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Describing Emotional, Social, and Cognitive Processes in Adolescents with and without Psychopathic Traits: Examining Rorschach Variables

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DESCRIBING EMOTIONAL, SOCIAL, AND COGNITIVE PROCESSES IN ADOLESCENTS WITH AND WITHOUT PSYCHOPATHIC TRAITS: EXAMINING RORSCHACH VARIABLES

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ABSTRACT

DESCRIBING EMOTIONAL, SOCIAL, AND COGNITIVE PROCESSES IN ADOLESCENTS WITH AND WITHOUT PSYCHOPATHIC TRAITS: EXAMINING RORSCHACH VARIABLES

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Dissertation supervised by Tammy Hughes, Ph.D.

The current study examined the effectiveness of select Rorschach Inkblot Method (RIM) variables in detecting individual differences among youth diagnosed with Conduct Disorder (CD) who were either high or low on psychopathic traits. Twenty-nine male adolescents with CD in an alternative education school setting were placed into high or low psychopathy groups based on their Hare Psychopathy Checklist (PCL: YV) scores. Significant differences were found for WSum6, a RIM variable that measures cognitive ideation. However, both CD groups gave very few answers that yielded rich RIM protocols. That is, answers tended to be simple and similar, making inferential statistics uninterpretable. Consequently, students with PCL: YV scores ≥ 30 were examined to determine if there were any patterns in RIM scores. Overall descriptive data of the entire sample (N = 63) were also examined to provide a description of the types of students that

may be found in similar settings. Implications for treatment according to emotional, social, and cognitive functioning, and as related to the practice of school psychologists, are also provided.

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CHAPTER I

INTRODUCTION

Adolescents with Conduct Disorder (CD) are more likely than youth without CD to engage in delinquent behaviors. Of further concern is that 25% of adolescents with CD have psychopathic traits, placing them at greater risk for more severe criminal behavior (Forth, Hart, & Hare, 1990; Gacono, Gacono, & Evans, 2008). Specifically, researchers examining adolescent offenders high on psychopathy traits have found that this group is more likely to engage in violent and delinquent acts in adolescence and early adulthood than those low on psychopathy (Forth, Kosson, & Hare, 2003). Violent recidivism among youth high on psychopathic traits has been found to be greater than 80% (Hemphill, Templeman, Wong, & Hare, 1998).

Due to the high-risk nature of this group, proper assessment procedures are important so that variables contributing to their aggressive behaviors can be fully understood and used to inform comprehensive intervention services. Preliminary research has shown that psychopathic traits may be correctly identified and ranked in terms of severity through use of the Hare Psychopathy Checklist: Youth Version (PCL: YV). How this group comes to make decisions around aggressive behaviors has been effectively identified through use of the Rorschach Inkblot Method (RIM) when studying conduct disordered populations (Gacono & Meloy, 1994; Smith, 1994; Smith, Gacono, & Kaufman, 1997; Loving & Russell, 2000). Both behavioral (e.g. PCL: YV) and performance-based instruments (e.g. RIM) are important for understanding the relationship between how conscious reports (e.g. I can control myself) are related to actual behavioral performance (Teglasi, 2007). Preliminary research has established the

use of the PCL: YV and RIM for understanding aggression, CD, and psychopathy in youth (Smith, 1994; Smith, Gacono, & Kaufman, 1997; Loving & Russell, 2000).

Children are not labeled psychopaths for the very reason that youth, even those high on psychopathy, are thought to be amenable to treatment (Gacono & Hughes, 2004). Understanding the social, emotional, and cognitive variables that may be targeted for treatments has yet to be determined for youth high on psychopathy; however, the use of the RIM in conjunction with psychopathy measures has been supported to better understand these variables in various juvenile offender groups (Smith, 1994; Nunez, 1996; Smith, Gacono, & Kaufmann, 1997; Loftis, 1997; Ponder, 1998; Loving & Russell, 2000, Reilly, 2002). Specifically, the RIM is particularly useful for measuring social, emotional, and cognitive variables in such youth that are treated in schools (Hughes, Gacono, & Owen, 2007).

Theoretical Basis

An individual's personality is the out growth of temperament and early environmental experiences (Ganiban, Saudino, Ulbricht, Neiderhiser, & Reiss, 2008). Its development is thought to be relatively stable throughout the life span (Lynam & Gudonis, 2005), although it is responsive to environmental influences (Ganiban et al., 2008). Thus, among other influences, the expression of personality traits can be shaped by good enough parenting and well selected interventions (Miner & Clarke-Stewart, 2008; Castellanos & Conrod, 2006).

