) (Blair et al., 2001). Appropriate moral socializations can be evidenced in children as early as 39 months of age (Smetana & Braeges, 1990). Children and adults tend to judge moral transgressions as more serious and are able to distinguish between the transgressions in situations where no rules prohibit the offenses (Smetana & Braeges, 1990). If the individual does not recognize or is not sensitive to the distress of the victim, then he or she should not be able to make the distinction between transgressions (Blair et al., 2001). The amygdala provides positive or negative reinforcement, resulting in a response from the individual (Blair, 2007). Children with conduct problems and adult psychopaths have been found to show a reduced distinction between moral and conventional transgressions when rules are removed, which is an indication of amygdala dysfunction (Blair et al., 1997; Blair, 2007).

Individuals exhibiting a psychopathic characteristics do not learn to avoid the use of antisocial behaviors because there is no association of the victim’s distress as being aversive. Emotional difficulties associated with psychopathy interfere with moral socialization and put the individual at risk for developing antisocial, instrumental behavior (Lorenz & Newman, 2002). “Due to their impairment in the response to sadness and fear of other individuals and in the formation of aversive stimulus-reinforcement associations, individuals with psychopathy are less likely to take advantage of this
“moral” social referencing” (Blair et al. 2006b, p 268). Individuals with psychopathy do not find the distress of others to be aversive resulting in an impairment to learn the association between punishment and the action causing the victim’s distress (Lorenz & Newman, 2002).

The above research concerning various brain regions, particularly the amygdala, and hypotheses demonstrate that there is support for the neurologically based theory when examining children and adults with psychopathic characteristics.

**Cognitive Theories**

Cognitive theories are another perspective to consider when examining the psychopathic personality. Cognitive theories are based upon information processing which consists of decoding, encoding, retrieval, attention, and organized representations of stored information (Hiatt & Newman, 2007).

**Newman’s Response Modulation Theory**

Newman’s theory of psychopathy emphasizes a cognitive deficit. The central concept, response modulation, involves a rapid and relatively autonomic shift of attention from the effortful organization and implementation of goal directed behavior to its evaluation (Blair et al., 2004). This model relates to Cleckley’s (1941) concept of psychopathy which states that psychopaths exhibit low levels of neurotic anxiety and average intelligence. According to this model, impulsivity and emotional-processing deficits may be understood as a failure to process the meaning of peripheral or incidental information (Lorenz & Newman, 2002). The response modulation theory states that psychopaths are less likely to use networks primed by emotional peripheral cues that typical individuals do automatically (Lorenz & Newman, 2002). However, psychopathic
individuals should show no impairment on tasks that are the intentional focus of attention (Blair et al., 2004). Individuals with psychopathy display impairment in their ability to avoid tasks for which they are punished (Farrington, 2005). Data from the one-pack card playing task supports this theory because psychopathic individuals persist on responding to a previously rewarded response, even when the rate of punishment increases (Mitchell et al., 2002).

The Violence Inhibition Mechanism (VIM)

The Violence Inhibition Mechanism (VIM) model is another cognitive theory which aims to describe the cognitive prerequisites for moral development. This model states that when the VIM system is activated by distress cues, it results in increased autonomic activity, attention, and activation of the threat response system (Blair, 2006a). This theory suggests that the behavioral inhibition system (BIS) inhibits behavior in novel situations or when the mind perceives that the act is likely to be punished or not rewarded. The behavioral activation system (BAS) directs behavior toward safety and positive reinforcers. When a highly active BIS is paired with a highly active BAS, risk-taking behavior, sensation seeking, impulsivity, and an absence of fear and anxiety typically occur. In typically developing individuals, freezing usually occurs when the threat response system is activated. In order for moral development to occur, the distress cues must be paired with representations of the act that caused distress (Blair & Frith, 2000). Typically developing children find the pain of others aversive, and eventually associate the acts that cause pain to be aversive. The VIM model proposes that individuals with psychopathy display deficits within this model, thus representations of distress to others do not become triggers for the VIM (Blair et al., 2004). Evidence has
demonstrated that psychopathic adults and children with psychopathic characteristics show deficits in recognizing sad and fearful facial expressions (Blair et al., 2004) and fearful vocal affect (Blair et al., 2002). The signal for the unconditioned stimulus is weakened, damaging the ability to form unconditioned stimulus-conditioned stimulus associations (Blair, 2001). The sad and fearful facial expressions and/or fearful vocal affect do not pair with the triggering of the VIM, and therefore do not form moral representations.

One theory will not explain the development of individuals with psychopathy and many theories explain parts of the psychopathic personality disorder. Individuals with psychopathy are born with a predisposition that interacts with the environment. There is a genetic cause to this disorder (Blair et al., 2006b). The genetic contribution contributes to the emotional dysfunction that is the core of psychopathy (Blair et al., 2006b), such as the impairment in empathy development. The predisposition that these individuals are born with further puts them at a disadvantage when using their ability to continue through the cognitive processes that are utilized in decision making. The psychopathic individual is reinforced by negative behaviors and cognitions leading to the inaccurate evaluation of behavior.

Assessment of Psychopathy

The assessment of psychopathy has become an increasingly important area of study. Psychopathic individuals are among the most violent and persistent offenders (Lynam, 1996). Behaviorally, psychopathic individuals are risk-taking and sensation seekers. They also are described as grandiose and manipulative. Affectively, they display shallow emotions and lack empathy and remorse (Lynam, 1996).
Psychopathy Checklist (PCL)

Assessment techniques were first developed to identify adults with psychopathic characteristics. The original PCL consisted of 22 behavioral and personality items which are completed based on interview and file information. Items are rated on a 3-point scale (0 = item doesn’t apply, 1 = item applies somewhat, 2 = item definitely applies). The items are summed for a total score ranging from 0-40 that reflects the degree to which an individual resembles the prototypical psychopath (Cooke, Michie, Hart, & Hare, 1999). A cutoff score of 30 is used to determine psychopathy in the adult population. The measure is divided into two factors. Factor 1 describes a constellation of personality traits and Factor 2 describes antisocial behavior. Factor 1 correlates with the classic clinical description of psychopathy personality characteristics (Hare et al., 1990). Factor 2 correlates with scales related to socialization and criminal behavior. Hare and colleagues (1990) concluded that the two factors measure important elements; therefore, scales based only on antisocial behavior are inadequate. The revised Psychopathy Checklist (PCL-R; Hare, 1985) differs from the original PCL because two items were omitted. These items were “previous diagnosis as a psychopath” and “alcohol not direct cause of antisocial behavior” because they had low correlations with the total score (Hare et al., 1990).

The normative sample is comprised of 5,408 North American male offenders and 1,246 North American male forensic psychiatric patients (Acheson, 2005). Correlations of inter-rater reliability for both single ratings and the mean of two independent ratings, as well as item-total correlations for all 20 items are provided. Only 7 of the 60 item-total correlations may be considered low with correlations below .3 (Acheson, 2005). Alpha
coefficients for item total scores and the two factor scores are .73 or higher. Hare and colleagues (1990) concluded that the PCL-R measures the same construct as the original PCL, and that it is a reliable instrument in the measure of psychopathy for the forensic male population.

*Psychopathy Checklist Screening Version (PCL-SV)*

A screening version was developed to reduce the time and effort needed to conduct the PCL-R (Cooke et al., 1999). The standardization sample for the instrument contained a total of 586 participants, of whom 269 (46%) was either inmates or probationers. Of these 269 correctional subjects, 76% were Caucasian (Pallone & Hennesy, 2001). The Psychopathy Checklist Screening Version (PCL-SV) is a 12 item scale based directly on the PCL-R by simplifying the item without losing its meaning (Cooke et al., 1999). The item descriptions in the manual are brief and require less detailed information to score. Cooke and colleagues (1999) conducted a study with findings implicating that the PCL-SV had 8 of the 12 items equivalent to the PCL-R. The other 4 items were found to be equal or superior to their equivalent of the PCL-R in terms of discrimination. They concluded that the PCL-SV is an effective short form of the PCL-R (Cooke et al., 1999). Concurrent validity is reported between PCL-SV total score and PCL-R total score at levels ranging from .55 for psychiatric inpatients to .84 for psychiatric outpatients, with a median of .81 (Pallone & Hennessy, 2001). Results also indicated that this was a reliable and valid measure to use because scores were correlated with antisocial personality disorder and observer ratings of interpersonal behavior indicating. Overall, these findings indicate that the measure is reliable and valid in non-referred populations (Forth, Brown, Hart, & Hare, 1996).
Recently, psychopathy has extended to children and adolescents. This is not surprising given the perspective that the disorder has an early age onset and key symptoms identified in adolescence (Johnstone & Cooke, 2004). Research indicates that psychopathy characteristics in youth are persistent later in adulthood (Neumann, et al., 2006). Studies mentioned previously have focused on the behavioral and the personality aspects of psychopathy. Youth possessing high levels of psychopathic traits should receive early attention, which has important implications for schools and institutions (Vaughn & Howard, 2005). It is argued that examining psychopathy in youth can be measured to aid in identifying risk and protective factors in the development of psychopathy (Andershed et al., 2002). Intervention early in life may be more effective since treatment with adults is not effective (Andershed et al., 2002).

Psychopathy assessment techniques have been developed specifically for children and adolescents to capture psychopathic traits; however, the construct is controversial because the psychopath label should not be used with children and adolescents. Further, it is believed that adolescent traits are transient, but are stable for adults (Farrington, 2005). For example, children and adolescents want immediate gratification and often appear selfish. They tend to seek pleasure and avoid pain (Farrington, 2005). Children and adolescents are impulsive, which may indicate poor behavioral controls and/or proneness to boredom (Edens et al., 2001). Further, judgment, perspective-taking, and sense of identity are fluid during adolescence, which may appear as a lack of empathy and failure to accept responsibility (Edens et al., 2001). It is believed that some delinquency is “normal” during adolescence (Salekin, 2000). Despite the controversy, adolescent
psychopathy is becoming popular because it is critical to understand the concept and its development (Johnstone & Cooke, 2004; Salekin, 2000).

**Psychopathy Checklist-Youth Version (PCL-YV)**

The most commonly researched and utilized measure for youth is the Psychopathy Checklist-Youth Version (PCL-YV), which is a measurement developed for children and adolescents based on the original PCL. This test is designed in an interview format that takes approximately 60-90 minutes. A review of the child or adolescent’s clinical records is used to help guide the interview (Kosson, et al., 2000). When developed, the normative sample consisted of 2,438 adolescents from Canada, the United States, and the United Kingdom. Data were collected from 19 different subsamples, which included institutionalized offenders, offenders on probation or in open custody, and youth in the community (Fleenor, 2005). The PCL-YV is based on the original 20 PCL items used for adult populations (Neumann et al., 2006; Kosson et al., 2002). However, the PCL-YV was tailored to the roles and situations that characterize adolescents (Kosson et al., 2002). The wording of the questions, criteria used to score questions, and sources of information used have been modified to ensure the different contexts in which adolescents function and add a focus on developmental norms (Neumann et al., 2006). The items also reflect greater involvement of families, peers, and school. For example, item 9 (parasitic lifestyle) and item 17 (many short term marital relationships) were tailored because adolescents typically have a limited work history and few marital relationships (Forth & Mailloux, 2000). Also, item 18 and 20 were modified to *Serious Criminal Behavior* and *Criminal Versatility* because adolescents contact with
judicial systems is more limited than adult contact. These modifications were made after researchers first administered the PCL-R to adolescents (Forth & Mailloux, 2000).

The PCL-YV’s questions were first divided into 2 factors or constructs. Factor 1 reflects the interpersonal characteristics and Factor 2 reflects the antisocial lifestyle (Forth, 1995). For example, the PCL-YV, like the PCL-R, includes behavioral features that are highly correlated with CD and APD, but also include affective features that underlie the behaviors (Gacono & Hughes, 2004). Factor 1 items reflect affective traits and correlate with narcissistic and histrionic personality disorders (Gacono & Hughes, 2004). Factor 2 items are behavioral and correlate mostly with CD and APD (Gacono & Hughes, 2004).

Studies have reported the PCL-YV to be reliable and internally consistent (Forth, 1995; Gretton, McBride, Hare, O’Shayghnessy, & Kumka, 2001). Reliability of this measure was also found to be high when examining populations of youth on probation. Its two factor structure is highly similar to that of the PCL-R (Brandt, Kennedy, Patrick, & Curtin, 1997; Forth, 1995). Mean inter-rater reliability estimates of the 20 PCL:YV items across three settings (institutional, probation, and community) are mainly above .70. The internal consistency (Cronbach's alpha) estimates for the PCL:YV total score range from .85 to .94 across the settings. The mean inter-item correlations for the instrument range from .23 to .43 (Fleenor, 2005).

Studies have also examined adolescents exhibiting psychopathic characteristics. Like adults, studies reported that both behavioral and affective characteristics can be examined in youth. To be high on psychopathy, items from both factors must be present (Gacono & Hughes, 2004). Studies first began sampling adolescents in forensic settings
High scores on the PCL-YV or modified version of the PCL-R (adolescents) are associated with predicted antisocial behaviors, number of conduct disordered symptoms, previous violent offenses, violent behavior in the institution, and violent recidivism (Kosson et al., 2002).

Antisocial Process Screening Device (APSD)

Another psychopathy test is the Antisocial Process Screening Device (APSD) developed by Frick and Hare in 2002, formerly known as the Psychopathy Screening Device (PSD). The APSD was modeled on the PCL-R items (Farrington, 2005). This has been used in more studies than any other psychopathy measure (Bijttebier & Decoene, 2009; Vaughn & Howard, 2005). The APSD is a 20 item informant completed behavior rating scale for children ages 6-13, but is often used with populations up to 18 years of age (Johnstone & Cooke, 2005). Test norms are based upon a non-referred community sample of 1,120 children from the third, fourth, sixth, and seventh grades from two southeast school districts (Ellen, 2005). The mean sample age was 10.63 years old. This questionnaire does not involve examiner training or record review (Gacono & Hughes, 2004). The rating scale can be completed by parent, teacher, and/or self-report. Only the parent and teacher report versions have been published; thus the self-report version is currently only used in research (Bijttebier & Decoene, 2009). The self-report scale is similar to the parent and teacher versions with items re-written in first person (Lee et al., 2003). In addition to the three single informants, a multi-informant composite score (combined) can be derived by using the higher score for each item from the parent and teacher ratings. The rationale for using the higher score is that there can be motivation to under-report socially undesirable traits, where over-reporting such behaviors are unlikely.
The scale is a three point ranking scale (0=not true at all, 1=sometimes true, 2=definitely true). The APSD is factored onto three dimensions which include Callous/Unemotional (6 items), Narcissism (7 items), and Impulsivity (5 items) (Gacono & Hughes, 2004; Frick & Hare, 2002) that can identify community, clinic-referred, and incarcerated samples of children (Frick, et al., 2000). The table below presents the items associated with each of the dimensions.

Table 5

*APSD Structure-Three Factor Solution*

**Callous/Unemotional (CU)**

3. concerned about school work
7. keeps promises
12. feels bad or guilty
18. concerned about the feelings of others
19. does not show emotions
20. keeps the same friends

**Narcissism (NAR)**

5. emotions seem shallow
8. brags excessively
10. uses or cons others
11. teases others
14. can be charming, but seems insincere
15. becomes angry when corrected
16. thinks he/she is better than others
Impulsivity (IMP)

1. blames others for mistakes
4. acts without thinking
9. gets bored easily
13. engages in risky activities
17. does not plan ahead

Psychometric properties were determined by examiners. Cronbach’s alpha estimates of internal consistency were above .85 for the APSD self-report total score, whereas values for the three dimensions ranged from .64 to .89. There were moderate correlations between parent and teacher ratings (.43 for the total scale) (Ellen, 2005).

Bijttevier and Decoene (2009) assessed a community sample of 192 Flemish adolescents with an age range 9-19 years old. Their results for the parent and teacher versions also supported the three factor structure, indicating that the highest inter-correlations were between narcissism and impulsivity. Further, Bijttevier and Decoene (2009) reported that the combined versions (parent and teacher) showed the best model fit based on factorial validity. In addition to the factorial validity, there are other arguments in favor of using the combined versions because there is a strong empirical basis for combining information from different informants in assessing all types of childhood psychopathology (Bijttebier & Decoene, 2009). When examining a community sample, the APSD parent and teacher versions exhibited high internal consistency.
exceeding the range of .70-.78, whereas the internal consistencies of the self-report scales were moderate (Bijttebier & Decoene, 2009).

Validity studies indicate that APSD scores are positively moderately correlated with DSM-IV symptoms of conduct problems, a higher rate of police contacts, and increased school suspensions (Falkenbach, Poythress, & Heide, 2003). Falkenbach and colleagues (2003) examined the predictive validity and reliability of the APSD parent and self-report measures with a sample of 69 juvenile delinquents. This study extended the use of the APSD to a sample somewhat older with a mean of 14.4 years of age. Internal consistency for the APSD total scores were satisfactory for both the parent report (alpha=.84) and self-report version (alpha=.82) (Falkenbach et al., 2003); however, only the Impulsive/Conduct Problems scale on the parent-report version attained a coefficient alpha greater than .70. It is hypothesized that the smaller number of items per scale affects internal consistency. When studies combine the Impulsivity/Conduct Problems factor items and Narcissism factor items, there are 6 items on the Callous/Unemotional scale and 10 items on the Impulsivity/Conduct Problems scale (Falkenbach et al., 2003).

It is important to remember that the APSD teacher and parent-report versions are published and the self-report version is still considered mainly a research instrument (Bijttevier &Decoene, 2009). Further, the normative sample may not readily generalize to self-reports because the questions were designed for teacher and parent input and are not optimal of self-report items (Falkenbach et al., 2003). For example, some items are worded as negative self-connotations (You blame others for your mistakes), and can lead to defensiveness. However, Munoz and Frick (2007) reported findings that supported the use of the APSD self-report. The scores on the APSD self-report showed moderate
correlations with parent ratings of psychopathic traits, indicating these versions share 18% and 21% of their variance. These cross-informant correlations are much higher than is typically found in the assessment of childhood psychopathology (Munoz & Frick, 2007).

The APSD has been utilized in numerous studies and showed significant associations with antisocial outcomes. One study established that psychopathic traits distinguish adolescents with more frequent, violent antisocial behavior from those with less antisocial behavior (Andershed et al., 2002). Adolescents with psychopathic personality characteristics were the most extreme and versatile delinquents who had higher levels of conduct problems. This study was particularly relevant because it was conducted using a community sample, whereas most studies use samples of adjudicated youth (Andershed et al., 2002). Munoz and Frick (2007) also conducted a study with 91 non-referred youth with an average age of 13.38. The sample was taken from youth with conduct problems in conjunction with high psychopathy characteristics. Their sample was reassessed three times at yearly intervals. The self-report scores on the APSD illustrated moderate correlations with parent ratings, showed moderate stability over a 1-2 year period, and showed significant correlations with measures of antisocial behaviors predictively. The study did identify a major weakness; the subscale’s internal consistency rates were low, specifically with the parent-report version (Munoz & Frick, 2007).