Psychopathy is comprised of both antisocial and aggressive behaviors as well as personality traits (Hare, 1991). When personality traits are present in an individual, these characteristics strongly influence behaviors (Saltaris, 2002). Personality traits that

characterize psychopathy are relatively stable across adolescence and remain into adulthood. As a result, most individuals who have such traits in adolescence will likely have them in adulthood (Lynam & Gudonis, 2005). However, despite their stability, psychopathy levels can change over time and are also responsive to environmental influences (Frick, Kimonis, Dandreaux, & Farell, 2003).

The PCL: YV is a scale that operationalizes psychopathy in terms of behaviors and traits (Hare, 2003). It is used in both clinical and research samples, including criminal populations, and can be used to determine the presence of psychopathic traits either categorically (present or not present) or dimensionally (low, medium or high) (Hare, 2003; Smith, Gacono, & Kaufman, 1997).

The RIM is a problem-solving task that provides important information for understanding the emotional, social and cognitive functioning (e.g., Exner, 2003; Viglione & Hilsenroth, 2001; Weiner, Spielberger & Abeles, 2002) of children and adolescents (Exner & Erdberg, 2005; Lunardi, 1999; Pierce & Penman, 1998; Socket, 1998; Yalof, Abraham, Domingos & Socket, 2001). The RIM has also been used in the assessment of psychopathic personalities (Gacono & Meloy, 1994; Smith, 1994; Smith, Gacono, & Kaufman, 1997; Loving & Russell, 2000). Although the RIM does not determine the presence of psychopathy, it does provide unique information that complements PCL: YV findings (Gacono, 1998). Through use of these two measures, personality traits may be accurately assessed.

Relevant Literature

Existing studies have used the PCL: YV to assess for the presence of psychopathy in youth (Loving & Russell, 2000; Gretton, Hare, & Catchpole, 2004; Salekin, Neumann,

Leistico, DiCicco, & Duros, 2004); however, research in this area has been relatively new and thus the literature base is somewhat limited (Forth et al., 2003). Similarly, there is a lack of research with the RIM as a designated supplementary diagnostic instrument for examining psychopathy (Smith, 1994; Nunez, 1996; Smith, Gacono, & Kaufman, 1997; Loftis, 1997; Loving & Russell, 2000; Reilly, 2002). In fact, to date there are very few studies that have examined the effectiveness of the PCL: YV and the RIM in describing youth with CD that have psychopathic traits (Loving & Russell, 2000; Ponder, 1998). Specifically, Loving and Russell (2000) demonstrated that PCL: YV scores may be interpreted categorically to assess associated RIM variable elevations. This study detected certain RIM elevations that interpretively supported the construct of psychopathy. Ponder (1998) also used these two measures, although a somewhat different methodology was implemented through use of a modified version of the PCL: YV. This yielded mixed findings that were not interpreted to support the existence of juvenile psychopathy. Other previous studies conducted using these measures have utilized a modified version of the PCL-R, designed for use in adult populations, to study delinquent adolescents (Smith, 1994; Nunez, 1996; Smith, Gacono, & Kaufman, 1997). Findings have been similarly mixed regarding the tenability of psychopathic traits in youth (Smith, 1994; Smith, Gacono, & Kaufman, 1997; Loving & Russell, 2000; Forth, Kosson, & Hare, 2003).

Problem Statement

The purpose of the present study was to add to the current literature base by examining RIM variables in youth who meet the criteria for CD that have either high or

low psychopathy scores in a school setting. It was hoped that the results would help clarify the usefulness of these measures with at-risk populations.

Definitions

For the purposes of this study, CD was defined as a pattern of behavior where the rights of others or other developmentally appropriate societal norms or rules are violated. Specifically, it is a pervasive and persistent pattern of problem behaviors characterized by aggression to people and animals, destruction of property, deceitfulness or theft, and serious violation of rules (American Psychiatric Association [APA], 2000). Psychopathy is a number of deviant personality traits and behaviors including but not limited to lying, insincerity, manipulation of others, superficial charm, poverty in interpersonal and affective relations, unreliability, lack of remorse, poor insight, antisocial acts, and failure to learn from experience (Hare, 2003).

Research Questions and Hypotheses

For the purposes of this study, RIM variables in youth with high and low psychopathy scores were investigated. To this end, the following research questions were hypothesized:

1. Are there differences between high and low psychopathy groups on the variables of age, ethnicity, General Intellectual Ability (GIA), and number of RIM responses?

Hypothesis:

There are not differences between high and low psychopathy groups on the variables of age, ethnicity, GIA, and number of RIM responses.

2. Do youth with CD that are high on psychopathy scores experience significantly more affective disturbances than those with low psychopathy scores as measured by RIM variables?

Hypothesis:

White Space (S) and FC+CF+C+Cn will be more frequently observed in the high versus low psychopathy group. Vista (V), Diffuse Shading (Y), Affective Ratio (Afr), and Experience Actual (EA) will be less frequent in the high psychopathy group.

3. Do youth with CD that are high on psychopathy scores experience significantly more social deficits than those with low psychopathy scores as measured by RIM variables?

Hypothesis:

The Coping Deficit Index (CDI) will be more frequently observed in the high versus low psychopathy group. Pure Human Content (H), Texture (T), Inanimate Movement (m), Aggressive Movement (AG), and Cooperative Movement (COP) will be less frequent in the high psychopathy group.

4. Do youth with CD that are high on psychopathy scores experience significantly more cognitive and perceptual disturbances than those with low psychopathy scores as measured by RIM variables?

Hypothesis:

X-%, Personals (Per), M-, WSum6, Perceptual Thinking Index (PTI), Reflections (R), and the Egocentricity Index will be more frequently observed in the high versus low psychopathy group. Populars (P), XA%, and Form Dimension (FD) will be less frequent in the high psychopathy group.

CHAPTER II

LITERATURE REVIEW

Conduct Disorder and Adolescents

Significance and Prevalence

It is estimated that 6-16% of males and 2-9% of females have CD (APA, 2000). More specifically, 3-5% of preadolescent boys and 6-8% of adolescent boys have CD, with boys outnumbering girls by 4:1 before adolescence and 2:1 in adolescence (Loeber, Burke, Lahey, Winters, & Zera, 2000). In the United States, CD symptoms in children and adolescents are the primary presenting problems for psychiatric referral, with 30-50% of child psychiatry referrals involving CD (Kazdin, 1995; Kazdin, 1997). This is significant, as children diagnosed with CD have higher levels of distress and impairment across many domains of adjustment in comparison to children with other mental health disorders (Lambert, Wahler, Andrade, & Bickman, 2001).

As 50-70% of children and adolescents who are arrested for committing crimes have antisocial behaviors such as CD that persist into adulthood and have more extensive histories of delinquency, the need for intervention at this stage in life is essential (Loeber, 1982; Vaughn & Howard, 2005). This is further outlined by the fact that children with CD experience a variety of behavioral disturbance, including poor school performance, peer rejection, high rates of anxiety, high rates of depression and suicide, and early and serious substance abuse (Vermeiren, 2003).

Conduct Disorder and the DSM-IV

For CD to be diagnosed, the presence of 3 or more of the following criteria must be present in the past 12 months, with at least 1 criterion present in the past 6 months:

aggression to people and animals, destruction of property, deceitfulness or theft, and serious violation of rules. For childhood onset type, at least 1 criterion must have been present prior to the age of 10. Adolescent onset type requires the absence of criteria prior to the age of 10. Childhood onset is more severe and persistent than adolescent onset, often leading to the development of antisocial personality disorder (ASPD) in adulthood (APA, 2000).

Characteristics of CD include lack of empathy and concern for others, hostile attributional bias, lack of guilt and remorse, blaming others for acts, poor frustration tolerance, irritability, temper outbursts, recklessness, low self-esteem, and expressing remorse to reduce or prevent punishment (APA, 2000). It is often associated with the early onset of sexual behavior, drinking, smoking, use of illegal substances, reckless and risk-taking acts, a lower than average IQ, and below level academic achievement. It is also more prevalent in families that have biological parents who themselves have a disruptive behavior disorder or other mental health diagnoses. Such behaviors are likely to lead to difficulties with the legal system, sexually transmitted diseases, and pregnancy. These behaviors may become more delinquent over time, or they can stop spontaneously in early adulthood. In fact, for the majority of individuals who present with symptoms of CD, most are adolescent-onset (APA, 2000) and adolescent limited (Moffitt, 1993).