The Childhood Psychopathy Scale

The Childhood Psychopathy Scale (CPS; Lynam, 1997) is a parent rating scale consisting of 41 tailored items from the Child Behavior Checklist (CBCL; Achenbech, 1991) and the Common Language Q-Sort (Caspi et al., 1992). Lynam modeled the CPS after the PCL-R as a method for assessing psychopathy. Lynam operationalized 13 of the
Recently, a revised version of the CPS was designed containing 55 items. These items continue to assess 13 of the PCL-R items. The most recent version of the CPS has a caregiver version and is based on a dichotomous scale (0=no; 1=yes) for the age range of 6-17 year olds.

The Inventory of Callous-Unemotional Traits (ICU)

To improve on existing measures, The Inventory of Callous-Unemotional Traits (ICU; Frick, 2003) was developed to provide an efficient, yet reliable and valid assessment of Callous/Unemotional traits in adolescents. The ICU is based on the six-item Callous/Unemotional scale found on the APSD (Frick & Hare, 2001). This scale was created by addressing a smaller number of items available on the APSD’s CU dimension (Essau, Sasagawa, & Frick, 2006). A limitation of the APSD is that only 6 of the 20 items focus on callous/unemotional traits. Further, 5 of the 6 items assessing CU traits are worded in the same direction which makes response sets more likely (Kimonis et al., 2008). Literatures focusing on scale items contend that items should be worded both negatively and positively on each construct (Kelloway & Barling, 1990). Out of the six items on the APSD, the four items that loaded consistently on the CU scale in the community and clinical samples were used to create the ICU (Frick, et al., 2000). These items were: “Is concerned about how well he/she does school or work,” “Feels bad or guilty when he/she does something wrong,” “Is concerned about the feelings of others,” and “Does not show feelings or emotions.” Three positively and three negatively worded items were developed from the previously mentioned original items to create a 24 item scale (Essau et al., 2006). These items are based on a four point likert scale ranging from
“0” (“Not at all true”) to “3” (Definitely true”). The following table illustrates the 24 original items on the ICU.

Table 6

*Items on the Inventory of Callous-Unemotional Traits (ICU)*

<table>
<thead>
<tr>
<th>Careless</th>
<th>Callous</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. I care about how well I do at school or work</td>
<td>5. I feel bad or guilty when I do something wrong</td>
</tr>
<tr>
<td>7. I do not care about doing things well</td>
<td>2. what I think is right and wrong is different from what other people think</td>
</tr>
<tr>
<td>11. I do not care about doing things well</td>
<td>9. I do not care if I get into trouble</td>
</tr>
<tr>
<td>15. I always try my best</td>
<td>13. I easily to admit to being wrong</td>
</tr>
<tr>
<td>20. I do not like putting the time into doing things well</td>
<td>16. I apologize to persons I hurt</td>
</tr>
<tr>
<td>23. I work hard in everything I do</td>
<td>18. I do not feel remorseful when I do something wrong</td>
</tr>
<tr>
<td><strong>Unemotional</strong></td>
<td><strong>Uncaring</strong></td>
</tr>
<tr>
<td>6. I do not show my emotions to others</td>
<td>8. I am concerned about the feelings of others</td>
</tr>
<tr>
<td>1. I express my feelings openly</td>
<td>4. I do not care who I hurt to get what I want</td>
</tr>
</tbody>
</table>
10. I do not let my feelings control me
12. I seem very cold and uncaring to others
14. It is easy for others to tell how I am feeling
17. I try not to hurt others’ feelings
19. I am very expressive and emotional
21. The feelings of others are unimportant to me.
22. I hide my feelings from others
24. I do things to make others feel good

Psychometrics were based on a German sample of 1443 non-referred 13-18 year old adolescents. 774 were boys and 669 were girls. Internal consistency is reported with a coefficient alpha of .77 for the entire measure (Essau et al., 2006). Based on Exploratory Factor Analysis, three factors emerged: callousness, uncaring, and unemotional. All of these factors load onto the general factor of Callous-unemotional factor (Essau et al., 2006). A Confirmatory Factor Analysis was conducted and showed that the three factor model was an acceptable fit to the data (Essau, et al., 2006). The table below illustrates the items on the ICU broken down into the factors.

Table 7
The 24 items on the ICU broken into their factors

Uncaring

23. I work hard in everything I do
15. I always try my best

3. I care about how well I do at school or work

24. I do things to make others feel good

16. I apologize to persons I hurt

5. I feel bad or guilty when I do something wrong

13. I easily to admit to being wrong

17. I try not to hurt others’ feelings

*Callousness*

11. I do not care about doing things well

20. I do not like putting the time into doing things well

18. I do not feel remorseful when I do something wrong

7. I do not care about doing things well

9. I do not care if I get into trouble

12. I seem very cold and uncaring to others

21. The feelings of others are unimportant to me

4. I do not care who I hurt to get what I want

8. I am concerned about the feelings of others

*Unemotional*

6. I do not show my emotions to others

1. Impression management

22. I hide my feelings from others

14. It is easy for others to tell how I am feeling

19. I am very expressive and emotional
Internal consistency is reported with a coefficient alpha of .70 for the callousness factor, .73 for the uncaring factor, and a .55 for the unemotional factor (Essau et al., 2006). The unemotional factor is a marginal coefficient. There are five questions that pertain to the unemotional factor, which may explain lower internal consistency results (Kimonis et al. 2008). This test has limitations. First, it was conducted with a German sample; therefore, items were translated. A question of importance is how stable are the translations. Another limitation is that the sample consisted of all non-referred youth, who were mainly Caucasians (Kimonis et al., 2008). However, to address these limitations, Kimonis and colleagues (2008) administered the ICU to a juvenile delinquent sample of 188 boys and 60 girls ages 12 to 20 to examine the factor structure.

Kimonis and colleagues (2008) reported that Confirmatory Factor Analyses are consistent with the presence of the three independent factors previously mentioned that relate to a higher-order callous/unemotional dimension. Overall, the ICU correlated moderately with the APSD total score (r=.45). Further, the APSD correlated with the uncaring factor (r=.32) and the callousness factor (r=.36) at the p<.001 level. The unemotional factor did not correlate with the APSD total score (r=.14). The ICU was also correlated with conduct problems, aggression, and personality dimensions (Kimonis et al., 2008). To further explain the correlates, it is reported that aggression is strongly associated with the callousness factor. The uncaring factor is related to offending (Kimonis et al., 2008).

Munoz (2009) conducted an ICU study which yielded results similar to Essau and colleagues’ results. Cronbach’s alpha was computed for each subscale ranging from .76 to .84 for the callous, uncaring, and total scales. The internal consistency for the
unemotional scale was marginal to low yielding a .48. This study examined accuracy in labeling body poses conveying fear. Previous studies have measures this concept using other psychopathic measures. Consistent with previous studies, Munoz’s (2009) study reported that adolescents exhibiting CU traits have difficulty recognizing and labeling body poses of fear. This can indicate that the ICU is assessing the construct it was developed for. The ICU has been administered to both a community sample and adjudicated sample to examine the factor structure and correlations to the APSD.

Comparison of Tests

There are benefits and drawbacks to using likert scale measures compared to interview measures that should be taken into consideration. Scaled measures, such as the APSD and ICU are fairly brief and easy to use (Vaughn & Howard, 2005) and is time effective because they can be administered to multiple people simultaneously (Andershed et al., 2002). These measures may provide insight to teachers and parents who do not have training in identifying children with psychopathic characteristics (Andershed et al., 2002). The APSD also has a self-report version; this is beneficial because it assesses subjective dispositions, such as a lack of empathy that may be difficult to assess by outside observers. However, psychopathy rating scales also have potential drawbacks. There may be possible contaminations by response styles. There is also a tendency for youth to over-report trivial acts and underreport serious acts on self-report measures (Vaughn & Howard, 2005). For example, the APSD’s questions were designed for parent and teacher responses and are not optimal for self-report items (Falkenbach et al., 2003). Some items on the APSD self-report indicate negative connotations, which can lead to
defensiveness. It is difficult to examine the accuracy of assessing the traits (Lee et al., 2004).

Further, the concept of psychopathy is identified with dishonesty and deception, which may result in adolescents lying when answering the self-report questions. In self-report measures of psychopathy, such as the APSD, behavioral features tend to be captured, and these measures often fail to capture interpersonal and affective features (Murrie & Cornell, 2002). One possible explanation for the inability to assess personality characteristics is that adolescents that have psychopathic characteristics often lack insight into their behaviors. It may be hard for them to endorse items that they have never experienced.

The PCL-YV, as previously mentioned, is the gold standard. The PCL-YV is administered in an interview format, along with a review of the individual’s records. Many psychopathic individuals are inconsistent in their presentation; therefore, the sources of information can be compared and contrasted. In addition, the interviewer is free to discontent statements that seem unreliable or lack credibility (Murrie & Cornell, 2002). Moreover, the clinical report is not simply a matter of eliciting a checklist of items. For example, the subject is not asked directly if he or she is dishonest, but rather to describe life experiences in detail (Murrie & Cornell, 2002). However, it is difficult to spend hours assessing each youth and accessing confidential file information (Vaughn & Howard, 2005). People that wish to administer the PCL-YV need to be trained and establish inter-rater reliability. Time factors and training may be hard to accomplish in a school setting.
Multiple ways to collect information on psychopathic characteristics have been developed including interview format, and utilizing multiple informants, such as parents and/or teachers. Evaluators should consider each test measures strengths and drawbacks when conducting testing decisions.

Relatively few studies examining the comparison of the PCL-YV with other psychopathy measures have been conducted. The APSD items have been compared to the PCL-YV items by Lee, Vincent, Hart, and Corrado (2003) and Murrie and Cornell (2002). The pairing of the questions is listed in the table below.

Table 7

<table>
<thead>
<tr>
<th>PCL-YV Item</th>
<th>APSD Item</th>
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<tbody>
<tr>
<td>1. Impression Management</td>
<td>14. You act charming and nice to get things you want.</td>
</tr>
<tr>
<td>2. Grandiose Sense of Self-Worth</td>
<td>8. You brag a lot about your abilities.</td>
</tr>
<tr>
<td>3. Stimulation Thinking</td>
<td>16. You think you are better or more important than other people.</td>
</tr>
<tr>
<td>6. Lack of Remorse</td>
<td>10. You use or “con” other people to get what you want.</td>
</tr>
<tr>
<td></td>
<td>12. You feel bad or guilty when you do something wrong.</td>
</tr>
<tr>
<td></td>
<td>7. Shallow Affect</td>
</tr>
<tr>
<td>----</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>8. Callous/Lack of Empathy</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>9. Parasitic Orientation</td>
</tr>
<tr>
<td></td>
<td>10. Poor Anger Control</td>
</tr>
<tr>
<td></td>
<td>11. Impersonal Sexual Behavior</td>
</tr>
<tr>
<td></td>
<td>12. Early Behavior Problems</td>
</tr>
<tr>
<td></td>
<td>13. Lacks Goals</td>
</tr>
<tr>
<td></td>
<td>15. Irresponsibility</td>
</tr>
<tr>
<td></td>
<td>16. Failure to Accept Responsibility</td>
</tr>
<tr>
<td></td>
<td>17. Unstable Interpersonal Relationships</td>
</tr>
</tbody>
</table>
19. Serious Violations of Conditional Release  --- no parallel item
20. Criminal Versatility  --- no parallel item

Further, Lee and colleagues (2003) reported the APSD had low concurrent validity when compared to the PCL-YV. The partial correlation coefficient for the total score was .39. The partial correlation for the factors were as follows: ASPD Narcissism factor with PCL-YV Factor 1, .21; ASPD Callous/Unemotional factor with PCL-YV Factor 2, .24, and APSD Impulsivity with PCL-YV Factor 3, .37. All partial correlations were statistically significant at the p<.005. Lee reported that there appeared to be a method effect, thus concluding that the APSD did not assess psychopathy in a manner parallel to the PCL-YV. Murrie and Cornell (2002) also assessed the correspondence between the PCL-YV and the APSD. Results indicated a PCL-YV moderate correlation of .35 with the APSD staff ratings and .30 with APSD self-report ratings. Both values were significant at the p<.01 level. The APSD teacher-report ratings had a correlation of .04 with the APSD self-report, which is not significant. As previously mentioned, issues of social desirability and distortions regarding overt criminal behavior may be taken into consideration explaining moderate correlations reported (Vitacco et al., 2003). It should also be noted that the teacher version of the APSD was completed by staff members who were not teachers. Murrie and Cornell (2002) concluded that there was also little agreement between the items. Just nine of the items on the teacher report and six items on the APSD self-report were consistent with their PCL-YV counterparts.
Overall, authors believed that the APSD displayed limitations as a screening instrument for psychopathy. Further studies have examined the relations between psychopathy scores and violent behavior in 113 incarcerated adolescents on the APSD teacher and self-report versions and PCL-YV. The predictive relationship between APSD self-report scores and violence ($r=.25$) was only slightly less than that of the PCL-YV ($r=.35$) (Murrie et al., 2004). This indicates that there is a relationship between APSD self-report scores and violent behavior.

As previously discussed, the ICU has been compared to the APSD. Overall, the APSD correlated moderately with the ICU total score ($r=.45$), uncaring factor ($r=.32$), and the callousness factor ($r=.36$) at the $p<.001$ level. The unemotional factor did not correlate with the APSD total score ($r=.14$) (Kimonis et al., 2008). To date, there have been no known studies comparing the ICU to the PCL-YV.

Purpose of the Current Study

Recently, authors have strived to explain phenomenon in children exhibiting psychopathic characteristics. The empirical literature on adolescents with psychopathic characteristics is relatively small compared to the abundance of adult studies, however; studies provided evidence in linking adolescent psychopathy to adult psychopathy. Addressing psychopathy in youth is significant because youth demonstrating extreme antisocial behaviors are more likely to continue those behaviors into adulthood. The extreme antisocial behaviors accounting for the most severe group of offenders are psychopathic traits (Hare, 1993).

It is important to identify youth exhibiting psychopathic traits for prevention, management, intervention, and treatment implications. Measures have been developed
based on the PCL-R to identify youth exhibiting psychopathic characteristics. The PCL-YV is believed to be the preferred instrument in assessing youth psychopathy characteristics and a predominant predictor of acting out behaviors among youths in juvenile centers and psychiatric hospitals (Edens & Campbell, 2007). Existing studies have assessed for the presence of psychopathy in youth by administering the PCL-YV; however, research in this area is relatively new and somewhat limited (Forth et al., 2003). Recently, self-report measures (APSD and ICU) have been developed focusing on adolescent psychopathy, yet there are relatively few studies reporting their relationship to the PCL-YV. Further, there is a lack of studies comparing psychopathy test measures in non-incarcerated settings, such as schools. Most of the research utilizes samples of adolescent offenders; however, not all psychopaths are criminals in incarcerated settings (Hare, 1993).

Additional literature is needed to expand on research comparing adolescent psychopathy measures. Agreement among the construct is necessary in order to compare research findings and clinical reports utilizing different instruments. By examining CU traits in children attending schools, the distinction can be made between social maladjustment and emotional disturbance (Gacono & Hughes, 2004). Intervention early in life may be more effective since treatment with adults is not effective (Andershed et al., 2002). By identifying and intervening with youth, reducing antisocial behaviors and accurate classifications can be improved (Vaughn & Howard, 2005). Further, this study will examine if the psychopathy questionnaires are measuring the same constructs as the PCL-YV and examine the relations between psychopathy scores across different measures in non-adjudicated youth. Results can be applicable within the school setting to
help educators know and understand which test is best suited to administer when examining psychopathic traits.

Research Questions and Hypotheses

Several research questions were examined in the current study. Based on previous research supporting the PCL-YV as the gold standard for measuring psychopathy in youth, several hypotheses were formed. The APSD was designed to assess psychopathic characteristics in adolescents and is a “downward extension” from the PCL-YV (Lee et al., 2003). Limited research has been conducted on the comparison of the APSD and the PCL-YV, particularly in community settings. To date, literature with adolescent offenders report low to moderate correlations between the measures. More recently developed, the ICU was based on the callous/unemotional scale of the APSD to help better capture these traits. However, there are no known studies to date comparing the ICU to the PCL-YV. Due to lack of research, it is unclear how these three measures compare to each other. Further, there have been no known studies comparing these test measures in a school setting.

Based on articles of similar content, the current study hypothesizes (Lee et al., 2003; Murrie & Cornell, 2002) that the APSD will demonstrate moderate criterion validity when compared to the PCL-YV. The ICU has never been compared to the PCL-YV. Due to lack of research in this area, common variance of the APSD and ICU with the PCL-YV cannot be hypothesized. However, it is possible that the APSD and the ICU will have higher variance combined when comparing the measures to the PCL-YV. The ICU’s questions are based on the callous/unemotional questions from the APSD. Overall, this study attempts to add to the literature base to develop a better understanding
of the recent measures developed for psychopathy in comparison to the PCL-YV.

Further, this study will also be conducted with non-adjudicated youth in a school setting.
Youth who demonstrate callous and unemotional traits along with aggressive antisocial behaviors are more likely to continue those acts into adulthood. Similarly there is support in the literature that the psychopathy construct measured in adulthood are evidenced in youth. For example, psychopathy traits measured by the PCL-R, noted as the gold standard assessment measure of psychopathy in adults has been slightly modified for use with youth (i.e., PCL-YV). However, research in this area is relatively new and there are a limited number of studies dedicated to its study.

Additionally, several self, teacher, and parent report questionnaires have been developed to measure psychopathy in youth including the APSD and ICU. To date there are limited studies examining the relationship of these measures to the PCL-YV. The factor structure was examined. The comparison of these test measures to the PCL-YV was also examined with the data collected from an alternative school setting where youth whose aggressive behavior has required direct, focused and sustained intervention to benefit from their educational environment. Documenting the similarities and differences in regard to the construct of psychopathy is necessary in order to compare research findings and clinical reports using these different instruments.

Participants and Settings

The current study obtained a database at an alternative education school in Pittsburgh, Pennsylvania. The data was collected as part of comprehensive special education evaluations. The school conducted evaluations to assess behavioral, academic, and personality variables for special education placement. The current study examined selected measures from the evaluations with permission of the school. The database included information on approximately 200 students. The sample was a convenience
sample of children ages 13-20 that were given the measures as a part of their special education assessment. Exclusionary criteria included thought disorders, mental retardation, and/or autism spectrum disorders.

The charter school services several school districts in the surrounding metropolitan area. Students at the school have been removed from their home school districts because they are on probation. Currently 200 students are enrolled in the school. Approximately 65% of the students receive special education services. The students’ length of stay at the school varies. The length of stay is determined by the individual students’ needs, probation officers, and administrative staff. Students may be enrolled until they graduate high school.

The school provides a curriculum for grades 8-12. The classrooms are based on academic, behavioral, and emotional concerns. Therefore, classrooms are not based on grade level. The students are scheduled for Math, Social Studies, Science, English, and Physical Education/Health.

There are two semi-self-contained classrooms within the school. The first semi-self-contained classroom is for students in emotional support, and the other classroom is for regular education students who have failed to succeed in a general education classroom.

Procedures

The current study was a secondary analysis of a pre-existing database; therefore, the current study did not recruit participants. The information was collected during the 2007-2008, 2008-2009, and 2009-2010 school years. The information collected was used
as a part of the evaluation procedure for special education placement. The total testing time was conducted over multiple meetings lasting approximately three hours.