Characteristics and Theories of Conduct Disorder

There are numerous theories that together help to explain the etiology of CD, including the influence of gender, age, biology, temperament, and familial influences, as well as comorbidity with other disorders that impact the developmental pathways from childhood through adolescence. Through considering all such factors it may be better

understood how each theory adds to the onset and prevalence of CD, as well as how such factors interact with one another and are influential in the development of youthful populations.

Gender and Age

Early predictors of CD symptoms (e.g. aggression, disturbed peer relations, defiance) have been established in children as early as 1.5-2 years of age, with such individuals evidencing symptoms as early as the preschool years (APA, 2000; Shaw, Dishion, Supplee, Gardner, & Arnds, 2006). By the preschool years, sex differences are apparent and remain until adolescence, with males predominating in the number of physically and verbally aggressive acts. Difficult temperament is also characteristic at this age, and has been found to predict later internalizing problems in girls and externalizing problems in boys, including CD (Cullinan, Osborne, & Epstein, 2004). The median age of onset of CD is between 8-10 years of age, with the majority of boys meeting the criteria before the age of 10. CD is 3-4 times more likely to develop in boys than in girls, with prevalence rates estimated to be 2% for girls and 9% for boys. Earlier age of onset is predictive of a poorer prognosis than adolescent onset (APA, 2000).

Biology

Researchers have suggested a number of biological correlates associated with CD. For example, twin studies suggest that the heritability of CD is 71% (Slutske et al., 1997). The heritability of antisocial behavior also increases with development, with genetic contributions increasing with age. For example, genetic factors increase from childhood to adolescence and adulthood, with shared environmental influences on antisocial behavior decreasing with age (Jacobson, Prescott & Kendler, 2002).

Researchers indicate that aggressive behavior may result from lesions to brain regions responsible for emotion regulation, including the amygdala and prefrontal areas (Blair, 2001). For example, differential neural activity has been found in adolescents with conduct disorder in the left amygdala. This population also has a lower level of responsiveness in this area of the brain related to aggressive behavior, consequently reducing sensitivity to environmental cues regulating emotion (Davidson, Putnam, & Larson, 2000). Antisocial behavior has also been linked to reduced autonomic activity, with low levels of cortisol indicating the maladaptive response patterns of children to stressful situations. This suggests that these individuals may be less afraid of punishment and less inhibited in acting upon aggressive acts (McBurnett, Lahey, Rathouz, & Loeber, 2000). Finally, a biological component has been suggested in the area of intelligence, in that a full standard deviation deficit in youth with early-onset CD has been detected that cannot be explained by delinquency, motivation, racial status, SES, or school failure (Lynam & Henry, 2001; Lynam, Moffitt, & Stouthamer-Loeber, 1993).

Temperament

Temperament also affects the behaviors exhibited by adolescents with CD. For example, the temperamental traits of such youth is characterized by callous-unemotional traits that predict earlier onset of CD behaviors, a risk-taking proclivity, a preference for novel, exciting, and dangerous activities, a reduced reactivity to threatening and emotionally distressing stimuli, less sensitivity to cues of punishment, and lower levels of conscience development (Dadds, Fraser, Frost, & Hawes, 2005; Crowley, Raymond, Mikulich-Gilbertson, Thompson, & Lejuez, 2006; Frick, Cornell, Barry, Bodin, & Dane,

2003; Blair, 1999). Difficult temperament is therefore suggestive of a number of risk factors that are likely to lead to negative behavioral outcomes.

Familial Influences

The familial influences that contribute to the development of CD include environmental as well as genetic factors. Researchers find that conduct disordered behavior in children is associated with single-parent status, family dissolution, large family size, the young age of mothers, and poor family-child interactions, as well as parental Attention Deficit/ Hyperactivity Disorder (ADHD), maternal depression, and parental antisocial behavior (Hinshaw & Lee, 2003; Patterson, DeGarmo, & Knutson, 2000). Authoritarian child-rearing patterns also influence the development of CD in children (Thompson, Hollis, & Richards, 2003).

Multiple family transitions, unemployment, and low SES are also related to the early onset of CD (Capaldi & Patterson, 1994). In addition, poor maternal affective responsiveness and antisocial behaviors are related to poor parenting and are predictive of child CD behaviors and difficulties in social competence (Rhule, McMahon, & Spieker, 2004). For example, when children are exposed to their mother's depression between the ages of 5-7, increases in conduct disordered behavior is observed by the age of 7. Further, poor attachment patterns formed within the first 12-18 months of a child's life are predictive of later childhood aggression (Kim-Cohen, Moffitt, Taylor, Pawlby, & Caspi, 2005). Finally, children of parents with CD are at a higher risk for developing internalizing and externalizing problems like CD (Jaffee, Belsky, Caspi, & Moffitt, 2006). In summary, familial influences contribute significantly to the development of CD symptoms in youth.

Comorbidity

Special consideration should be given when additional diagnoses complicate the presentation of CD symptoms. This is particularly so as comorbidity among children and adolescents diagnosed with ODD or CD is quite common (Seagrave & Grisso, 2002). In fact, youth diagnosed with such disruptive behavior disorders may experience higher levels of co-occurring disorders than adults (Salekin et al., 2004). When comorbidity is present, children and adolescents show more physical aggression and a greater range of problems and persistence of antisocial behaviors, lower academic achievement, and higher rates of peer rejection (Hinshaw, 1999). Examples of clinical correlates of serious delinquency include drug use, truancy, lying, and stealing (Stouthamer-Loeber & Loeber, 1988).

Attention Deficit/ Hyperactivity Disorder occurs more frequently in those diagnosed with CD (Pavuluri, Birmaher, & Naylor, 2005). When both CD and ADHD are present, an earlier onset of CD symptoms is observed (Hinshaw, Lahey, & Hart, 1993). In addition, ADHD comorbid with CD is strongly associated with the hyperactive and impulsive component of ADHD and less associated with its inattentive component (Hinshaw & Lee, 2003), and is associated with higher rates of aggression, anxiety, and substance abuse problems (Thompson, Riggs, Mikulich, & Crowley, 1996).

Conduct disorder may also be comorbid with internalizing disorders. For example, depression and suicide may be found among those diagnosed with CD (Pavuluri et al., 2005). Further, comorbidity may increase depressive and emotional symptoms, rendering such individuals more severely impaired (Ezpeleta, Domenech, & Angold, 2006; Newcorn et al., 2004). Finally, anxiety may also be comorbid with CD.

Interestingly, anxiety in childhood may act as a protective factor against developing CD in adolescence, while CD in childhood or adolescence often predicts the development of an anxiety disorder (Loeber et al., 2000).

Developmental Pathways to Conduct Disorder

As described in the sections above, conduct disorder is developmental in nature, with symptoms interacting according to both genetic and environmental influences. Careful consideration should be given to examining developmental processes, underlying patterns, and developmental trajectories, as antisocial patterns are heterogeneous in terms of behavior, etiology, and long-term outcomes. In addition, deviant behavior is multi-determined and transactional, with a lack of clear separation of the influence of cultural, environmental, and individual factors (Hinshaw & Lee, 2003). Because of this, CD should be understood from a cumulative-risk perspective, as the type of risk factor is not as important as the number and impact of risk factors. More total risk factors are associated with serious and persistent delinquency, with all risk factors synergistically operating on one other (Stouthamer-Loeber, Loeber, Wei, Farrington, & Wikstrom, 2002). For example, callous and unemotional traits may be exacerbated by the environment and characterized by factors such as poor family interactions, harsh or inconsistent discipline, and impoverished neighborhoods (Hinshaw, 1992).

The majority of all youth with CD have symptom onset in adolescence. Females in particular show symptom onset during this period of development. CD at this age is described as time limited, as it may not continue into adulthood (Moffitt, 1993). In general, such individuals have less childhood risk factors than those with childhood onset CD (Stouthamer-Loeber et al., 2002). They also do not have early signs of

psychopathology, are less likely to offend violently, and often have a limited repertoire of criminal behavior (Moffitt, 1993).