**Informed Consent Procedures**

The local educational agency administered informed consent procedures as mandated by the special education law. Consent is maintained at the charter school. The current study is a secondary analysis of pre-existing data. Approval from the Duquesne University Institutional Review Board (IRB) was obtained for the use of this data for the current study.

**Instrumentation**

The current study used a portion of the tests that have been administered by the school. Advanced PhD graduate students administered the measures according to the test manuals and were supervised by an independently certified school psychologist. The PCL-R and PCL-YV included inter-rater reliability.

The test measures included in the current study are the Psychopathy Checklist Revised (PCL-R), the Psychopathy Checklist Youth Version (PCL-YV), the Antisocial Personality Screening Device (APSD), and the Inventory of Callous and Unemotional Traits (ICU).

**Psychopathy Checklist (PCL-R)**

Assessment techniques were first developed to identify adults with psychopathic characteristics. The original PCL consisted of 22 behavioral and personality items which are completed based on interview and file information. Items are rated on a 3-point scale (0= item doesn’t apply, 1=item applies somewhat, 2= item definitely applies). The items are summed for a total score ranging from 0-40 that reflects the degree to which an
individual resembles the prototypical psychopath (Cook et al., 1999). A cutoff score of 30 is used to determine psychopathy. The test is divided into two factors. Factor 1 describes a constellation of personality traits and Factor 2 describes antisocial behavior. Factor 1 correlates with the classic clinical description of psychopathy (Hare et al., 1990). Factor 2 correlates with scales related to socialization and criminal behavior. Hare and colleagues (1990) concluded that the two factors measure important elements and scales based only on antisocial behavior are inadequate. The Psychopathy Checklist-Revised (PCL-R; Hare, 1985) differs from the original PCL because two items were omitted. These items were “previous diagnosis as a psychopath” and “alcohol not direct cause of antisocial behavior” because of low correlations with the total score (Hare et al., 1990).

The normative sample is comprised of 5,408 North American male offenders and 1,246 North American male forensic psychiatric patients (Acheson, 2005). Inter-rater reliability for single ratings, the mean of two independent ratings, and an item-total correlation were conducted for all of the items. 7 of the 60 item-total correlations are considered low, displaying correlations below .3 (Acheson, 2005). Alpha coefficients for item total scores and the two factor scores were .73 or higher. Hare and colleagues (1990) concluded that the PCL-R measures the same construct as the original PCL, verifying that it is a reliable instrument in the measure of psychopathy for the forensic male population.

**Psychopathy Checklist-Youth Version (PCL-YV)**

The most commonly researched and utilized psychopathy measure for youth is the Psychopathy Checklist-Youth Version (PCL-YV). The PCL-YV is in interview format and takes approximately 60-90 minutes to administer. A review of the adolescent’s clinical records is used to help guide the interview (Fleenor, 2005).
The normative sample consisted of 2,438 adolescents from Canada, the United States, and the United Kingdom. Data was collected from 19 different subsamples including institutionalized offenders, offenders on probation or in open custody, and youth in the community (Fleenor, 2005). The PCL-YV is structured around the PCL’s original 20 items, but is more responsive to roles and situations that characterize adolescents (Neumann et al., 2006; Kosson et al., 2002). The wording of the questions, criteria used to score questions, and sources of information have been modified to ensure the contexts in which adolescents function based on developmental norms (Neumann et al., 2006). For example, the PCL-YV tailored and reintroduced item 9 (parasitic lifestyle) and item 17 (many short term marital relationships) because adolescents typically have a limited work history and few marital relationships (Forth & Mailloux, 2000). Item 18 and item 20 were also modified because adults typically have more contact with judicial systems. The adolescent scales also reflected greater involvement with families, peers, and school.

The PCL-YV’s questions were first divided into 2 factors or constructs. Factor 1 reflected the interpersonal characteristics and factor 2 reflected the antisocial lifestyle (Forth, 1995). For example, the PCL-YV includes behavioral features that are highly correlated with CD and ASPD, but also included affective features that underlie the behaviors and correlate with narcissistic and histrionic personality disorders (Gacono & Hughes, 2004).

Studies found the PCL-YV to be reliable and internally consistent (Forth, 1995; Gretton et al., 2001). Its two factor structure is highly similar to that of the PCL-R (Brandt, Kennedy, Patrick, & Curtin, 1997; Forth, 1995). Mean inter-rater reliability
estimates of the 20 PCL: YV items across three settings (institutional, probation, and community) are mainly above .70. The internal consistency (Cronbach's alpha) estimates for the PCL:YV total score range from .85 to .94 across the settings. The mean inter-item correlations for the instrument range from .23 to .43 (Fleenor, 2005).

**Antisocial Process Screening Device (APSD)**

The Antisocial Process Screening Device (APSD), formerly known as the Psychopathy Screening Device (PSD), was developed by Frick and Hare in 2002. The APSD was modeled on the PCL-R items (Farrington, 2005). This has been used in more studies than any other psychopathy self-report measures (Vaughn & Howard, 2005). The APSD is a 20 item informant completed behavior rating scale for children ages 6-13, but is often used with populations up to 18 years of age (Johnstone & Cooke, 2005). Test norms are based upon a community sample of 1,120 children from the third, fourth, sixth, and seventh grades from two southeast school districts (Ellen, 2005). The mean sample age was 10.63 years old (SD=1.57). 52.3% were girls and most of the children were either Caucasian (77.5%) or African American (18.4%). This questionnaire does not involve examiner for administration (Gacono & Hughes, 2004).

The rating scale has versions for the child, parent, and teacher. The scale is a likert scale based on a three point ranking (0=not true at all, 1=sometimes true, 2=definitely true). The APSD was originally divided into 3 dimensions: Callous/Unemotional (6 items), Narcissism (7 items), and Impulsivity (5 items) (Gacono & Hughes, 2004; Frick & Hare, 2002). However, Frick’s (2004) sample of clinic referred children revealed 2 factors reported as the Impulsivity/Conduct Problems scale (1/CP)
which consisted of 10 items and the Callous-Unemotional (CU) factor which consisted of 6 items.

This questionnaire identifies a subgroup of youth exhibiting CU traits (Lorenz & Newman, 2002). Psychometrics were determined by examiners. Total score values were above .85 whereas values for the three dimensions ranged from .64 to .89. There were moderate correlations between parent and teacher ratings (.43 for the total scale) (Ellen, 2005). Validity studies indicated that APSD total scores were moderately correlated with DSM-IV symptoms of conduct problems, higher rate of police contacts, and increased school suspensions.

*The Inventory of Callous-Unemotional Traits (ICU)*

The Inventory of Callous-Unemotional Traits (ICU; Frick, 2003) was created to provide an assessment of CU traits. The ICU was based on the CU scale of the APSD (Frick & Hare, 2001; Essau et al., 2006). Four out of 6 items loaded consistently on the CU scale and were used to create the ICU (Frick, et al., 2000). These items included were: “Is concerned about how well he/she does school or work,” “Feels bad or guilty when he/she does something wrong,” “Is concerned about the feelings of others,” and “Does not show feelings or emotions.” From these items, 3 positively and 3 negatively worded items were developed to create a 24 item scale that is divided into 3 subscales: callousness, unemotional, and uncaring (Essau et al., 2006). These items are based on a four point likert scale ranging from “0” (“Not at all true”) to “3” (“Definitely true”). Internal consistency for the overall test had a coefficient alpha of .77 (Essau et al., 2006). Internal consistency is reported with a coefficient alpha of .70 for the callousness factor, .73 for the uncaring factor, and a .55 for the unemotional factor (Essau et al., 2006). The
unemotional factor exhibits a marginal coefficient because of the small amount of items that load onto it. The 3 scales demonstrated moderate inter-correlation. The callousness factor correlated with the unemotional factor at .24 (p<.001) and uncaring factor at .27 (p<.001). The uncaring factor correlated with the unemotional factor at .08 (p<.001) (Essau et al., 2006). The total ICU scores reported significant main effects for gender and age (F(1,1282)=218.36, p<.001).

Research Design

An a-priori statistical analysis was first conducted to determine the number of participants needed to achieve adequate power to high power with medium and high effect sizes. Based on previous sample size research for factor analysis, results varied per study. According to Guadagnoli and Velicer (1988) solutions that have several high loading marker variables do not require such large sample sizes. The required sample size depends on the magnitude of population correlations and the number of factors. For example, if there are strong correlations and a few distinct factors, a smaller sample size is adequate (Tabachnick & Fidell, 2007). It is reported that hypothetical and real research examples illustrate a sample size of at least 50 and no more than 100 subjects is adequate to represent and evaluate psychometric properties of social construct measures (Sapnas & Zeller, 2002).

There are two categories of general recommendations in terms of minimum sample size in factor analysis. One category specifies that the number of cases (N) is important; while the other category believes that the subject-to-variable ratio (p) is important. There are a wide range of recommendations throughout the literature (MacCallum, Widaman, Xhang, & Hong, 1999). These recommendations based on
sample size vary from 100 cases to 500 cases (Gorsuch, 1983; Huchesin & Sofroniou, 1999; Comrey & Lee, 1992). For example, Gorsuch (1983) reported the rule of 100 cases for an adequate sample size. Further, Hatcher (1994) also reported 100 cases are adequate or the number of subjects should be five times the number of variables. Other researchers reported that larger sample sizes provide more adequate results. Comrey and Lee (1992) reported that 100 cases tend to be poor, 200 cases are fair, 300 cases are good, 500 cases are very good, and 1000 or more cases are believed to be excellent.

Other recommendations included factor analysis of subjects-to-variables ratios and reported sample sizes ranging from 10:1 through 2:1. For example, some researchers believe a rule of 10 cases for each item in the instrument being used is adequate (Garson, 2008; Marascuilor & Levin, 1983). Further, some research believes 5 subjects to each variable is sufficient (Bryant & Yarnold, 1995). Other researchers believe that a ratio of 3:1 to 6:1 is sufficient if the lower limit of variables to factors ratio is three to six; however, the absolute minimum sample size for these cases is suggested to be no fewer than 250 cases.

Costello and Osborne surveyed two years of PsychINFO articles that reported some form of principal component analysis (PCA) or EFA. They reported that researchers conduct factor analyses using relatively small sample sizes (Costello & Osborne, 2005). 62.9% of the studies in their survey performed analyses with a subject-to-item ratio between 10:1 and 5:1. Costello and Osborne concluded that 1/6th of the studies reported ratios of only 2:1 or less per item. Strict rules regarding sample size for EFA have mostly disappeared and adequate sample size is partly determined by the nature of the data including examining high communalities without cross loadings, and/or several variables.
loading strongly on each factor (Costello & Osborne, 2005). This hypothesis was further explained by MacCallum and colleagues (1999) indicating that when there are high communalities, the impact of the source of sampling error will be small regardless of the sample size. However, as the communalities become lower (more unique factor weights), then the sampling error is more strongly influenced by sample size (MacCallum et al., 1999). Therefore, the quality of the factor analysis will improve as the communalities increase (MacCallum et al., 1999). Item communalities are considered to be high if they are .80 or greater (Costello & Osborne, 2005). This is unlikely to occur in real data; more common magnitudes in the social sciences are low to moderate communalities of .40 to .70 (Costello & Osborne, 2005). Tabachnick and Fidell (2007) cite a minimum of a .32 factor loading, which equates to approximately 10% of overlapping variance with the other items in the factor. Overall, based on the population of individuals this examiner used, a large sample size will be difficult to obtain.

After the EFA is conducted, the factors will then be entered in SPSS to conduct factor analyses and multiple regression analyses based on the hypotheses formulated. An a-priori statistical analysis was conducted to determine the number of participants needed to achieve adequate power and high power with medium and high effect sizes using 3 predictors and then 4 predictors based on PCL-YV factor models found in the literature. The number of factors used is based on PCL-YV results from this examiner’s data.

Table 8

A priori Statistical Analysis for Regression

<table>
<thead>
<tr>
<th>Effect Size</th>
<th>Alpha</th>
<th>Power</th>
<th>Predictors</th>
<th>N</th>
</tr>
</thead>
</table>

83
A conservative approach of the power analysis was taken because of the limited research in this area. Assuming a medium effect size, a-priori results suggested a sample size between 77 and 119 for 3 factors and 85 and 129 for 4 factors.

The school provided the researcher with SPSS and excel files with the identifying information removed. Descriptive data (e.g., age, race) are reported in terms of aggregated means and standard deviations.

Threats to internal validity include a lack of random selection of participants. Experimental bias was controlled by having two independent raters provide PCL-YV ratings. Participants are also representative of a single geographic region which may pose a threat to external validity.

Data Analysis

Based on the lack of research comparing the PCL-YV to psychopathy self-report measures, research questions were formed. All analyses were run using SPSS 14.0. Each research question and its appropriate analyses are discussed below.
First, pre-analyses were run. Descriptive statistics that included means and standard deviations were run for each of the measures (PCL-YV, APSD teacher-report, APSD self-report, and ICU self-report).

Inter-rater reliability was obtained for the two raters. The data was also assessed for normality through the SPSS program before the main analyses were run. Kurtosis, normal distribution, outliers, and skewness of the data were examined. Normally distributed refers to the residuals fitting the normal curve. Data is considered to be normally distributed if the values are less than an absolute value of 1.5 (Tabachinick & Fidell, 2007). Outliers were examined through Cook’s distance. Influential points were defined as values as a Cook’s distance that was greater than one (Tabachinick & Fidell, 2007).

Other assumptions were also tested. For example, independence of observations was also assessed. Independence of observations indicate that the responses of the participants are not related. Each participant tested alone or if in groups, they did not have any contact with each other. Therefore, this assumption is satisfied (Stevens, 1999).

Next, multicollinearity was assessed for the factor analyses and regression analyses. This occurs when there are moderate to high inter-correlations that exist among the predictors indicating that the predictors are accounting for much of the same variance causing the size of R to be limited. When this occurs, it is difficult to come up with each predictor’s regression coefficients. Multicollinearity is also problematic because it limits the researcher’s ability to identify the variance contributed by a single variable; it limits the size of R because it takes up too much of the variance on the independent variables, and it increases in regression coefficients (Stevens, 1999). Multicollinearity was
investigated through the examination of simple correlations among the predictors from the correlation matrix and the variance inflation factors for the predictors. If multicollinearity is expected, there are different methods that may be used to address the issue. For example, predictors that are highly correlated can be combined or a technique called rigid regression may be used (Stevens, 1999).

Homogeneity of variance/covariance was also checked. This refers to having the group sizes equal or approximately equal (Stevens, 1999). In other words, if the variances of the populations are the same for each group, then the homogeneity of variance/covariance is satisfied. This does not occur when the group sizes are not equal. This assumption is measured by Levene’s statistic (Stevens, 1999).

Lastly, Linearity was also checked. Linearity refers to whether or not the relationship between two variables of interest fit on a straight line. This assumption is assessed using a scatter plot of residuals. If the assumption is met, the data will be scattered evenly along a horizontal line (Stevens, 1999).

**Research Questions**

*Research Question 1*: What is the factor structure of psychopathy as assessed by the PCL-YV, APSD self-report, APSD teacher-report, and ICUself-report in a community sample of children attending an alternative education school?

*Hypothesis 1*: The PCL-YV factor structure is still under investigation. However, based on the previous literature supporting different factor models, it was hypothesized that data will fit a 3 or 4 factor model (Forth & Mailloux, 2000; Cooke & Michie, 2001; Hare & Neumann, 2006).
Each APSD version has been identified as having three factors: callous-unemotional, narcissism, and impulsivity (Frick & Hare, 2002). It was hypothesized that the APSD self-report and teacher-report version will yield 3 factors. Based on previous factor structure research, it was hypothesized that the ICU self-report will be divided into three factors: uncaring, unemotional, and callousness (Essau et al., 2006).

*Statistical Method.* An Exploratory Factor Analysis (EFA) was conducted to discover which variables are correlated and to form subsets that are relatively independent of each other. An EFA is used to uncover the latent structure of a relatively large set of variables. In this case the variables are each of the measure’s items. Factor analysis takes a large number of variables and reduces them to a smaller number of factors. The assumptions for factor analyses were:

1. The data was normally distributed
2. Observations were independent of each other
3. Equality of variance/covariance matrices and Homogeneity of Covariance
4. Data is linear
5. There is not multicollinearity

Linearity was checked by looking at the scatterplots of the pairs of variables. They should also be at least moderately correlated with each other. Data was analyzed for normal distribution, kurtosis, outliers and skewness, and when appropriate was corrected. Normality was also checked using Cook’s Distance (Stevens, 1999). Multicollinearity was tested using Tolerance and the VIF factor. Levine’s was used for homogeneity of variance. These results were examined to determine how much of the variance is accounted for by the factors.
Research Question 2: Which model(s) provide the best factor structure for the PCL-YV based on the current sample: the 3-factor or 4-factor model?

Hypothesis 2: Based on previous research, literature supports the 3 and 4 factor models (Forth & Mailloux, 2000; Cooke & Michie, 2001; Hare & Neumann, 2006). The 4 factor model is more inclusive. Therefore, it is hypothesized that the 4-factor solution will provide the best fit for this sample.

Statistical Method: A Confirmatory Factor Analysis (CFA) is used to confirm or reject a theory. CFA’s seek to determine if the number of factors and the loadings of measured variables on them conform to what is expected on the basis of pre-established theory. A CFA will be conducted with the data from this current study’s sample by specifying 3 factors and then 4 factors. The variables used in factor analysis should be linearly related to each other. This can be checked by looking at the scatterplots of pairs of the variables. They should also be at least moderately correlated with each other.

Research Question 3: How much common variance exists between the PCL-YV total score and each of the following test measures: APSD self-report, APSD teacher-report, and the ICU self-report?

Hypothesis 3: It is hypothesized that common variance will exist among the measures total scores. The APSD was designed based on the PCL and the ICU self-report was designed based on the APSD. The ICU self-report has been compared to the APSD self-report. Overall, the ICU self-report correlated moderately with the APSD self-report total score (r=.45), uncaring factor (r=.32), and the callousness factor (r=.36) at the p<.001 level. The unemotional factor did not correlate with the
APSD (r=.14) (Kimonis et al., 2008). To date, there have been no known studies comparing the ICU to the PCL-YV. Lee and colleagues (2003) examined the APSD self-report with the PCL-YV. The partial correlation coefficient for the APSD self-report total score was .39 when compared to the PCL-YV. The partial correlation for the factors were as follows: APSD Narcissism factor with PCL-YV factor 1, .21; APSD Callous-Unemotional with PCL-YV factor 2, .24, and APSD Impulsivity with PCL-YV factor 3, .37. All partial correlations were statistically significant at the p<.005. Further, Murrie and Cornell (2002) reported that the total score on the PCL-YV and APSD staff version indicated a .35 correlation, while the total score on the APSD self-report indicated a .30 correlation.

Statistical Method: A stepwise multiple regression was attempted to examine the third research question investigating the criterion related validity of the APSD self-report, APSD teacher-report, and the ICU self-report when compared to the PCL-YV total score. When conducting stepwise multiple regression, the independent variable best correlated with the dependent variable is included in the first step. In the second step, the remaining independent variable with the highest partial correlation with the dependent variable is added next. This process is repeated until the addition of the remaining independent variables does not increase the R-squared by a significant amount. This model allows for the constant assessment of each predictors importance. This method is utilized in this study because it allows each predictor to be entered into the model in terms of their correlations and then removed when they did not contribute to the variance in the dependent variable examined. However, if a stepwise analysis did not yield significant results, the enter analysis was used. Criterion
validity is also referred to as instrumental validity. Criterion validity demonstrates the accuracy of a measure by comparing it with another measure that has already been demonstrated as valid. The general purpose of multiple regression is to learn more about the relationship between predictor variables and a dependent or criterion variable. Multiple regression further clarifies the predictor constructs. The PCL-YV is considered the “gold standard” of measuring psychopathy in adolescents based on its reliability and validity. All of the screening measures were entered into a regression analysis to predict PCL-YV scores. This analysis examined how much common variance exists between the PCL-YV total score and each of the following questionnaire total scores: APSD self-report, APSD teacher-report, and the ICU self-report. The independent variables were the questionnaires previously mentioned. Multiple Regression allows for further clarification of the predictor constructs and will clarify these constructs in the current study’s sample.

Assumptions: As stated previously, it is important to recognize the problem of multicollinearity. Further, there are four main assumptions that apply to multiple regression analysis. 1) Linearity: assumes that the relationship between variables is linear. Practically, this assumption can almost never be confirmed; however, multiple regression procedures are not greatly affected by deviations from this assumption. Nonlinearity can be assessed by examining the residual plots in the analyses involving a predicted variable or from bivariate scatterplots between pairs of variables (Tabachnick & Fidell, 2007). If there is curvature in the relationships, the data can be transformed or allow for nonlinear components. 2) Normality: assumes that the residuals are distributed normally. However, multivariate normality is
assumed when statistical inference is used to determine the number of factors (Tabachnick & Fidell, 2007). Most tests, such as the F-test, are believed to be robust with regard to violations of this assumption. Reviewing distributions of the major variables by examining histograms and normal probability plots are conducted. 3) Independence: This assumes that participants are responding independently of one another. 4) Homoscedasticity: assumes the variance of errors across all values of the predictors is constant. Residual plots are examined for this assumption.

Multiple Regression was selected based on the ability to identify constructs that can predict or explain the variance in other constructs. This analysis was used to demonstrate the accuracy of a measure by comparing it to other measures which have been demonstrated as valid. This allows the APSD and ICU self-report to be assessed in order to examine if these tests are measuring the same constructs as the PCL-YV and to what extent.

Research Question 4: Is there a relationship between the corresponding items on the APSD self-report and the APSD teacher-report items?

Hypothesis 4: Based on past literature, there will be little agreement between the items. Murrie and Cornell (2002) reported that when examining a juvenile offender population, none of the items on the APSD self-report correlated with their counterpart item on the teacher report.

Statistical Method: A correlation analysis was conducted to examine the items on the APSD self-report with their corresponding items on the APSD teacher-report version. Correlations are used to measure the association between variables.
Research Question 5: Is there a relationship between the corresponding items on the APSD self-report and the APSD teacher-report with the PCL-YV psychopathy items measure?

Hypothesis 5: Based on previous literature, it is hypothesized that the APSD items will exhibit little agreement with their PCL-YV counterpart items. Murrie and Cornell (2002) reported that 9 of the staff items correlated with the PCL-YV items, while only 6 self-report items correlated with their PCL-YV counterparts. Further, Lee and colleagues (2003) reported that only one of the APSD self-report item corresponded with its PCL-YV counterpart.

Statistical Method: A correlation analysis was conducted examine the items on the APSD self-report and the APSD teacher-report version with their corresponding item on the PCL-YV. Correlations are used to measure the association between variables.
CHAPTER 4

RESULTS

This chapter describes the results from the analyses explained in chapter 3. Described below are the descriptive statistics and five main analyses. Each of the analyses were based upon the five research questions. The results section is organized as follows. Descriptive statistics are present for each of the test measures used in this study. Descriptive statistics describe and summarize data. The descriptive statistics utilized in this current study included means, standard deviations, normality, and internal consistency for each variable in the study.

Statistical assumptions are then examined for each research question to assure the appropriateness of running the main analyses for each hypothesis. Lastly, the statistical results for each question are presented.

Descriptive Statistics

Participants were obtained from a pre-existing database. Due to incomplete data and exclusionary criteria, there were 74 participants from the original sample of 206 participants, left for analyses. Participants with Mental Retardation, Autism Spectrum Disorders, and psychotic disorders were excluded from the study. In addition, several participants were not administered the PCL-YV, ICU, and/or APSD. Therefore, they were removed due to an incomplete data set. The final sample ranged in age from 14 to 19 years of age with a mean age of 16.89 years. The ethnic breakdown of the sample were 61 (82.4%) African American, 7 (9.4%) Caucasian, 2 (2.7%) Hispanic, and 4 (5.4%) Bi-racial students.
Pre-Analyses

Pre-Analyses were run prior to the five main analyses. The inter-rater reliability of the PCL-YV was calculated. Using 25 (33.33%) of the 74 participants, a Pearson's correlation coefficient of .95 was determined. This is comparable to the inter-rater reliability of the PCL-YV manual value of .9-.92 (Forth et al., 2003).

Descriptive statistics were run with each of the predictor variables and the dependent variable. The means, standard deviations, normality statistics, and internal consistency of each instrument are reported in the table below. All of the assessment measures indicate good internal consistency, which is a form of reliability.

Table 9

Means, Standard Deviations, Skew, and Kurtosis, and internal consistency of the PCL, ICU, APSD Teacher-report, and APSD Self-report

<table>
<thead>
<tr>
<th>Measure</th>
<th>M</th>
<th>SD</th>
<th>Skew</th>
<th>Kurtosis</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCL-YV</td>
<td>18.03</td>
<td>5.86</td>
<td>-.060</td>
<td>0.464</td>
<td>.770</td>
</tr>
<tr>
<td>ICU</td>
<td>31.09</td>
<td>8.31</td>
<td>.182</td>
<td>-.492</td>
<td>.725</td>
</tr>
<tr>
<td>APSD Teacher</td>
<td>20.64</td>
<td>5.40</td>
<td>-.085</td>
<td>-.719</td>
<td>.731</td>
</tr>
<tr>
<td>APSD Self</td>
<td>18.18</td>
<td>5.29</td>
<td>-.288</td>
<td>.345</td>
<td>.715</td>
</tr>
</tbody>
</table>


First, the assumptions of independence, homogeneity of variance, and normality were checked for the measures used in question 1 and 2. Assumptions were
also checked for each of the multiple regression analyses that were run in question 3. The following information indicates how the assumptions for each research question were checked.

The independence assumption is considered and determined not to be violated based on the design of the study and the administration of the tests.

The normality assumption is met by examining the distribution of residuals around a normal curve. Histograms and normal probability plots are examined for each dependent variable. Further, skewness and kurtosis were examined. The method suggested comparing the skewness and kurtosis values with twice the standard error of skewness and kurtosis including the range from positive to negative. If the value for skewness and kurtosis fell within this range, then it is considered not seriously violated (Price, 2000). For example, the skewness value for the variable PCL-YV Factor 1 was .190 and the standard error was .279. Two times the standard error \((2 \times .279)\) equals .558. Therefore, the range of skewness values should fall between -.558 to .558. If the values do fall between those numbers, then skewness is not seriously violated. However, if it is violated, there are many suggestions to correct normality such as removing the cases that are outliers (Tabachnick & Fidell, 2007).

Linearity was investigated in order to determine whether the relationship between the independent and dependent variables were linear. This was accomplished through the examination of plots that displayed the residuals verses the predicted dependent variable. The linearity assumption is satisfied by examining if the data points are scattered evenly along a straight line.
The homoscedacity can be seen when the data points scatter randomly around a horizontal line at zero; therefore, there is no violation of homoscedacity. If there is moderate correlation among the variables, multicollinearity was assessed by examining the Variance Inflation Factor (VIF). The VIF for the independent variables were all below 10 indicating that multicollinearity is not an issue.

Research Question One Results

PCL-YV EFA

The first main analysis examined an Exploratory Factor Analysis to help understand the factor structure of the PCL-YV in this current study’s sample. For the factor analysis of the PCL-YV, each of the following assumptions were met: normality, independence, linearity, and multicollinearity. Theoretically, there are two competing models of psychopathy in adolescents. These are the 3-factor and 4-factor models. Principal Axis factor analysis with Promax rotation was conducted to examine the underlying structure of the 20 items. The Scree plot identified seven factors before leveling out. These seven factors accounted for 67% of the variance. However, factor 7 only had one item loading (item 16: Failure to accept responsibility). Therefore, factor 7 was eliminated. The six remaining factors accounted for 60% of the variance. The Scree plot is presented in Figure 1 and the variance accounted for by each of the factors is presented in Table 10.

Overall, the model loaded 19 out of the 20 items. Each item loaded with a .4 cutoff or higher. A .4 cutoff was chosen by the researcher based on the goal of keeping as many items in the model with minimal cross loadings. Item 11 (Impersonal sexual behavior) did not load onto any of the factors. However, item 17 (Unstable interpersonal
relationships) loaded onto both factor 2 and factor 6. Item 18 (Juvenile delinquency) also cross loaded with factor 1 and factor 2. In order to measure the reliability of the factors defined by the EFA, internal consistency was measured for each factor. Cronbach’s alpha was used to examine how well the items in each factor are related to each other, or in other words, are examining the same construct. Further, the KMO statistic was determined. The KMO statistic measures the sampling adequacy and examines the appropriateness of factor analysis. Values of .5 to 1.0 are viewed as acceptable. The PCL-YV EFA had a KMO statistic of .502, which is considered “good.” Table 11 lists the six factors with each of the loaded items along with the Cronbach’s alpha for each of the factors.

![Scree Plot](image)

**Figure 1**. Scree plot of Factor Analysis of the PCL-YV

**Table 10**

*Total Variance Accounted for by Each Factor of the PCL-YV*
<table>
<thead>
<tr>
<th>Component</th>
<th>Total</th>
<th>% of Variance</th>
<th>% Cumulative Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.502</td>
<td>12.512</td>
<td>12.512</td>
</tr>
<tr>
<td>2</td>
<td>2.126</td>
<td>10.629</td>
<td>23.141</td>
</tr>
<tr>
<td>3</td>
<td>2.054</td>
<td>10.272</td>
<td>33.413</td>
</tr>
<tr>
<td>4</td>
<td>1.907</td>
<td>9.537</td>
<td>42.950</td>
</tr>
<tr>
<td>5</td>
<td>1.883</td>
<td>9.415</td>
<td>52.365</td>
</tr>
<tr>
<td><strong>6</strong></td>
<td>1.594</td>
<td><strong>7.970</strong></td>
<td><strong>60.335</strong></td>
</tr>
<tr>
<td>7</td>
<td>1.352</td>
<td>6.758</td>
<td>67.093</td>
</tr>
</tbody>
</table>

Table 11

**Six Factor Model of the PCL-YV with internal consistency alpha rates**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Factor 1</strong></td>
<td></td>
</tr>
<tr>
<td>19. Serious violation of conditional release (.834)</td>
<td>.707</td>
</tr>
<tr>
<td>18. Juvenile Delinquency (.553)</td>
<td></td>
</tr>
<tr>
<td>10. Poor anger control (.550)</td>
<td></td>
</tr>
<tr>
<td>20. Criminal versatility (.506)</td>
<td></td>
</tr>
<tr>
<td>15. Irresponsibility (.440)</td>
<td></td>
</tr>
<tr>
<td><strong>Factor 2</strong></td>
<td></td>
</tr>
<tr>
<td>9. Parasitic orientation (.732)</td>
<td>.631</td>
</tr>
<tr>
<td>13. Lacks goals (.540)</td>
<td></td>
</tr>
<tr>
<td>17. Unstable interpersonal relationships (.435)</td>
<td></td>
</tr>
<tr>
<td>4. Pathological lying (.427)</td>
<td></td>
</tr>
<tr>
<td><strong>Factor 3</strong></td>
<td></td>
</tr>
<tr>
<td>7. Shallow affect (.757)</td>
<td>.666</td>
</tr>
<tr>
<td>6. Lack of remorse (.645)</td>
<td></td>
</tr>
<tr>
<td>8. Callous/lack of empathy (.619)</td>
<td></td>
</tr>
<tr>
<td><strong>Factor 4</strong></td>
<td></td>
</tr>
<tr>
<td>14. Impulsivity (.791)</td>
<td>.546</td>
</tr>
<tr>
<td>3. Stimulation seeking (.515)</td>
<td></td>
</tr>
<tr>
<td><strong>Factor 5</strong></td>
<td></td>
</tr>
<tr>
<td>1. Impression management (.694)</td>
<td>.585</td>
</tr>
<tr>
<td>2. Grandiose sense of self-worth (.682)</td>
<td></td>
</tr>
<tr>
<td>5. Manipulation for personal gain (.466)</td>
<td></td>
</tr>
<tr>
<td><strong>Factor 6</strong></td>
<td></td>
</tr>
</tbody>
</table>

98
There are strengths and weaknesses to this model. First, this model identified six factors instead of the 3 or 4-factor models identified in previous research (Cooke & Michie, 2001; Neumann & Hare, 2005). However, the 6-factor model accounted for more variance (60%) than a 3 or 4-factor model. Factor 6 did not have good internal consistency. Based on the Cronbach’s alpha of -.538, the two items comprised of this factor were further examined. The majority of the scores for item 12 (Early behavior problems) were rated lower on the 0-3 scale. However, scores for item 17 (Unstable Interpersonal Relationships) tended to be higher.

**APSD Self-report EFA**

Researchers have examined the factor structure of the APSD and produced a 3-factor model: callous/unemotional, narcissism, and impulsivity. This model was found in both clinic referred and community samples (Frick et al, 2000). For exploratory purposes, an EFA was conducted with both the APSD self-report and teacher-report measures to help understand the factor structure of the APSD in this current study’s sample. For the factor analysis of the APSD self-report measure, the following assumptions were tested: normality, independence, linearity, and multicollinearity. One outlier was identified and removed, correcting for the normality assumption. After correcting for the normality assumption, all assumptions were met. Principal Axis factor analysis with Promax rotation was conducted to examine the underlying structure of the 20 items. The Scree plot identified six factors before leveling out. These six factors accounted for 61.376% of
the variance. The Scree plot is presented in Figure 2 and the variance accounted for by each of the factors is presented in Table 12.

![Scree Plot](image)

**Figure 2**. Scree plot of Factor Analysis of the APSD self-report

**Table 12**

*Total Variance Accounted for by Each Factor of the APSD Self-Report Measure*

<table>
<thead>
<tr>
<th>Component</th>
<th>Total</th>
<th>% of Variance</th>
<th>% Cumulative Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4.095</td>
<td>20.473</td>
<td>20.473</td>
</tr>
<tr>
<td>2</td>
<td>2.306</td>
<td>11.526</td>
<td>23.098</td>
</tr>
<tr>
<td>3</td>
<td>2.238</td>
<td>11.191</td>
<td>34.290</td>
</tr>
<tr>
<td>4</td>
<td>2.161</td>
<td>10.804</td>
<td>45.093</td>
</tr>
<tr>
<td>5</td>
<td>1.870</td>
<td>9.349</td>
<td>54.442</td>
</tr>
<tr>
<td>6</td>
<td>1.387</td>
<td>6.934</td>
<td>61.376</td>
</tr>
</tbody>
</table>

Overall, the model loaded 17 out of the 20 items. Each item loaded with a .35 cutoff score or higher. Item 3 (concerned about school work), 8 (brags excessively), and 11 (teases others) did not load onto any of the factors. The APSD self-report EFA had a
KMO statistic of .632, which is considered “good.” Table 13 lists the six factors with each of the loaded items and the internal consistency of each of the factors.

Table 13

*Six Factor Model of the APSD Self-Report Measure with the corresponding internal consistency rates*

<table>
<thead>
<tr>
<th>Factor</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Factor 1</strong></td>
<td></td>
</tr>
<tr>
<td>16. You think you are better or more important than others (.898)</td>
<td>.677</td>
</tr>
<tr>
<td>10. You use or con other people to get what you want (.712)</td>
<td></td>
</tr>
<tr>
<td><strong>Factor 2</strong></td>
<td></td>
</tr>
<tr>
<td>17. You do not plan ahead or you leave things until the last minute (.692)</td>
<td>.624</td>
</tr>
<tr>
<td>1. You blame others for your mistakes (.633)</td>
<td></td>
</tr>
<tr>
<td>19. You hide your feelings or emotions from others (.582)</td>
<td></td>
</tr>
<tr>
<td>5. Emotions seem shallow (.381)</td>
<td></td>
</tr>
<tr>
<td><strong>Factor 3</strong></td>
<td></td>
</tr>
<tr>
<td>18. You are concerned about the feelings of others (.684)</td>
<td>.574</td>
</tr>
<tr>
<td>12. You feel bad or guilty when you do something wrong (.643)</td>
<td></td>
</tr>
<tr>
<td>14. You act charming and nice to get things you want (.420)</td>
<td></td>
</tr>
<tr>
<td>20. Keeps the same friends (.358)</td>
<td></td>
</tr>
<tr>
<td><strong>Factor 4</strong></td>
<td></td>
</tr>
<tr>
<td>6. You lie easily and skillfully (.800)</td>
<td>.645</td>
</tr>
<tr>
<td>2. You engage in illegal activities (.769)</td>
<td></td>
</tr>
<tr>
<td><strong>Factor 5</strong></td>
<td></td>
</tr>
<tr>
<td>9. You get bored easily (.702)</td>
<td>.568</td>
</tr>
<tr>
<td>15. You get angry when corrected or punished (.607)</td>
<td></td>
</tr>
<tr>
<td>14. You act charming and nice to get things you want (.399)</td>
<td></td>
</tr>
<tr>
<td><strong>Factor 6</strong></td>
<td></td>
</tr>
<tr>
<td>4. You act without thinking of the consequences (.659)</td>
<td>.422</td>
</tr>
<tr>
<td>7. Keeps promises (.425)</td>
<td></td>
</tr>
<tr>
<td>13. Engages in risky activities (.385)</td>
<td></td>
</tr>
</tbody>
</table>
There are strengths and weaknesses to this model. First, this model identified six factors instead of the 3-factor model identified in previous research (Firck et al., 2000, Vitacco et al., 2003). However, the 6-factor model accounted for more variance (61%) than a 3-factor model. Even though the items were broken into more factors than the research suggests, all of the items made theoretical sense in each factor. As stated previously, items 3 (concerned about school work), 8 (brags excessively), and 11 (teases others) did not load onto any of the factors. According to the literature, these items all load onto the narcissism factor (Vitacco et al., 2000, Brijiteiber & Decoene, 2009).

Research is divided between the 2-factor and 3-factor model. Some research reported that items focusing on narcissism and impulsivity tend to load onto the same factor, rather than two separate constructs (Bijitebier & Decoene, 2009). In this current studies sample, 3 out of the 7 narcissism items did not load onto any factor. Further, the narcissism items included in the model, loaded onto factors that consisted of both impulsivity items and callous/unemotional items. This is not consistent with past research on youth. However, in adult research, the narcissism characteristics are associated with the callous/unemotional traits (Vitacco et al., 2000).