Children who engage in higher rates of antisocial behavior are more likely to persist in such behavior than children who initially engage in lower rates of antisocial acts (Loeber, 1982). The younger the child is when CD symptoms present, the more likely the child is to have what may be termed "life-course persistent" CD. These early symptoms include difficult temperament in infancy, ADHD, neuropsychological deficits, academic underachievement, antisocial family members, family discord, peer rejection, insecure attachment, punitive parenting practices, low SES, and escalation into physically aggressive and violent acts (Moffitt, 1993; Hinshaw & Lee, 2003; Rutter, Giller, & Hagell, 1998). The typical developmental course during adolescence of stubbornness, tantrums, and defiance is usually higher by middle childhood in these individuals. Normal age related declines in such behavior is absent, suggesting that these behaviors are likely to remain into adulthood, with a greater diversity of aggressive behavior observed across time (Hinshaw & Lee, 2003; Loeber, 1982). For example, children often progress from engaging in overt behavioral acts like fighting and disobedience to covert antisocial acts like theft, alcohol, and drug use (Loeber, 1982). It is in this way that CD symptoms can manifest as covert behaviors, overt behaviors, or an admixture of both types of symptomatology across the ages (Achenbach, 1993). However, while the composition of antisocial activity changes over the years, such behaviors are likely to remain stable across the life span (Coie & Dodge, 1998).

Loeber and colleagues (1993) provide a model for illustrating how different developmental pathways may be taken to disruptive child behavior. The researchers

define three separate pathways, including an early authority conflict pathway, characterized by stubborn behavior, defiance, and authority avoidance, a covert pathway, including moderate to serious forms of behavioral delinquency, and an overt pathway, consisting of aggression, fighting, and violence. Youth are more likely to escalate from the overt to covert pathway than vice versa. For example, as suggested above, they are more likely to progress from behavioral manifestations such as fighting to more covert delinquent behaviors such as drug use. Delinquency is highest in youth taking triple or dual pathways, with the highest rate of offending found for all three pathways by the age of 16. Violence is highest for those in the triple, overt, and covert pathways, with lowest rates of offending found for those in the overt and authority conflict pathways (Loeber et al., 1993). Findings support a cumulative-risk factor model and underline how differing behaviors lead to different levels of offending through developmental periods.

Overall, findings suggest that CD is multi-determined and developmental in nature, with childhood onset representing a more severe form of antisocial behavior that is more likely to persist than CD with an adolescent onset.

Psychopathy

Significance and Prevalence

Research suggests that 25% of adolescents with CD have psychopathic traits, placing them at greater risk for more severe criminal behavior in adulthood. Because of the increased risk for violence and aggression, this subgroup requires special consideration beyond examining the diagnosis of CD (Forth et al., 1990; Gacono et al., 2008). Further, the construct of psychopathy is important to consider, as it offers incremental improvement over the DSM-IV disruptive behavior disorder classifications

of antisocial youth, providing additional valuable information when evaluating this population (Hare, 1990).

It is important to assess for psychopathy in youth, as the rate of psychopathy in child and adolescent samples is similar to that in adults, suggesting that identification and treatment at a younger age is warranted (Salekin et al., 2004). Specifically, the rate of psychopathy in child and adolescent samples is estimated to be 21.5%, while the presence of adult psychopathy is estimated to be 15-30% (Hare, 1990). Similar to CD populations, psychopathy has been found to be more common in males than in females (Cale & Lilienfeld, 2002).

History of Psychopathy

In 1801 Pinel published "A Treatise on Insanity," possibly the first modern clinical description of the psychopathic personality, which he described as immoral and unusual conduct. Pinel described the psychopathic personality as madness without the presence of hallucinations, delusions, and other psychotic features. In 1835, Prichard coined the term "moral insanity" to describe a similar disorder. Following this, various descriptions of people who were thought to be morally insane appeared in the literature, but it was not until Cleckley published The Mask of Sanity in 1941 that a modern, systematic, clinical description of psychopathy was provided (Vaughn & Howard, 2005).

In The Mask of Sanity, Cleckley (1941/1950) provided clinical descriptions of the typical individual with psychopathic traits and focused on the interpersonal and affective aspects of psychopathy. Table 1 presents the characteristics he proposed to be representative of the psychopathic personality. He referred to psychopathy as a constellation of interpersonal, affective, and behavioral characteristics. Cleckley focused

less on behavior, although he acknowledged that such individuals engaged in antisocial behavior and were uninterested in or unable to achieve life goals. He also claimed that there was an absence of mental illness in those with psychopathic traits, including delusions, neurotic disorders, and irrational thinking; however, they were not considered entirely sane because their emotions and behaviors did not follow societal rules. Hence his choice of the term "mask of sanity." Cleckley reasoned that although these individuals appeared sane, they were clearly disordered.