*APSD Teacher-report EFA*

An EFA was also run for the APSD teacher-report measure to compare the two versions. The APSD teacher-report version has the same factors as the self-report and parent-report versions. These factors are callous/unemotional, narcissism, and impulsivity (Frick et al., 2000). For the EFA of the APSD teacher-report in this current study, each of the following assumptions were met: normality, independence, linearity, and multicollinearity. Principal Axis factor analysis with Promax rotation was conducted to
examine the underlying structure of the 20 items. The Scree plot identified six factors before leveling out. These six factors accounted for 69.188% of the variance. The Scree plot is presented in Figure 3 and the variance accounted for by each of the factors is presented in Table 14.

![Scree Plot]

**Figure 3.** Scree plot of Factor Analysis of the APSD teacher-report measure

**Table 14**

*Total Variance Accounted for by Each Factor of the APSD Teacher-Report Measure*

<table>
<thead>
<tr>
<th>Component</th>
<th>Total</th>
<th>% of Variance</th>
<th>% Cumulative Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6.403</td>
<td>32.017</td>
<td>32.017</td>
</tr>
<tr>
<td>2</td>
<td>2.250</td>
<td>11.251</td>
<td>43.268</td>
</tr>
<tr>
<td>3</td>
<td>1.767</td>
<td>8.835</td>
<td>52.103</td>
</tr>
<tr>
<td>4</td>
<td>1.273</td>
<td>6.366</td>
<td>58.469</td>
</tr>
<tr>
<td>5</td>
<td>1.143</td>
<td>5.713</td>
<td>64.182</td>
</tr>
<tr>
<td>6</td>
<td>1.001</td>
<td>5.006</td>
<td>69.188</td>
</tr>
</tbody>
</table>

Overall, the factor model loaded 18 of the 20 items. When determining the factor loadings, a .4 cutoff score was used. Item 19 (Does not show feelings or emotions) cross loaded on factor 5 and factor 6. Item 17 (Does not plan ahead or leaves things until the
last minute) loaded on both factor 4 and factor 6. Further, item 1 (Blames others for mistakes) and item 4 (Acts without thinking of the consequences) did not load onto any factor. The APSD teacher-report EFA had a KMO statistic of .768, which is considered “good.” Table 15 represents the six factor model of the APSD teacher-report measure with each factor’s loaded items.

Table 15

**Six Factor Model of the APSD Teacher-Report Measure and internal consistency of the factors**

<table>
<thead>
<tr>
<th>Factor 1</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 1</td>
<td></td>
</tr>
<tr>
<td>8. Brags excessively about his abilities, accomplishments, or possessions (.991)</td>
<td>.863</td>
</tr>
<tr>
<td>14. Can be charming at times, but in ways that seem insincere or superficial (.778)</td>
<td></td>
</tr>
<tr>
<td>16. Seem to think that he is better than other people (.699)</td>
<td></td>
</tr>
<tr>
<td>10. Uses or cons other people to get what he wants (.639)</td>
<td></td>
</tr>
<tr>
<td>5. Has emotions that seem shallow and not genuine (.554)</td>
<td></td>
</tr>
<tr>
<td>11. Teases, makes fun of other people (.422)</td>
<td></td>
</tr>
<tr>
<td>Factor 2</td>
<td></td>
</tr>
<tr>
<td>12. Feels bad or guilty when he does something wrong (.889)</td>
<td>.790</td>
</tr>
<tr>
<td>18. Is concerned about the feelings of others (.747)</td>
<td></td>
</tr>
<tr>
<td>7. Is good at keeping promises (.649)</td>
<td></td>
</tr>
<tr>
<td>3. Is concerned about how well he does at school or work (.438)</td>
<td></td>
</tr>
<tr>
<td>Factor 3</td>
<td></td>
</tr>
<tr>
<td>13. Engages in risky or dangerous activities (.998)</td>
<td>.694</td>
</tr>
<tr>
<td>2. Engages in illegal activities. (.590)</td>
<td></td>
</tr>
<tr>
<td>6. Lies skillfully and easily (.498)</td>
<td></td>
</tr>
<tr>
<td>Factor 4</td>
<td></td>
</tr>
<tr>
<td>15. Becomes angry when corrected or punished (.645)</td>
<td>.446</td>
</tr>
<tr>
<td>9. Teases, makes fun of other people (.494)</td>
<td></td>
</tr>
<tr>
<td>17. Does not plan ahead or leaves things until the last minute (.440)</td>
<td></td>
</tr>
<tr>
<td>Factor 5</td>
<td></td>
</tr>
<tr>
<td>20. Keeps the same friends (.643)</td>
<td>.462</td>
</tr>
<tr>
<td>19. Does not show feelings or emotions (.582)</td>
<td></td>
</tr>
</tbody>
</table>
Factor 6
19. Does not show feelings or emotions (.428) .388
17. Does not plan ahead or leaves things until the last minute (.683)

There are strengths and weaknesses to this factor model. First, this model identified six factors instead of the 3-factor model identified in previous research (Frick et al., 2003; Vitacco et al., 2000). However, the 6-factor model accounted for more variance (69%) than a 3-factor model. Some of the factors made theoretical sense, such as Factor 3 and Factor 4. However, other factors loaded items of different characteristics together. For example, Factor 6 loaded item 19 (does not show feelings or emotions), which is a callous/unemotional characteristic with item 17 (does not plan ahead of leaves things until the last minute), which is an impulsivity characteristic. This was further validated by examining the internal consistency of the factors (alpha=.388).

It should be noted that previous research reported Item 19 didn’t load consistently on the callous/unemotional factor (Fritz et al., 2008). On the APSD teacher-report, the majority of the narcissism items were combined with the callous/unemotional traits and loaded onto Factor 1. This is consistent with the adult literature on psychopathy, but does not match the research conducted on adolescents (Bijitebier & Decoene, 2009). Recent research reported that items focusing on narcissism and impulsivity are correlated and may even represent one factor, rather than two separate constructs (Bijitebier & Decoene, 2009).

ICU Self-Report EFA

Lastly, an EFA was conducted with the ICU self-report. For the factor analysis of the ICU self-report, each of the following assumptions were met: normality,
independence, linearity, and multicollinearity. According to previous research, the ICU self-report is composed of 3 factors: uncaring, unemotional, and callousness (Roose et al., 2010). All items also loaded onto a fourth, general callous/unemotional factor (Kimonis et al., 2008). Principal Axis factor analysis with Promax rotation was conducted to examine the underlying structure of the 24 items. The Scree plot identified eight factors before leveling out. These eight factors accounted for 65.565% of the variance. However, the seventh and eighth factor only had one item loading resulting in elimination of those factors. The 6-factor model accounted for 56.341% of the variance. The Scree plot is presented in Figure 4 and the variance accounted for by each of the factors is presented in Table 16.

\[\text{Table 16} \]

Total Variance Accounted for by Each Factor of the ICU
<table>
<thead>
<tr>
<th>Component</th>
<th>Total</th>
<th>% of Varience</th>
<th>% Cumulative Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4.418</td>
<td>18.409</td>
<td>18.409</td>
</tr>
<tr>
<td>2</td>
<td>3.092</td>
<td>12.885</td>
<td>31.294</td>
</tr>
<tr>
<td>3</td>
<td>1.773</td>
<td>7.389</td>
<td>38.683</td>
</tr>
<tr>
<td>4</td>
<td>1.540</td>
<td>6.415</td>
<td>45.098</td>
</tr>
<tr>
<td>5</td>
<td>1.472</td>
<td>6.132</td>
<td>51.229</td>
</tr>
<tr>
<td><strong>6</strong></td>
<td><strong>1.227</strong></td>
<td><strong>5.112</strong></td>
<td><strong>56.341</strong></td>
</tr>
<tr>
<td>7</td>
<td>1.154</td>
<td>4.807</td>
<td>61.148</td>
</tr>
<tr>
<td>8</td>
<td>1.000</td>
<td>4.417</td>
<td>65.565</td>
</tr>
</tbody>
</table>

Overall, the 8-factor model loaded 20 out of the 24 items, and the final 6-factor model loaded 18 out of 24 items. Each item loaded with a .35 cutoff or higher. Item 24 (I do things to make others feel good) cross loaded on factor 5 and factor 6. Item 11 (I do not care about doing things well), 18 (I do not feel remorseful when I do something wrong), 14 (It is easy to tell others how I am feeling), and 21 (the feelings of others are not important to me) did not load onto any of the factors. As stated previously, the seventh and eighth factors were eliminated due to only one item loading. The items thus removed were item 13 (I easily admit to being wrong) from factor 7 and item 10 (uses or cons others) from factor 8. The ICU self-report EFA had a KMO statistic of .613, which is considered “good.” Table 17 lists the six factors with each of the loaded items corresponded with the internal consistencies of each factor.

Table 17

*Six Factor Model of the ICU Measure with the corresponding internal consistencies*

<table>
<thead>
<tr>
<th>Factor</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 1</td>
<td></td>
</tr>
<tr>
<td>8. I am concerned about the feelings of others (reverse coding) (.782)</td>
<td>.751</td>
</tr>
<tr>
<td>9. I do not care if I get into trouble (.619)</td>
<td></td>
</tr>
<tr>
<td>4. I do not care who I hurt to get what I want (.609)</td>
<td></td>
</tr>
<tr>
<td>7. I do not care about doing things well (.606)</td>
<td></td>
</tr>
<tr>
<td>15. I always try my best (reverse coding) (.453)</td>
<td></td>
</tr>
</tbody>
</table>
Factor 2
17. I try not to hurt others’ feelings (reverse coding) (.860) .727
16. I apologize to persons I hurt (reverse coding) (.694)
5. I feel bad or guilty when I do something wrong (reverse coding) (.555)

Factor 3
12. I seem very cold and uncaring to others (.860) -.186
20. I do not like putting the time into doing things well (.664)
19. I am very expressive and emotional (reverse coding) (.496)

Factor 4
22. I hide my feelings from others (.895) .581
6. I do not show my emotions to others (.846)

Factor 5
3. I care about how well I do at school or work (reverse coding) (.682) .387
24. I do things to make others feel good (reverse coding) (.622)

Factor 6
24. I do things to make others feel good (reverse coding) (.509) -.136
2. What I think is right and wrong is different from what other people think (.501)
1. I express my feelings openly (reverse coding) (.627)

There are strengths and weaknesses to this factor model. First, this model identified six factors instead of the 3-factor model identified in previous research (Roose, et al., 2010). However, the 6-factor model accounted for more variance (56%) than a 3-factor model. Some of the factors made theoretical sense, such as factor 1 (callousness items), factor 3 (caring), factor 4 (unemotional), and factor 5 (unemotional). However, factor 3 and factor 6 exhibited poor internal consistency. For example, factor 6 loaded three items, one item from the callousness factor, one item from the unemotional factor, and one item from the caring factor.
**Follow up analyses**

As a follow up analyses to research question one, the factors from each measure were correlated with each other to investigate associations. The significant correlations are presented in the following table.

Table 18

*Significant correlations among the EFA factors of the PCL:YV, APSD self-report, APSD teacher-report, and the ICU self-report*

<table>
<thead>
<tr>
<th>EFA Factor</th>
<th>EFA Factor</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICU factor 1</td>
<td>PCL-YV factor 4</td>
<td>.266</td>
</tr>
<tr>
<td>ICU factor 3</td>
<td>APSD teacher factor 6</td>
<td>-.265*</td>
</tr>
<tr>
<td>ICU factor 4</td>
<td>PCL-YV factor 1</td>
<td>-.251*</td>
</tr>
<tr>
<td>ICU factor 4</td>
<td>PCL-YV factor 2</td>
<td>-.285*</td>
</tr>
<tr>
<td>ICU factor 5</td>
<td>PCL-YV factor 6</td>
<td>-.253*</td>
</tr>
<tr>
<td>ICU factor 6</td>
<td>PCL-YV factor 3</td>
<td>-.243*</td>
</tr>
<tr>
<td>PCL factor 5</td>
<td>APSD self factor 1</td>
<td>.250*</td>
</tr>
<tr>
<td>APSD self factor 1</td>
<td>APSD teacher factor 1</td>
<td>.260*</td>
</tr>
<tr>
<td>APSD self factor 1</td>
<td>APSD teacher factor 3</td>
<td>-.229*</td>
</tr>
</tbody>
</table>

Research Question Two Results

PCL:YV 3-factor CFA

Research question 2 examined which factor model provided the best fit for this sample based on the researched 3 and 4-factor models. Maximum likelihood factor analysis with Promax rotation was conducted to assess the underlying structure for the 20 items of the PCL-YV. Three factors were requested based on the fact that the items were designed to index three constructs: behavioral, affective, and interpersonal. A factor loading score of .3 was used as the cutoff. Results indicated that the 3-factor model accounted for 41.178% of the variance. The 3 factor model loaded 18 of the 20 items. Items 14 (Impulsivity) and item 3 (Stimulation Seeking) did not load onto the three factor model. Further, two items cross loaded onto two different factor scores. These items were as follows: item 17 (Unstable interpersonal relationships) cross loaded with factor 1 and factor 3, and item 19 (Serious violation of criminal release) loaded onto factor 1 and factor 3. The 3-factor PC-YV model obtained a significant Goodness of Fit statistic (.003*), indicating that the statistical model is a good fit for the observations. The variance accounted for by each of the factors is presented in Table 19 lists the 3-factor model with each of the loaded items with the corresponding internal consistencies.

Table 19

Three Factor Model of the PCL-YV with corresponding internal consistencies

<table>
<thead>
<tr>
<th>Factor</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 1</td>
<td></td>
</tr>
<tr>
<td>19. Serious violation of conditional release (.587)</td>
<td>.229</td>
</tr>
</tbody>
</table>
Maximum likelihood factor analysis with Promax rotation was conducted to assess the underlying structure for the 20 items of the PCL-YV. Four factors were requested based on the fact that the items were designed to index four constructs: behavioral, affective, antisocial, and interpersonal. The 4-factor model was also tested using a cutoff loading score of .3. Results indicated that the 4-factor model accounted for 49.128% of the variance. The 4-factor model loaded 18 of the 20 items. Item 12 (Early behavior problems) and Item 16 (Failure to accept responsibility) do not load onto any of the factors. Item 17 (unstable interpersonal relationships) cross loaded onto Factor 2 and Factor 3. Further, the fourth factor included items 14 (Impulsivity) and 3 (Stimulation seeking), which did not load on the 3-factor model. The Goodness of Fit statistic was a
.037, which indicates significance. The *Goodness of Fit* statistic demonstrates how well a statistical model fits a set of observations. The table below presents the four factors with their loaded items.

**Table 20**

*Four Factor Model of the PCL-YV and the corresponding internal consistencies*

<table>
<thead>
<tr>
<th>Factor</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Factor 1</strong></td>
<td></td>
</tr>
<tr>
<td>1. Impression management (.385)</td>
<td>.721</td>
</tr>
<tr>
<td>2. Grandiose sense of self-worth (.582)</td>
<td></td>
</tr>
<tr>
<td>5. Manipulation for personal gain (.508)</td>
<td></td>
</tr>
<tr>
<td>6. Lack of remorse (.510)</td>
<td></td>
</tr>
<tr>
<td>7. Shallow affect (.670)</td>
<td></td>
</tr>
<tr>
<td>8. Callous/lack of empathy (.719)</td>
<td></td>
</tr>
<tr>
<td><strong>Factor 2</strong></td>
<td></td>
</tr>
<tr>
<td>4. Pathological lying (.417)</td>
<td>.696</td>
</tr>
<tr>
<td>9. Parasitic orientation (.741)</td>
<td></td>
</tr>
<tr>
<td>11. Impersonal sexual behavior (.483)</td>
<td></td>
</tr>
<tr>
<td>13. Lacks goals (.540)</td>
<td></td>
</tr>
<tr>
<td>17. Unstable interpersonal relationships (.444)</td>
<td></td>
</tr>
<tr>
<td>18. Juvenile Delinquency (.630)</td>
<td></td>
</tr>
<tr>
<td>20. Criminal versatility (.342)</td>
<td></td>
</tr>
<tr>
<td><strong>Factor 3</strong></td>
<td></td>
</tr>
<tr>
<td>10. Poor anger control (.655)</td>
<td>.166</td>
</tr>
<tr>
<td>15. Irresponsibility (.570)</td>
<td></td>
</tr>
<tr>
<td>17. Unstable interpersonal relationships (.488)</td>
<td></td>
</tr>
<tr>
<td>18. Juvenile Delinquency (.359)</td>
<td></td>
</tr>
<tr>
<td>19. Serious violation of conditional release (.677)</td>
<td></td>
</tr>
<tr>
<td><strong>Factor 4</strong></td>
<td></td>
</tr>
<tr>
<td>3. Stimulation seeking (.688)</td>
<td>.146</td>
</tr>
<tr>
<td>7. Shallow affect (.357)</td>
<td></td>
</tr>
<tr>
<td>14. Impulsivity (.521)</td>
<td></td>
</tr>
</tbody>
</table>
Overall, both the 3-factor and 4-factor models indicate significant results. Both models demonstrate appropriate fits for this current study’s sample. When comparing the 3 and 4-factor models, it was determined that the 4-factor model was a better fit for this study’s sample. As stated previously, the fourth factor included items 14 (Impulsivity) and 3 (Stimulation seeking), which did not load on the 3-factor model. These items are believed to important to the construct of psychopathy in youth, evidenced by their loadings on the literature’s 3-factor and 4-factor models (Cooke & Michie, 2002; Neumann & Hare, 2006). The 4-factor model also accounted for more variance (49%). To further validate that the 4-factor model is a good fit for this current studies sample, the table below indicates the correlations between the 4-factors.

Table 21

*Factor correlations of the PCL:YV*

<table>
<thead>
<tr>
<th></th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Factor 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 1</td>
<td>1</td>
<td>.341**</td>
<td>.288</td>
<td>.557**</td>
</tr>
<tr>
<td>Factor 2</td>
<td></td>
<td>1</td>
<td>.575**</td>
<td>.381**</td>
</tr>
<tr>
<td>Factor 3</td>
<td></td>
<td></td>
<td>1</td>
<td>.360**</td>
</tr>
<tr>
<td>Factor 4</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

Note. PCL:YV=Psychopathy Checklist: Youth Version. **p< .001 level

Even though both the 3-factor and 4-factor models were adequate fit, the 4-factor model of the PCL-YV was chosen as the model for this current studies sample. Previous studies have found that the antisocial, interpersonal, and affective factors were predictors of violence (Neumann et al., 2006). Further, Vitacco and colleagues (2006) compared the
3-factor and the 4-factor models of psychopathy and reported that the 4-factor model accounted for more variance when examining instrumental aggression. Hare and colleagues also prefer the 4-factor model because it splits the original 2-factor model into four factors (Vitacco et al., 2006). Further, previous studies do not report high correlations between the Lifestyle and Antisocial factors, indicating that they are measuring different behavioral characteristics (Neumann et al., 2006). Therefore, the separation of the behavioral characteristics into two factors will further help researchers predict violence and examine characteristics that associate with specific childhood disorders.

Follow up analyses

**APSD self-report CFA**

Even though the APSD is not the gold standard measure for psychopathy in youth, recent research has examined its factor structure. As a follow up to question two, CFA’s were run with the APSD self-report and APSD teacher-report measures specifying three factors: callous/unemotional, impulsivity, and narcissism.

For the APSD self-report, a loading score of .3 was used as the cutoff. Results indicated that the 3-factor model accounted for 41.178% of the variance. The 3-factor model loaded 17 of the 20 items. Item 3 (Concerned about how well I do in school or work), 8 (Braggs excessively about abilities, accomplishments, or possessions) and item 9 (You get bored easily) did not load onto any of the factors. Item 14 (You act charming and nice to get what you want) loaded onto both factor 1 and factor 2. Item 12 (You feel bad or guilty when you do something wrong) loaded onto both factor 2 and factor 3. The
APSD self-report CFA had a KMO statistic of .632, which is considered “good.” The table below lists the three factors with their corresponding internal consistencies.

Table 22

*Three Factor Model of the APSD Self-Report Measure with the corresponding internal consistency rates*

<table>
<thead>
<tr>
<th>Factor</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Factor 1</strong></td>
<td></td>
</tr>
<tr>
<td>16. You think you are better or more important than others (.674)</td>
<td>.756</td>
</tr>
<tr>
<td>10. You use or con other people to get what you want (.726)</td>
<td></td>
</tr>
<tr>
<td>13. Engages in risky activities (.610)</td>
<td></td>
</tr>
<tr>
<td>11. You tease or make fun of other people (.586)</td>
<td></td>
</tr>
<tr>
<td>2. You engage in illegal activities (.385)</td>
<td></td>
</tr>
<tr>
<td>6. You lie easily and skillfully (.567)</td>
<td></td>
</tr>
<tr>
<td>5. Emotions seem shallow (.328)</td>
<td></td>
</tr>
<tr>
<td>14. You act charming and nice to get things you want (.339)</td>
<td></td>
</tr>
</tbody>
</table>

| **Factor 2** | | |
| 17. You do not plan ahead or you leave things until the last minute (.762) | .625 |
| 1. You blame others for your mistakes (.509) | |
| 19. You hide your feelings or emotions from others (.491) | |
| 15. You get angry when corrected or punished (.387) | |
| 12. You feel bad or guilty when you do something wrong (.393) | |
| 4. You act without thinking of the consequences (.305) | |

| **Factor 3** | | |
| 18. You are concerned about the feelings of others (.661) | .581 |
| 14. You act charming and nice to get things you want (.465) | |
| 20. Keeps the same friends (.355) | |
| 12. You feel bad or guilty when you do something wrong (.581) | |
| 7. Keeps promises (.371) | |
| 20. Keeps the same friends (.355) | |

This model exhibits strengths and weaknesses. First, all of the items tend to make theoretical sense. The factor names were taken from past research findings and are as follows: Factor 1: Narcissism, Factor 2: Impulsivity, and Factor 3: Callous/Unemotional.

Factor 2 loaded some items that were not associated together in the research such as item...
19 (You hide your feelings or emotion from others and item 1 (You blame others for your mistakes). However, it should be noted that item 19 (You hide your feelings or emotions from others), which according to research should load onto the callous/unemotional factor, had poor factor loadings in past research (Fritz et al., 2008). Fritz and colleagues conducted a CFA similar to the manner of this current study’s analysis and also found that item 19 loaded onto the Impulsivity factor (Fritz et al., 2008). Fritz and colleagues renamed this factor Manipulation/Sensation Seeking. Further, previous literature did not load item 2 (You engage in illegal activities); however, this current study loaded item 2 on the Narcissism factor. Item 2 also loaded on the Narcissism factor in Fritz and colleagues study (2008). Correlations were conducted with the measures. Factor 1: Narcissism and Factor 2: Impulsivity were significantly correlated (r=.398) at the p<.001 value. This correlation is consistent with past research indicating that impulsivity characteristics and narcissism characteristics are correlated (Frick et al., 2003).

**APSD teacher-report CFA**

For the APSD teacher-report, a loading score of .35 was used as the cutoff. Results indicated that the 3-factor model accounted for 52.103% of the variance. The 3-factor model loaded 19 of the 20 items. Item 17 (Does not plan ahead or leaves things until the last minute) did not load onto any of the factors. Item 1 (Blames others for mistakes) loaded onto both factor 2 and factor 3. The APSD teacher-report CFA had a KMO statistic of .768, which is considered “good.” The table below lists the three factors with their corresponding internal consistencies.

Table 23
Three Factor Model of the APSD Teacher-Report Measure with the corresponding internal consistency rates

<table>
<thead>
<tr>
<th>Factor</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 1</td>
<td>.883</td>
</tr>
<tr>
<td>14. Can be charming at times, but in ways that seem insincere or superficial (.852)</td>
<td>.883</td>
</tr>
<tr>
<td>10. Uses or cons other people to get what he wants (.879)</td>
<td>.883</td>
</tr>
<tr>
<td>5. Has emotions that seem shallow and not genuine (.828)</td>
<td>.883</td>
</tr>
<tr>
<td>8. Brags excessively about his abilities, accomplishments, or possessions (.747)</td>
<td>.883</td>
</tr>
<tr>
<td>16. Seems to think that he is better than other people (.704)</td>
<td>.883</td>
</tr>
<tr>
<td>6. Lies skillfully and easily (.687)</td>
<td>.883</td>
</tr>
<tr>
<td>11. Teases, makes fun of other people (.401)</td>
<td>.883</td>
</tr>
</tbody>
</table>

| Factor 2 | .426             |
| 18. Is concerned about the feelings of others (.731) | .426 |
| 12. Feels bad or guilty when he does something wrong (.943) | .426 |
| 7. Is good at keeping promises (.627) | .426 |
| 3. Is concerned about how well he does at school or work (.405) | .426 |
| 20. Keeps the same friends (.406) | .426 |
| 1. Blames others for mistakes (-.361) | .426 |

| Factor 3 | .725             |
| 1. Blames others for mistakes (.358) | .725 |
| 13. Engages in risky or dangerous activities (.848) | .725 |
| 2. Engages in illegal activities (.453) | .725 |
| 19. Does not show feelings or emotions (.508) | .725 |
| 15. Becomes angry when corrected or punished (.428) | .725 |
| 9. Teases, makes fun of other people (.360) | .725 |
| 4. Acts without thinking of the consequences (.379) | .725 |

Overall, the items that loaded on the APSD teacher-report factors made theoretical sense. The factors were named as follows: Factor 1: Narcissism, Factor 2: Callous/Unemotional, and Factor 3: Impulsivity. Factor 1: Narcissism consisted of all items based on the narcissism factor in previous literature. This factor loaded more cleanly than the Narcissism factor from the APSD self-report version. Item number 19 (Does not show feelings or emotions) is a Callous/Unemotional item; however, it loaded on Factor 3: Impulsivity. Past research has indicated that item 19 and item 20 (both
callous/unemotional items) did not correlate with the other CU items. However, Falkenbaugh and colleagues (2003) conducted a study reporting that when items 19 and 20 were removed, the correlation between recidivism decreased. Therefore, these 2 items may have behavioral indication and thus may be justified loading onto Factor 3: Impulsivity.

ICU self-report CFA

Lastly, the ICU self-report factor analysis was conducted specifying three factors. The three factors previously established in research are uncaring, unemotional, and callousness. A loading score of .38 was used as the cutoff. Results indicated that the 3-factor model accounted for 38.363% of the variance. The 3-factor model loaded 19 of the 24 items. Item 8 (I am concerned about the feelings of others), item 18 (I do not feel remorseful when I do something wrong), item 14 (It is easy to tell others how I am feeling), item 10 (Easily cons or uses others), and item 2 (What I think is right and wrong is different from what other people think) did not load onto any of the factors. The ICU self-report CFA had a KMO statistic of .613, which is considered “good.” The table below lists the three factors with their corresponding internal consistencies.

Table 24

Three Factor Model of the ICU Measure with the corresponding internal consistencies

<table>
<thead>
<tr>
<th>Factor</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 1</td>
<td></td>
</tr>
<tr>
<td>19. I am very expressive and emotional (reverse coding) (.631)</td>
<td>.776</td>
</tr>
<tr>
<td>3. I care about how well I do at school or work (reverse coding) (.619)</td>
<td></td>
</tr>
<tr>
<td>1. I express my feelings openly (reverse coding) (.555)</td>
<td></td>
</tr>
<tr>
<td>15. I always try my best (reverse coding) (.643)</td>
<td></td>
</tr>
<tr>
<td>16. I apologize to persons I hurt (reverse coding) (.603)</td>
<td></td>
</tr>
<tr>
<td>13. I do things to make others feel good (reverse coding) (.580)</td>
<td></td>
</tr>
</tbody>
</table>
23. I work hard in everything I do (reverse coding) (.588)
24. I do things to make others feel good (reverse coding) (.508)
17. I try not to hurt others’ feelings (reverse coding) (.561)
5. I feel bad or guilty when I do something wrong (reverse coding) (.519)

Factor 2
4. I do not care who I hurt to get what I want (.596) .666
9. I do not care if I get into trouble (.619)
7. I do not care about doing things well (.692)
12. I seem very cold and uncaring to others (.534)
20. I do not like putting the time into doing things well (.380)
11. I do not care about doing things well (.540)

Factor 3
6. I do not show my emotions to others (.588) .567
22. I hide my feelings from others (.636)
21. The feelings of others are not important to me (.620)

Based on past research, this model labeled the factors as follows: Factor 1: Uncaring, Factor 2: Callousness, and Factor 3: Unemotional. In the first factor, response sets may have occurred, which may have contributed to the grouping of these items. All of the items in Factor 1 are positively worded. In other words, the response styles may be the reason as to why they were divided into the above factors, rather than the construct.

Further, Kimonis and colleagues (2008) removed item 2 and item 10 because they didn’t provide adequate correlations, resulting in the CFA not providing an adequate fit for the data. This current study’s Confirmatory Factor Analysis results were consistent with previous literature and did not load either item 10 (Easily cons or uses others) or item 2 (What I think is right and wrong is different from what other people think) onto any of the factors.

Research Question Three Results
Research question three examined how much common variance exists between the PCL-YV total score and each of the following measures: APSD self-report, APSD teacher-report, and ICU self-report. First, all of the assumptions were checked and met. These assumptions include the assumption of independence, homogeneity of variance, multicollinearity, and normality. The PCL-YV was the dependent variable and the ICU self-report, APSD self-report, and APSD teacher-report were the independent variables. The correlation matrix for the three independent variables and dependent variable for research question three are presented in Table 25. Results indicate that there were no statistically significant correlations between any of the psychopathy measures.

Table 25

*Correlation Matrix: Three Predictors (ICU, APSD Self-report, APSD Teacher-report) and Dependent Variable (PCL-YV)*

<table>
<thead>
<tr>
<th></th>
<th>ICU</th>
<th>APSD Self</th>
<th>APSD Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCL-YV</td>
<td>-.137</td>
<td>.001</td>
<td>.022</td>
</tr>
<tr>
<td>ICU</td>
<td>---</td>
<td>-.079</td>
<td>-.040</td>
</tr>
<tr>
<td>APSD Self</td>
<td>---</td>
<td>.146</td>
<td></td>
</tr>
<tr>
<td>APSD Teacher</td>
<td>---</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* *p<.05 **p<.001

The research question examined the amount of variance each predictor, APSD self-report total score, APSD teacher-report total score, and the ICU self-report total score explained in the PCL:YV total score. *Stepwise* regression analyses were attempted but did not produce any significant results. *Enter* analyses were then attempted with all three of the predictor variables. The model explains an insignificant 1.9% of the variance in the PCL-YV. Results indicate that Model 1 does not significantly predict the PCL-YV
scores. This suggests that any model of the ICU self-report, APSD self-report, and APSD teacher-report measures did not significantly predict PCL-YV scores.

Table 26

*Regression analysis with the ICU self-report, APSD self-report, and APSD teacher-report regressed on the PCL-YV*

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>t</th>
<th>p SIG</th>
<th>Tolerance</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICU</td>
<td>-.097</td>
<td>.084</td>
<td>-.137</td>
<td>-1.153</td>
<td>.253</td>
<td>.993</td>
<td>1.007</td>
</tr>
<tr>
<td>APSD Self</td>
<td>-.014</td>
<td>.133</td>
<td>-.012</td>
<td>-.102</td>
<td>.919</td>
<td>.973</td>
<td>1.027</td>
</tr>
<tr>
<td>APSD Teacher</td>
<td>.019</td>
<td>.130</td>
<td>.018</td>
<td>.149</td>
<td>.882</td>
<td>.978</td>
<td>1.022</td>
</tr>
</tbody>
</table>


*Follow Up Analyses*

Several follow up analyses were conducted that were not a part of the original analyses. The following propose as extensions to research question three. Further multiple regression analyses were run using each of the PCL-YV factors as the dependent variables. The factors were based on the 4-factor CFA model of psychopathy in adolescents that was reported in the results of research question two. Based on the research supporting the 4-factor model and the results of this current study support for a 4-factor model, each factor was chosen to represent the dependent variable in the following analyses. The correlation matrix for all three predictors and the dependent variables for the follow up analyses are presented in Table 27.
Table 27

Correlation Matrix: Three Predictors and Outcome Values Dependent Variables (PCL-YV Factor 1, PCL-YV Factor 2, PCL-YV Factor 3, and PCL-YV factor 4).

<table>
<thead>
<tr>
<th></th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCL-YV Factor 1</td>
<td>.012</td>
<td>.042</td>
<td>-.097</td>
</tr>
<tr>
<td>PCL-YV Factor 2</td>
<td>-.022</td>
<td>-.054</td>
<td>-.254*</td>
</tr>
<tr>
<td>PCL-YV Factor 3</td>
<td>-.139</td>
<td>.110</td>
<td>-.150</td>
</tr>
<tr>
<td>PCL-YV Factor 4</td>
<td>-.030</td>
<td>-.063</td>
<td>-.113</td>
</tr>
</tbody>
</table>

Predictor Variables

1. APSD Self Total --- .146 -.079
2. APSD Teacher Total .146 --- -.040
3. ICU Self Total     --


Results indicated that the ICU self-report total score was correlated with the outcome value dependent variable of the PCL-YV factor 2.

First, the multiple regression analysis examined whether the independent variables (APSD self-report total score, APSD Teacher-report total score, and the ICU self-report total score) predict the dependent variable, PCL-YV factor1, PCL-YV factor2, PCL-YV factor 3, and/or PCL-YV factor 4. Using the stepwise method, each of the PCL-YV Factor scores represented the dependent variables with the total scores of the
APSD self-report, APSD teacher-report, and the ICU self-report as the independent variables. Factor 2 of the PCL-YV presented with significant results. Results are presented in Table 28.

Table 28

Stepwise Regression Analysis Summary for Independent Variables (APSD Self-report total score, APSD teacher-report total score, and ICU self-report total score) Predicting PCL:YV Factor 2

<table>
<thead>
<tr>
<th>Model</th>
<th>B</th>
<th>SEB</th>
<th>Beta</th>
<th>t</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ICU</td>
<td>-.080</td>
<td>-.036</td>
<td>-.254</td>
<td>-2.226</td>
</tr>
</tbody>
</table>

Excluded IVs

APSD self
- .372
- .711

APSD teacher
- .558
- .579


Stepwise analyses indicate Model 1 to include the independent variable ICU self-report total score. The independent variables APSD self-report total score and APSD teacher-report total score were removed from the model due to insignificant contribution to the variance of the PCL-YV factor 2 score. This model explains 12.2% of the variance in the PCL:YV factor 2 score. Results indicate that Model 1 (including only the ICU self-
report total score) significantly predicts the PCL-YV factor 2 score (F(1,73)=4.955, 
P=029).

Overall, there is an inverse relationship with the ICU self-report significantly 
predicting the PCL-YV factor 2 score, which is composed of behavioral items. This 
indicates that the more emotional expression and indication of caring about others is 
expressed, the more aggressive behaviors were observed. This is consistent with past 
research that reported that the Impulsivity/Conduct Problems factor in adolescents is 
associated with increased emotional dysregulation (Pardini et al., 2003).

Next, multiple regression analyses were conducted by examining each measures’ 
factor scores regressed onto the PCL-YV’s factor scores. Each test measure’s factor 
scores were taken from the Confirmatory Factor Analyses conducted in research question 
two and used as the independent variables (APSD self-report factor 1, APSD self-report 
factor 2, APSD self-report factor 3, APSD teacher-report factor 1, APSD teacher-report 
factor 2, APSD teacher-report factor 3, ICU self-report factor 1, ICU self-report factor 2, 
ICU self-report factor 3) for the next set of multiple regression analyses. These 
independent variables were regressed onto the dependent variables, PCL-YV factor1, PC- 
YV factor 2, PCL-YV factor 3, and/or PCL-YV factor 4. Each dependent variable was 
independently regressed onto the predictor variables. The correlation matrix for all nine 
predictor variables and the dependent variables are presented in Table 29.

Table 29

*Correlation Matrix: Nine Predictors and Outcome Values Dependent Variables (PCL-YV Factor 1, PCL-YV Factor 2, PCL-YV Factor 3, and PCL-YV Factor 4).*

<table>
<thead>
<tr>
<th></th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
<th>6.</th>
<th>7.</th>
<th>8.</th>
<th>9.</th>
</tr>
</thead>
</table>

124
<table>
<thead>
<tr>
<th>PCL:YV Factor 1</th>
<th>.114</th>
<th>-.025</th>
<th>.007</th>
<th>.002</th>
<th>-.045</th>
<th>-.105</th>
<th>.106</th>
<th>-.143</th>
<th>-.143</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCL:YV Factor 2</td>
<td>.044</td>
<td>-.114</td>
<td>-.062</td>
<td>-.063</td>
<td>-.130</td>
<td>-.366**</td>
<td>-.008</td>
<td>-.047</td>
<td>-.085</td>
</tr>
<tr>
<td>PCL:YV Factor 3</td>
<td>.063</td>
<td>.097</td>
<td>-.015</td>
<td>-.039</td>
<td>-.104</td>
<td>-.275*</td>
<td>.074</td>
<td>-.138</td>
<td>-.035</td>
</tr>
<tr>
<td>PCL:YV Factor 4</td>
<td>.027</td>
<td>.091</td>
<td>.019</td>
<td>.035</td>
<td>-.014</td>
<td>-.229</td>
<td>.092</td>
<td>-.167</td>
<td>-.089</td>
</tr>
</tbody>
</table>

**Predictor Variables**

1. APSD Teacher F1  ---  -.350** | .546** | -.030 | -.032 | .118 | -.196 | .012 | .067
2. APSD Teacher F2  ---  -.313** | .036 | .136 | .015 | -.007 | -.164 | .043
3. APSD Teacher F3  ---  -.019 | -.141 | .211 | -.121 | .042 | -.015
4. ICU Self F1  ---  .176 | .077 | .114 | .047 | .199
5. ICU Self F2  ---  -.316** | .002 | -.139 | .153
6. ICU Self F3  ---  .119 | .288** | .073
7. APSD Self F1  ---  .398** | -.014
8. APSD Self F2  ---  .055
9. APSD Self F3  ---  


Results indicated that the ICU self-report factor 3 score was negatively correlated with the outcome value dependent variable of the PCL-YV factor 2 and PCL-YV factor 3. Further, there were inter-factor correlations among the measures. They are as follows:

For factor 1, stepwise regression analyses were attempted but did not produce any significant results. Enter analyses were then attempted with all of the predictor variables. The model explains an insignificant 1.8% of the variance in the PCL-YV factor 1. Results indicate that Model 1 does not significantly predict the PCL-YV factor 1 scores (F(9,73)=.856, p=.569). See Table 30 for regression analyses results.