Table 1

Cleckley's Core Traits of the Psychopathic Personality

1. Superficial charm and good intelligence
2. An absence of delusions & other signs of irrational thinking
3. An absence of "nervousness" or psychopathic manifestations
4. Unreliability
5. Untruthfulness and insincerity
6. A lack of remorse or shame for their behavior
7. Inadequately motivated antisocial behavior
8. Poor judgment and failure to learn from previous experiences
9. Pathologic egocentricity and incapacity for love
10. General poverty in any major affective reactions or emotions
11. A specific loss of insight
12. A general unresponsiveness to interpersonal relationships
13. Fantastic and uninviting behavior with or without alcohol
14. Suicide is rarely carried out because of love of the self
15. Sex life will be impersonal, trivial, and poorly integrated
16. A failure to follow any kind of life plan

Cleckley's seminal book served as the foundation for the writings of Robert Hare, who is known to be the father of modern psychopathy research (Vaughn & Howard, 2005). Influenced by the writings of Cleckley, Hare identified 20 characteristics to describe psychopathy according to personality traits or antisocial behaviors (Hare, 1991).

Factor 1 constituted the personality traits, whereas factor 2 was representative of socially deviant behaviors.

Table 2

Hare's Psychopathy Traits

Factor 1 Personality Traits	Factor 2 Socially Deviant Behaviors
Pathological lying	Need for stimulation/ proneness to boredom
Callous/ lack of empathy	Irresponsibility
Glibness/ superficial charm	Parasitic lifestyle
Lack of remorse or guilt	Early behavioral problems
Shallow affect	Juvenile delinquency
Conning/ manipulative	Poor behavioral controls
Failure to accept responsibility	Revocation of conditional release
	Promiscuous sexual behavior
	Impulsivity
	Criminal versatility
	Lack of realistic long-term goals
	Many short-term marital relationships

With continued research our understandings and definitions of psychopathy continue to be modified. For example, more recent researchers have described psychopathy according to 3 dimensions: an arrogant, deceitful interpersonal style (ADI), deficient affective experience (DAE), and an impulsive or irresponsible behavioral style (IIB), with each dimension encompassing selected personality and behavioral characteristics of psychopathy (Cooke & Michie, 2001). However, Hare argued that these 3 dimensions are supportive of the 2-factor model that he originally proposed. Since then, Hare modified the two-factor model into a two-by-four hierarchical model, with factor 1 and 2 being higher order constructs that he further split into two subfactors. Specifically,

Factor 1 was split into interpersonal and affective facets, and factor 2 was split into the lifestyle and antisocial facets (Hare, 2003).

Development of Psychopathy

Consistent with the modern definition of psychopathy, psychopathy in childhood and adolescence closely resembles psychopathy in adulthood and is defined by aggressive and antisocial behavior in childhood (Lynam, 1998; Saltaris, 2002). Through the interaction of conduct problems, temperamental disposition, and the inability to form attachment bonds, psychopathic traits are likely to develop (Saltaris, 2002). Further, neurological insults and the presence of psychopathy in childhood is likely to lead to later criminal violence, with antisocial parenting mediating the effects of both variables (Harris, Rice, & Lalumiere, 2001). Antisocial individuals with psychopathic traits are also more likely to have adverse family and social backgrounds when compared to antisocial individuals without psychopathic traits (Hare, Hart, & Harpur, 1991). In addition, most children with psychopathic traits are likely to be male, have ADHD, and exhibit early aggressive tendencies (Lynam, 1998).

The development of psychopathic traits is also influenced by the absence of temporal continuity in the inner lives of this population. Unlike normally developing individuals, individuals with psychopathic traits fail to form attachment bonds, which as a result limit the potentialities that they both recognize and act upon through pro-social contact. Those potentialities that are surrendered may fail to deepen their relationships to objects, causing the individual to not grieve the loss of anything, as potentialities are neither lost nor terminated. This estrangement from themselves causes an estrangement from life and all of the opportunities and limitations within it. For those with psychotic

traits, there is a mode of living without choosing from among one's potentialities in the world, with understandings of good and bad related to current feeling states. For example, for the person high on psychopathic traits who feels tension, a single moment may be experienced as an eternity, leading the individual to live in a mode of existence marked by impulsiveness and discontinuity. Further, when these individuals are denied mutually satisfying relational experiences with others during critical periods of life development, such events interfere with temporal awareness and social relatedness. For example, when early disordered maternal-child relationships exist, coupled with a dysfunctional social structure of family and community, a lack of attachment to object-relations results, as well as a limited understanding and internalization of the temporal limitations of life (Miller, 2001).