Table 30


<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>t</th>
<th>p</th>
<th>SIG</th>
</tr>
</thead>
<tbody>
<tr>
<td>APSD Self Factor 1</td>
<td>.169</td>
<td>.048</td>
<td>.228</td>
<td>1.717</td>
<td>.091</td>
<td></td>
</tr>
<tr>
<td>APSD Self Factor 2</td>
<td>-.209</td>
<td>.137</td>
<td>-.215</td>
<td>-1.527</td>
<td>.132</td>
<td></td>
</tr>
<tr>
<td>APSD Self Factor 3</td>
<td>-.145</td>
<td>.093</td>
<td>-.139</td>
<td>-1.131</td>
<td>.262</td>
<td></td>
</tr>
<tr>
<td>APSD Teacher Factor 1</td>
<td>.137</td>
<td>.093</td>
<td>.219</td>
<td>1.468</td>
<td>.147</td>
<td></td>
</tr>
<tr>
<td>APSD Teacher Factor 2</td>
<td>.008</td>
<td>.136</td>
<td>.008</td>
<td>.061</td>
<td>.952</td>
<td></td>
</tr>
<tr>
<td>APSD Teacher Factor 3</td>
<td>-.057</td>
<td>.125</td>
<td>-.068</td>
<td>-.454</td>
<td>.652</td>
<td></td>
</tr>
<tr>
<td>ICU Self Factor 1</td>
<td>.012</td>
<td>.047</td>
<td>.031</td>
<td>.252</td>
<td>.802</td>
<td></td>
</tr>
<tr>
<td>ICU Self Factor 2</td>
<td>-.029</td>
<td>.089</td>
<td>-.045</td>
<td>-.331</td>
<td>.742</td>
<td></td>
</tr>
<tr>
<td>ICU Self Factor 3</td>
<td>-.076</td>
<td>.178</td>
<td>-.059</td>
<td>-.425</td>
<td>.672</td>
<td></td>
</tr>
</tbody>
</table>

The next regression used the PCL-YV factor 2 as the dependent variable. Stepwise analyses indicate Model 1 to include the independent variable ICU self-report factor 3. The independent variables APSD teacher-report factor 1, APSD teacher-report factor 2, APSD teacher-report factor 3, ICU self-report factor 1, ICU self-report factor 2, APSD self-report factor 1, APSD self-report factor 2, and APSD self-report factor 3 were removed from the model due to insignificant contribution to the variance of the PCL-YV factor 2 score. This model explains 12.2% of the variance in the PCL-YV factor 2 scores. Results indicate that Model 1 (including only the ICU self-report factor 3 score) significantly predicts the PCL-YV factor 2 score ($F(9,73) = 11.129$, $P = .001$). The variables have an inverse relationship based on the ICU factor 3 Beta value of -.577. Results are presented in Table 31.

Table 31

<table>
<thead>
<tr>
<th>Model</th>
<th>B</th>
<th>SEB</th>
<th>Beta</th>
<th>t</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-0.577</td>
<td>.171</td>
<td>-0.366</td>
<td>-3.336</td>
<td>.001</td>
</tr>
</tbody>
</table>

*Excluded IVs*

- APSD teacher factor 1
- APSD teacher factor 2
<table>
<thead>
<tr>
<th>Predictor</th>
<th>ICU self factor 1</th>
<th>ICU self factor 2</th>
<th>APSD self factor 1</th>
<th>APSD self factor 2</th>
<th>APSD self factor 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>APSD teacher factor 3</td>
<td>.886</td>
<td>.017</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ICU self factor 1</td>
<td>-.317</td>
<td>.752</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ICU self factor 2</td>
<td>-.138</td>
<td>.890</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>APSD self factor 1</td>
<td>.327</td>
<td>.745</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>APSD self factor 2</td>
<td>.554</td>
<td>.581</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>APSD self factor 3</td>
<td>-.528</td>
<td>.599</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note.** ICU=Inventory of Callous Unemotional Traits, APSD Self=Antisocial Processing Screening Device Self-Report, APSD Teacher=Antisocial Processing Screening Device Teacher-Report


The ICU factor 3 is the unemotional factor and the PCL-YV factor 2 is a behavioral factor. Conceptually, this indicates that the more emotional expression indicated, the higher level of behavioral problems displayed. These results are consistent with literature reporting that the Impulsivity/Conduct Problem domains in adolescents are associated with emotional dysregulation (Pardini et al., 2003). Behavioral problems are often associated with an inability to control emotions. The majority of conduct problems are associated with difficulty regulating emotions. It is the subgroup of callous/unemotional traits that delineates a severe subgroup of people that do often do not display emotions (Frick et al., 2000).

The next multiple regression used the PCL-YV factor 3 as the dependent variable. *Stepwise* analyses indicate Model 1 to include the independent variable ICU self-report factor 3. The independent variables APSD teacher-report factor 1, APSD teacher-report factor 2, APSD teacher-report factor 3, ICU self-report factor 1, ICU self-report factor 2, APSD self-report factor 1, APSD self-report factor 2, and APSD self-report factor 3 were removed from the model due to insignificant contribution to the variance of the PCL-YV.
factor 3 score. This model explains 6.3% of the variance in the PCL-YV factor 3 score. Results indicate that Model 1 (including only the ICU self-report factor 3 score) significantly predicts the PCL-YV factor 3 score ($F(1,73)=5.890, P=.018$). The ICU self-report factor 3 has an inverse relationship with the PCL-YV factor 3 as indicated by the ICU self-report factor 3 Beta of -.244. Results are presented in Table 32.

**Table 32**

*Stepwise Regression Analysis Summary for Independent Variables (each factor of the APSD self-report, each factor of the APSD teacher-report, and each factor of the ICU self-report)) Predicting PCL:YV Factor 3*

<table>
<thead>
<tr>
<th>Model</th>
<th>B</th>
<th>SEB</th>
<th>Beta</th>
<th>t</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-.244</td>
<td>.101</td>
<td>-.275</td>
<td>-2.427</td>
<td>.018</td>
</tr>
</tbody>
</table>

*Excluded IVs*

- APSD Teacher Factor 1: .846, .400
- APSD Teacher Factor 2: .889, .377
- APSD Teacher Factor 3: .381, .704
- ICU Self Factor 1: -.159, .874
- ICU Self Factor 2: -.159, .874
- APSD Self Factor 1: .949, .346
- APSD Self Factor 2: -.539, .592
- APSD Self Factor 3: -.134, .894


The ICU factor 3 is the unemotional factor and the PCL-YV factor 3 is a behavioral factor. Conceptually, this indicates that the more emotional expression indicated, the higher level of behavioral problems displayed. As previously, mentioned, these results are consisted with literature reporting that the Impulsivity/Conduct Problem domains in adolescents are associated with emotional dysregulation (Pardini et al., 2003). Behavioral problems are often associated with an inability to control emotions. The majority of conduct problems are associated with difficulty regulating emotions. It is the subgroup of callous/unemotional traits that delineates a severe subgroup of people that do often do not display emotions (Frick et al., 2000).

For factor 4, stepwise multiple regression analyses were attempted but did not produce any significant results. Enter analyses were then attempted with all of the predictor variables. The model explains an insignificant .6% of the variance in the PCL-YV factor 4. Results indicate that Model 1 does not significantly predict the PCL-YV factor 4 scores ($F(9,73) = 1.018$, $p = .413$). See Table 33 for regression analyses results.

Table 33

*Regression analysis with each factor of the ICU self-report, APSD self-report, and APSD teacher-report regressed on the PCL-YV factor 4.*

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>t</th>
<th>p SIG</th>
</tr>
</thead>
<tbody>
<tr>
<td>APSD Self Factor 1</td>
<td>.070</td>
<td>.044</td>
<td>.209</td>
<td>1.588</td>
<td>.117</td>
</tr>
<tr>
<td>APSD Self Factor 2</td>
<td>-.066</td>
<td>.061</td>
<td>-.149</td>
<td>-1.071</td>
<td>.919</td>
</tr>
<tr>
<td>APSD Self Factor 3</td>
<td>-.041</td>
<td>.057</td>
<td>-.087</td>
<td>-.719</td>
<td>.475</td>
</tr>
<tr>
<td>APSD Teacher Factor 1</td>
<td>.030</td>
<td>.042</td>
<td>.103</td>
<td>.707</td>
<td>.482</td>
</tr>
<tr>
<td>Factor</td>
<td>ALPHA 1</td>
<td>ALPHA 2</td>
<td>ALPHA 3</td>
<td>ALPHA 4</td>
<td>ALPHA 5</td>
</tr>
<tr>
<td>------------------------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td>APSD Teacher Factor 2</td>
<td>.063</td>
<td>-.061</td>
<td>.133</td>
<td>1.025</td>
<td>.309</td>
</tr>
<tr>
<td>APSD Teacher Factor 3</td>
<td>.037</td>
<td>.056</td>
<td>.046</td>
<td>.651</td>
<td>.517</td>
</tr>
<tr>
<td>ICU Self Factor 1</td>
<td>.008</td>
<td>.021</td>
<td>.047</td>
<td>.384</td>
<td>.702</td>
</tr>
<tr>
<td>ICU Self Factor 2</td>
<td>.015</td>
<td>.040</td>
<td>.050</td>
<td>.372</td>
<td>.711</td>
</tr>
<tr>
<td>ICU Self Factor 3</td>
<td>-.150</td>
<td>.080</td>
<td>-.258</td>
<td>-1.868</td>
<td>.066</td>
</tr>
</tbody>
</table>


Overall, youth who scored higher on behavioral characteristics tended to score lower on the unemotional scale of the ICU self-report. This indicates that the more emotional expression an adolescent exhibits, the higher their score was on the behavioral problem items on factor 2 and factor 3 of the PCL-YV. Conceptually, this indicates that the more emotional expression indicated, the higher level of behavioral problems displayed. These results are consistent with literature reporting that the Impulsivity/Conduct Problem domains in adolescents are associated with emotional dysregulation (Pardini et al., 2003). Behavioral problems are often associated with an inability to control emotions. The majority of conduct problems are associated with difficulty regulating emotions. It is the subgroup of callous/unemotional traits that delineates a severe subgroup of people that do often do not display emotions (Frick et al., 2000). To further support these results, the unemotional scale was negatively related to Extraversion and Emotional Instability that are part of the Big 5 Theory (Roose et al., 2010). For example this indicates that an emotional child does not have emotional
stability. These children can also be classified as emotionally disturbed. There is a
difference between an emotional disturbance and the presence of callous/unemotional
traits. Children that are elevated in impulsivity and antisocial behaviors that do not
exhibit callous/unemotional traits may show a different pattern of emotional processing.
Children that exhibit the Impulsivity/Conduct Problems factor often show increased
levels of emotional distress (Loney et al., 2003). Since there are items in Factor 2 and a
purely behaviorally based factor 3, it makes theoretical sense that the ICU Unemotional
factor would produce an inverse relationship. Being elevated on a behavioral scale
indicates conduct problems. It is the presence of both antisocial behavior, and the
callous/unemotional traits that delineates subgroup of children that have psychopathic
characteristics.

The last multiple regression used the PCL-YV total score as the dependent
variable. Once again, the independent variables included each factor of the APSD self-
report, APSD teacher-report, and the ICU self-report. The stepwise analysis indicated
three models. Stepwise regression is designed to find the most parsimonious set of
predictions that are most effective in predicting the dependent variable. The process of
adding more variables stop when all of the available variables have been included and it
is not possible to make statistically significant improvements using any of the other
variables not included. All of the variables added to the regression equation have a
statistically significant relationship with the dependent variable.

In stepwise multiple regression, the independent variables are entered into the
analysis based on their contribution in explaining the variance in the dependent variable.
The stepwise analyses indicate Model 1 to include the independent variable APSD self-
The model explains 55.7% of the variance in the PCL-YV total score.

Results indicate that Model 1 (including only the APSD self-report factor 1) significantly predicts the PCL-YV total score ($F(1,73)=92.971$, $P<.001$). The second significant model included the APSD self-report factor 1 and the APSD self-report factor 3. This model accounted for 78.1% of the variance in the PCL-YV total score. Results indicate that Model 2 (including the APSD self-report factor 1 and APSD self-report factor 3) significantly predicts the PCL-YV total score ($F(2,73)=131.074$, $P<.001$). The third and final model identified was Model 3. This model included the APSD self-report factor 1 score, APSD self-report factor 3 score, and the APSD self-report factor 2 score. Model 3 accounted for 95.2% of the variance. This model indicates that the APSD self-report factor 1, APSD self-report factor 3, and the APSD self-report factor 2 significantly predict the PCL:YV total score ($F(3,73)=488.088$, $P<.001$). The independent variables APSD teacher-report factor 1, APSD teacher-report factor 2, APSD teacher-report factor 3, ICU self-report factor 1, ICU self-report factor 2, and ICU self-report factor 3 were removed from the model due to insignificant contribution to the variance of the PCL:YV total score. Overall, the primary purpose is to identify the best subset of predictors and the order in which these variables were included in the regression equation. The order tells us the relative importance of the predictors. Results are presented in Table 34.

Table 34

<table>
<thead>
<tr>
<th>Model</th>
<th>B</th>
<th>SEB</th>
<th>Beta</th>
<th>t</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APSD Self Factor 1  1.373  .142  .751  9.642  .000

2

APSD Self Factor 1  1.385  .100  .757  13.823  .000

APSD Self Factor 3  1.220  .141  .473  8.625  .000

3

APSD Self Factor 1  1.058  .051  .579  20.777  .000

APSD Self Factor 3  1.150  .066  .445  17.401  .000

APSD Self Factor 2  1.072  .067  .447  16.031  .000

Excluded IVs for Model 3

APSD Teacher Factor 1  .070  .944

APSD Teacher Factor 2  -.210  .835

APSD Teacher Factor 3  .728  .469

ICU Self Factor 1  -.155  .877

ICU Self Factor 2  .766  .446

ICU Self Factor 3  .250  .804


In conclusion, results indicate that all three of the factors on the APSD self-report when taken together, account for a significant 95% of the variance. This finding is in
support of the current literature stating that the APSD was modeled after the PCL. Further, the APSD was originally designed to be completed by parent and teacher raters of a child (Benning, Patrick, Salekin, & Leisitico, 2005). The self-report version was created by converting the items which are written in third person to first person and is often seen as problematic (Murrie & Cornell, 2002). These results indicate that when the APSD self-report measure is broken into factors, all three of the factors account for the majority of the variance in the PCL-YV total score. Results indicate that the three factors that the APSD is comprised of are measuring the same constructs as the PCL-YV total score.

Research Question Four Results

The results of research question 4 and question 5 are presented together in the following sections. Question 4 examined the relationship between the APSD self-report and the APSD teacher-report. The APSD, like the PCL-YV, was designed after the PCL-R. As shown in Table 35 below, there was only one APSD self-reported item that was statistically significantly correlated with the APSD teacher-report. This was item 20 (keeps the same friends). In Murrie and Cornell’s (2002) study, the APSD self-report item did not correlate with their APSD teacher-report counterparts. These findings raise concern about the correspondence among the two psychopathy measures. This study’s findings are consistent with previous research conducted on the APSD items.

Research Question 5

The last question examined the relationship between the corresponding items on the APSD self-report and the APSD teacher-report with the PCL-YV items. The APSD
instruments (self-report, parent-report, and teacher-report) were designed to parallel items on the PCL-R. Consistent with past studies (Murrie & Cornell, 2002; Lee et al., 2003), the APSD exhibited little agreement with its PCL-YV counterpart items. Murrie and Cornell (2002) reported that nine of the teacher items correlated with their PL-YV items, while only six self-report items correlated with their PCL-YV counterparts. Lee and colleagues (2003) reported that only one of the APSD self-report item correlated with its PCL-YV counterpart. This was item 8 (callous/unemotional) with APSD self-report item 11 (You tease or make fun of other people) and item 18 (You are concerned with the feelings of other people). Overall, these two studies and this current research study indicated that the item level revealed poor correspondence. According to this current study’s sample, only one PCL-YV item correlated with its APSD counterpart item. This was PCL-YV item 14 (impulsivity) with the APSD self-report item 4 (acts without thinking).

Table 35 exhibits the item correlations for the PCL-YV with the APSD self-report and APSD teacher-report. Further, it shows the correlations between the APSD self-report and teacher-report.

Table 35

<table>
<thead>
<tr>
<th>PCL-YV</th>
<th>APSD Item</th>
<th>Correlations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Impression management</td>
<td>14. Can be charming at times, but in ways insecure or superficial</td>
<td>A/B .043</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A/C .074</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B/C .171</td>
</tr>
<tr>
<td>2. Grandiose sense of self-worth</td>
<td>8. Concerned about others</td>
<td>.125</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-.165</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.069</td>
</tr>
<tr>
<td></td>
<td>16. Seems to think that he</td>
<td>.060</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-.111</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.033</td>
</tr>
<tr>
<td>Number</td>
<td>Description</td>
<td>Correlation 1</td>
</tr>
<tr>
<td>--------</td>
<td>--------------------------------------------------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>3</td>
<td>Stimulation seeking</td>
<td>-0.022</td>
</tr>
<tr>
<td>9</td>
<td>Gets bored easily</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Engages in risky or dangerous activities</td>
<td>0.078</td>
</tr>
<tr>
<td>4</td>
<td>Pathological lying</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Lies easily</td>
<td>0.019</td>
</tr>
<tr>
<td>7</td>
<td>Keeps promises</td>
<td>-0.011</td>
</tr>
<tr>
<td>5</td>
<td>Manipulation for personal gain</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Cons others</td>
<td>0.227</td>
</tr>
<tr>
<td>6</td>
<td>Lack of remorse</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Feels guilty</td>
<td>0.042</td>
</tr>
<tr>
<td>7</td>
<td>Shallow affect</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Emotions shallow</td>
<td>0.013</td>
</tr>
<tr>
<td>19</td>
<td>Hides feelings</td>
<td>-0.209</td>
</tr>
<tr>
<td>8</td>
<td>Callous/lack of empathy</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Teases or makes fun</td>
<td>0.163</td>
</tr>
<tr>
<td>18</td>
<td>Concerned about others</td>
<td>0.016</td>
</tr>
<tr>
<td>9</td>
<td>Parasitic orientation</td>
<td>(no parallel item)</td>
</tr>
<tr>
<td>10</td>
<td>Poor anger control</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Angry when corrected</td>
<td>-0.010</td>
</tr>
<tr>
<td>11</td>
<td>Impersonal sexual behavior</td>
<td>(no parallel item)</td>
</tr>
<tr>
<td>12</td>
<td>Early behavior problems</td>
<td>(no parallel item)</td>
</tr>
<tr>
<td>13</td>
<td>Lacks goals</td>
<td>0.288</td>
</tr>
<tr>
<td>14</td>
<td>Impulsivity</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Acts without thinking</td>
<td>-0.045</td>
</tr>
<tr>
<td>15</td>
<td>Irresponsibility</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Cares about school or work</td>
<td>0.081</td>
</tr>
<tr>
<td>16</td>
<td>Failure to accept responsibility</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Blames others</td>
<td>0.030</td>
</tr>
<tr>
<td>17</td>
<td>Unstable interpersonal relationships</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Keeps friends</td>
<td>0.206</td>
</tr>
<tr>
<td>18</td>
<td>Serious criminal behavior</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Illegal activities</td>
<td>0.099</td>
</tr>
<tr>
<td>19</td>
<td>Serious violation of conditional release</td>
<td>(no parallel item)</td>
</tr>
<tr>
<td>20</td>
<td>Criminal activity</td>
<td>(no parallel item)</td>
</tr>
</tbody>
</table>

Low correlations may have been present because personality measures from multiple sources often generate modest correlations (Murrie & Cornell, 2002). Some disagreement among raters may reflect differences in judgment or perspective. Further, situational variability in behavior and response bias must be taken into consideration (Brittebeir & Decoene, 2009).

Another reason for the disagreement in ratings may be because of the nature of psychopathy. Psychopathy is characterized by dishonesty and a deceptive presentation. Adolescents with psychopathic characteristics are known to be inconsistent with their presentation, at times they are dishonest, and at other times they are very honest (Hare, 1993).

One of the strengths of the PCL-YV is that it is a clinical interview, which does not just elicit self-report on a checklist of items. The adolescent is not asked directly if he or she is dishonest, manipulative, or shallow. Instead, the adolescent is asked to describe situation and life experiences. The trained clinician makes a judgment about the characteristics of psychopathy based on what was reported by the adolescent. Further, records are reviewed to help compare and contrast the information received from the clinical interview. A disadvantage of the self-report scales is that respondents are presented with straight forward items that require them to endorse socially undesirable behavior. For example, “You act charming to get what you want.”
In conclusion, the PCL-YV, APSD self-report, and the APSD teacher-report revealed low corresponding item correlations. This is consistent with past research, which has raised concern among the correspondence of psychopathy measures at the item level.
CHAPTER 5
CONCLUSIONS

This chapter integrates the results from chapter four and previous research discussed in chapter two to come up with conclusions and give suggestions for future research. Each of the research questions are discussed and applied to the literature base. Lastly, the limitations and implications for researchers are also discussed.

Youth who demonstrate callous/unemotional traits along with aggressive antisocial behaviors are more likely to continue those acts into adulthood and are evidenced in youth. Psychopathy is thought to be present at an early age and remain stable into adulthood (Lynam et al., 2003). Due to recidivism rates, prognosis, and stability into adulthood reported in the extant literature, understanding the construct of psychopathy with application to specific characteristics in youth is important (Salekin et al., 2004). It is vital that youth offenders be further understood not only for the safety of our communities, but to better target individuals for treatment (Gacono & Hughes, 2004; Lynam et al., 1997). The PCL-R is noted as the gold standard for measuring psychopathy, and this measure has been modified to use with youth (PCL-YV). Additionally, several self, teacher, and parent report questionnaires have been developed to measure psychopathy in youth including the APSD and the ICU. To date, there are limited studies examining the relationship of these measures to the PCL-YV.

The purpose of this current study was to compare test measures and to assess the construct of psychopathy in youth. Documenting the similarities and differences in regard to the construct of psychopathy is necessary in order to compare research findings and clinical reports using different measures. Results of the current study may be useful for
researchers and educators working with youth who are not incarcerated and attending school.

The first analysis conducted was a factor analysis on the PCL-YV, APSD self-report, APSD teacher-report, and the ICU self-report to determine the factor structure of this current study’s sample with application of psychopathy characteristics. Due to previous research, it was hypothesized in chapter 1 that this current study’s sample will exhibit the 3 or 4-factor model of psychopathy on the PCL-YV. The adolescent psychopathy literature supports the 3 and 4-factor models of psychopathy (Cooke & Michie, 2001; Neumann & Hare, 2005). Many argue that the 4-factor model is preferred because it includes 18 of the 20 traits, whereas the 3-factor model only includes 13 traits. Further, the ICU will consist of three factors: Uncaring, Unemotional, and Callousness. For the APSD teacher-report and self-report versions, it was hypothesized to yield three factors: Callous/Unemotional, Narcissism, and Impulsivity. The results were interpreted with application to previous research. The EFA of the PCL-YV was examined. Results from this sample indicated that there were six factors. Each factor made theoretical sense. The APSD and the ICU are newer measures of psychopathy, and researchers continue to examine their factor structure (Neumann & Hare, 2006). Results of this study indicated that both the APSD self-report and APSD teacher-report loaded 6-factor models. Recent research reported that items focusing on narcissism and impulsivity tend to be highly correlated and often load onto the same factor, rather than two separate constructs (Bijitebier & Decoene, 2009). In this current study’s sample, the narcissism items included in the model loaded on factors that consisted of both impulsivity items and callous/unemotional items. This is not consistent with past research on youth. The EFA
for the ICU also resulted in a six factor model, making theoretical sense. Overall, the results did not support the hypotheses. However, the majority of the articles examined CFA models to compare the fit indices and do not discuss EFA results.

The second research question examined the 3 and 4-factor models of psychopathy in adolescents. As hypothesized, the PCL-YV supported both the 3 and 4-factor model of psychopathy. This is consistent with past research. The 3-factor model loaded 18 of the 20 items. Items 14 (Impulsivity) and item 3 (Stimulation Seeking) did not load onto the 3-factor model. Further, two items cross loaded onto two different factor scores. These items were as follows: item 17 (Unstable interpersonal relationships) cross loaded with factor 1 and factor 3, and item 19 (Serious violation of criminal release) cross loaded onto factor 1 and factor 3. This model was statistically significant when examining how well the model fits a set of observations. The 4-factor model also loaded 18 out of 20 items. The 4-factor model included item 14 (Impulsivity) and item 3 (Stimulation Seeking), which did not load on the 3-factor model. Further, this model was statistically significant when examining how well the model fits a set of observations.

The 4-factor model of the PCL-YV was utilized in research question three based on the higher percentage of variance and less cross loadings. Further, previous studies have found that the antisocial, interpersonal, and affective factors were predictors of violence (Neumann et al., 2006). Further, Vitacco and colleagues (2006) compared the 3-factor and the 4-factor models of psychopathy and reported that the 4-factor model accounted for more variance when examining instrumental aggression. Hare and colleagues also prefer the 4-factor model because it splits the original 2-factor model into four factors (Vitacco et al., 2006). Previous studies do not report high correlations
between the Lifestyle and Antisocial factors, indicating that they are measuring different behavioral characteristics (Neumann et al., 2006). Therefore, the separation of the behavioral characteristics into two factors will further help researchers predict violence and examine characteristics that associate with specific childhood disorders. Lastly, in the 4-factor model, the fourth factor included items 14 (Impulsivity) and 3 (Stimulation seeking), which did not load on the 3-factor model. These items are believed to important to the construct of psychopathy in youth, evidenced by their loadings on the literature’s 3-factor and 4-factor models (Cooke & Michie, 2002; Neumann & Hare, 2006). Due to the a-fore mentioned reasons, question three utilized the 4-factor model when assessing common variance.

Differences in the EFA and the CFA models are likely accounted for by differences in the sample size and the restricted age of the population. Large diverse samples tend to yield more reliable factor solutions compared to restricted samples (Neumann et al., 2006).

As part of a follow up analyses, CFA’s were conducted for the APSD self-report, APSD teacher-report, and the ICU self-report. The APSD self-report loaded 17 of the 20 items on the specified 3-factor model. First, all of the items made theoretical sense. The factor names were taken from past research findings are as follows: Factor 1:Narcissism, Factor 2: Impulsivity, and Factor 3: Callous/Unemotional. The loading of factor 2 items were not identical to the results in previous research, such as item 19 (You hide your feelings or emotion from others and item 1 (You blame others for your mistakes). However, it should be noted that item 19 (You hide your feelings or emotions from others), had poor factor loadings in past research (Fritz et al., 2008).
For the APSD teacher-report measure, the 3-factor model loaded 19 of the 20 items. Overall, the items that loaded on the APSD teacher-report factors made theoretical sense. The factors were named as follows: Factor 1: Narcissism, Factor 2: Callous/Unemotional, and Factor 3: Impulsivity. Compared to the APSD self-report 3-factor model, the APSD teacher-report items loaded more consistently with past research loadings.

Lastly, the ICU self-report measure, loaded 19 out of the 24 items. Based on past research, this model labeled the factors as follows: Factor 1: Uncaring, Factor 2: Callousness, and Factor 3: Unemotional. In the first factor, response styles may have contributed to the grouping of these items. All of the items in factor 1 are positively worded. In other words, the response styles may have been the criteria in determining the factor, rather than the construct. Overall, the ICU self-report factors displayed the highest internal consistencies (Cronbach’s alpha) out of all of the test measures in this current study.

The third hypothesis examined the common variance of the APSD-self report, APSD teacher-report, and the ICU self-report with the PCL-YV total score. Contrary to the hypothesis, this current studies sample did not result in the APSD self-report, APSD teacher-report, and the ICU self-report predicting the PCL-YV scores. This may be because psychopathy in children is relatively new and the instruments are still being developed. Results also may indicate that the APSD and the ICU tap into other aspects of psychopathic personality that are not adequately captured by other measures.

However, when the factor scores were examined, results indicated that the ICU factor 3 inversely predicted the PCL-YV factor 2 scores and PCL-YV factor 3 scores.
Further, the ICU total score displayed an inverse relationship with the PCL-YV factor 2. Youth who scored higher on behavioral characteristics and interpersonal characteristics tended to score lower on the unemotional scale of the ICU self-report measure. To further support these results, the Unemotional scale was negatively related to Extraversion, Agreeableness, and Emotional Instability that are part of the Big 5 Theory (Roose et al., 2010). For example, this indicates that a child who is emotional does not have emotional stability. These children can also be classified as emotionally disturbed. There is a difference between an emotional disturbance and the presence of callous/unemotional traits. Children that are elevated in impulsivity and antisocial behaviors that do not exhibit callous/unemotional traits may show a different pattern of emotional processing. Children that exhibit the Impulsivity/Conduct Problems factor often show increased levels of emotional distress (Loney et al., 2003). Since the items in Factor 2 and Factor 3 are behaviorally based, it makes theoretical sense that the ICU unemotional factor would produce an inverse relationship. Being elevated on a behavioral scale indicates conduct problems. It is the presence of both antisocial behavior, and the callous/unemotional traits that delineates a subgroup of children that have psychopathic characteristics.

Further, results indicate that all 3 of the factors on the APSD self-report when taken together, account for a significant 95% of the variance. This finding is in support of the current literature stating that the APSD was modeled after the PCL-YV. Further, the APSD was originally designed to be completed by parent and teacher raters of a child (Benning, Patrick, Salekin, & Leisitico, 2005). The self-report version was created by converting the items which are written in third person to first person (Murrie & Cornell,
Results indicate that the three APSD factors are accounting for the majority of the variance in the PCL-YV total score.

However, results of this current study need to be interpreted with caution due to the low reliability of some of the factor scores on each of the measures. For example, factor 3 on the PCL-YV demonstrated a Cronbach’s alpha of .166.

The fourth question examined the relationship between the items on the APSD self-report and the APSD teacher-report. It was hypothesized based on past literature that there would be little agreement between the corresponding items. Murrie and Cornell (2002) reported that when examining a juvenile offender population, none of the items on the APSD self-report correlated with their counterpart item on the teacher report. Results of the current study indicated that only one item on the APSD self-report and teacher-report correlated with their corresponding items. This was item 20 (keeps the same friends). Overall, the findings are consistent with Murrie and Cornell’s (2002) study indicating that there are minimal relationships between the APSD self-report and APSD teacher-report corresponding items. Further, this raises concern about the correspondence between the two measures of the APSD. The APSD self-report correlations with the APSD Teacher-report ($r=.146$) were lower than expected, particularly because these instruments are composed of parallel items and both scales were developed to correlate with the PCL.

Research question five examines the relationship between the corresponding items on the APSD self-report and the APSD teacher-report with the PCL-YV psychopathy measure. Based on previous literature, it is hypothesized that the APSD items would exhibit little agreement with their PCL-YV counterpart items. Murrie and
Cornell (2002) reported that nine of the staff items correlated with the PCL-YV items, while only six self-report items correlated with their PCL-YV counterparts. Further, Lee and colleagues (2003) reported that only one APSD self-report item correlated with its PCL-YV counterpart item. This current study’s results were consistent with previous literature. Only one significant correlation was identified between the PCL-YV and its APSD counterpart for the self-report measure. This item was Item 14 (impulsivity) on the PCL-YV that correlated with item 4 (acts without thinking) on the APSD self-report measure. Overall, the PCL-YV correlations with the APSD Self-report ($r=.001$) and APSD Teacher-report ($r=.022$) showed virtually no correspondence.

This observation perhaps underscores the difficulty of assessing adolescent psychopathy with brief screening measurements. There may be reasons for the low correlations described in research question four and question five. According to Murray and Cornell (2002), personality ratings from multiple sources often generate moderate correlations. Some disagreement in raters may reflect training, judgment, or perspective. Further, there may be disagreement because the children may behave differently in different domains. Another source of low instrument agreement may lie in the overall construct of psychopathy. One of the characteristics of psychopathy is the tendency to lie and manipulate others. This deceptive self-presentation may present a challenge for self-report assessment. It has been noted that psychopathic individuals are inconsistent with self-presentation (Hare, 2003). For example, sometimes they can present brutally honest, while other times psychopathic individuals are dishonest (Hare, 2003). Also, the self-report version of the APSD presents the items in a straightforward manner that requires individuals to endorse socially undesirable qualities. For example, one of the APSD items
is “Your emotions are shallow and fake” (Murrie & Cornell, 2002). The PCL-YV is a clinical interview in which the individual is asked to describe life experiences in detail. A trained clinician makes judgments about the psychopathic characteristics based on the experiences told. Further, the interviewer of the PCL-YV conducts an investigation through the individual’s records and allows the researcher to compare and contrast information gathered from the interview. In conclusion, this study supports the construct of psychopathy but raises concerns about the correspondence among measures at an item and test total level.

Limitations

Overall, there were several limitations. However, many of these limitations could not be resolved because the data was obtained from a pre-existing database. The limitations include the type of population, sample size, and how the data was collected.

First, the population was taken from a database and participants were not selected randomly. As a result, the sample had a restricted range. In other words, it was a homogeneous population. The sample was taken from a low socioeconomic status that was primarily composed of African Americans. The sample is not a realistic representation of all of the adolescents that exhibit psychopathic characteristics. Therefore, it is difficult to generalize the findings to other populations. These results can be applied to low achieving, conduct disordered minority students that are low in socioeconomic status.

The sample size was also smaller than desired. While the sample size of 74 was adequate for the main research question assessing common variance, it was not adequate
for conducting factor analyses. A larger sample size may have demonstrated more significant differences within the questions.

The third limitation is the methodology. The summary provided to the researcher reported that all of the tests were administered following best practice guidelines. However, the practice of test administration and data collection cannot be ensured due to the fact that the database was pre-existing. It is possible that the tests were not administered and scored as the manuals suggest.

Future Research

The data of the current study was drawn from a community sample of adolescents at an alternative education school. The findings will have to be replicated in clinical and other community samples in order to extend generalizability. Future research should continue to examine the psychopathy factor structure in adolescents. A larger sample size will help yield more reliable results for the factorial analyses. This study is limited to item correspondence and common variance. It may be useful in evaluating the theoretical and practical utility of the self-report measurements by conducting Test-Retest reliability. Factor analysis is in its beginning stages for the ICU self-report; however, the ICU parent and teacher report versions have not been tested. Future research may include the parent and teacher-report versions of the ICU to compare factor structure and validity of usage.

Conclusions

While there are several limitations and future research is still needed in the area of adolescent psychopathy, notable findings were discovered. Some of the findings were consistent with previous literature, while others did not match previous conclusions. The study of adolescent psychopathy is relatively new. Recently, in part because of its utility
in predicting aggressive and violent behaviors, researchers have taken interest in the
construct of adolescent psychopathy. Further, validity of the construct has become a
debate. Expanding the construct to youth is controversial; however, as pointed out by
Frick, Barry, and Bodin (2000), the alternative to examining and specifying subgroups of
conduct disordered youth with psychopathic characteristics is to assume that all youth
displaying antisocial behavior is a homogeneous group. Research has shown that this is
not the case. A small subgroup of children exhibit callous/unemotional traits (Frick et al.,
2003). Multi-measurement has become an important issue in the assessment of
adolescent psychopathy given an increasing body of research that demonstrates less than
optimal agreement between different assessment methods (e.g. interview and self-report).
It would be pre-mature to argue that one assessment method is better. Rather, caution
should be taken when assessing adolescents given inconsistent findings across studies.

Overall, this current research study exhibited contributions to the literature. First,
consistent with past research, the 3-factor and 4-factor models of psychopathy in
adolescents are good fits for this study’s sample. This current study examined a male
sample of adolescents that are in an alternative education setting. To date there has been
no known study examining adolescents in an alternative education setting. Consistent
results for the 3-factor and 4-factor models helps to validate the factor structure in
adolescents.

Results also suggested that the ICU unemotional factor is inversely correlated to
the PCL-YV factor 2 and Factor 3 scores. Factor 2 and Factor 3 of the PCL-YV were
related to behavioral characteristics of psychopathy. For example, children that are
emotional tend to exhibit higher levels of conduct problems. Poor anger control is usually
the result of an inability to control one’s emotions. These results are consistent with previous research. Essau and colleagues (2006) reported that the unemotional scale of the ICU was negatively correlated with the behavioral components of the PCL-YV factors. It is the callous/unemotional traits that delineate a small subgroup of adolescents from purely conduct disordered adolescents. It is the presence of the callous/unemotional traits that help to distinguish characteristics of psychopathy.

Results indicate that when all 3 of the factors on the APSD self-report are taken together, it accounts for a significant 95% of the variance in the PCL-YV, indicating that the APSD is measuring the same construct as the PCL-YV. This finding is in support of the current literature stating that the APSD was modeled after the PCL-YV. However, when common variance was assessed using only the total score of the measures, regression yielded insignificant results. This may be explained by when the total score is decomposed into factor scores, there is a relationship. This is because the three factors have different variations than the total score. Some of those variances are not negated in a composite with the other variables.

At the item level, this current research study found little agreement with the APSD self-report and APSD teacher-report corresponding items, and further comparing the items to their PCL-YV counterparts. Consistent with past studies (Murrie & Cornell, 2002; Lee et al., 2003), the APSD exhibited little agreement with its PCL-YV counterpart items. Some disagreement among raters may reflect differences in judgment or perspective. Further, situational variability in behavior and response bias must be taken into consideration (Brittebeir & Decoene, 2009).
Overall, assessment instruments designed to measure psychopathic traits should be examined carefully to ensure they possess high reliability and validity. Issues surrounding the assessment and diagnosis of psychopathy in adolescents highlight the importance of adopting a critical approach. The clinical importance of using these measures should not be underestimated. Children exhibiting psychopathic traits and early difficulties in social adaptation should be identified for early intervention efforts. Further, the construct may be useful to school psychologists in differentiating the socially maladjusted child, who has both behavioral and personality characteristics, from the emotionally disturbed child, who exhibits only the behavioral components. This is important for treatment identification purposes.
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