From a developmental perspective it is important to differentiate normal development from the trajectory that results in psychopathy in adolescence, as typical adolescent defiance may not persist into adulthood. For example, it should be recognized that some adolescents lack a sense of identity and have limited experiences with relationships due to the continuing formation of their own identities. Within moderation, deviant behaviors may be understood as normal developmental processes even if some behaviors typify psychopathic traits, including behaviors such as lacking goals, behavioral impulsiveness, proneness to boredom and need for stimulation, juvenile delinquency highly influenced by peers, and the shift from irresponsibility to identity and autonomy. As adolescents can engage in social deviance as part of a typical developmental sequence, it may be understood that such behaviors are likely to cease or decrease over time with cognitive maturation and other social developments. For

example, cognitive developments are likely to enhance one's ability to generate alternatives, think hypothetically and abstractly, project oneself into the future, consider a longer range of consequences, and to focus less on the present and more toward the future (Seagrave & Grisso, 2002). It can also be expected that the manifestations of antisocial behavior will change with development, with the expression of behavior varying according to the availability of social opportunities through time. For example, a 4 year-old child may be expected to bite others, whereas an adult may be expected to engage in more violent acts such as rape (Moffitt, 1993).

Although externalizing symptoms are less stable, and therefore conduct problems may not persist, psychopathy is likely to be stable into early adulthood, with very little change seen between the ages of 7 to 17 (Crawford, Cohen, & Brook, 2001; Lynam et al., 2005). There is reportedly no effect of age on stability, with psychopathy being as stable from the ages of 9 to 11 as it is from the ages of 15 to 17 (Lynam et al., 2005). The stability of psychopathy across ages predicts future offending behavior (Laurell & Daderman, 2005). Recidivism is predicted even after controlling for the number of previous violent and nonviolent offenses, age at first offense, and number of CD symptoms. This underscores the fact that psychopathy alone is a risk factor for both violent and non-violent offending behavior (Gretton et al., 2004).

Callous-Unemotional Traits

Callous-unemotional (CU) traits are characteristic of psychopathy and represent a particular risk factor when present in children with CD. CU traits constitute a personality dimension characterized by a lack of guilt, empathy, and emotional expression. Individuals with such a disposition are unconcerned about the feelings of others, do not

feel bad or guilty about their actions, are unconcerned about schoolwork, do not show emotions, fail to keep their promises, fail to accept responsibility for their own actions, and do not typically keep the same friends (Frick, Bodin, & Barry, 2000). Further, CU traits are associated with more severe, aggressive, and stable patterns of antisocial behavior when present in youth, as they predict later antisocial and aggressive behavior (Frick, 2006). This is significant, as CU traits have been reliably assessed in samples as young as age 4 and seem to be a stable dimension of personality, at least in later childhood and adolescence (Dadds et al., 2005). Researchers have also indicated that CU traits predict unique variance in the stability and severity of conduct problems across time, and may predict future delinquency even in the absence of child conduct problems (Kotler & McMahon, 2005).

It is important to monitor these behaviors, as those with the earliest disruptive behavior problems are most likely to display later problem behaviors, with the presentation and labeling of symptoms varying across the ages. For example, a 4 year-old child may engage in aggressive behaviors, have a difficult temperament, and maintain poor peer relationships. While these behaviors may not initially be labeled CU traits, with continued engagement in these behaviors by the child they may come to be characterized as CU traits. This is so as antisocial behaviors manifest themselves in many different forms depending on the age and behavioral capabilities of the child; consequently, the behavioral presentation, although continuous, changes over time. It is in this way that the development of deviant behavior becomes more diverse rather than replaced by differing problem behaviors (Loeber, 1990).

CU traits may develop in youth with CD for a number of reasons. For example, a temperament characterized by low levels of emotional reactivity could negatively affect the development of empathetic concern when responding to the distress cues of others. When there is a lack of emotional reactivity to negative stimuli, children are put at risk for problems in the development of empathy, guilt, and other aspects of conscience. It is in this way that CD may be due to a number of risk factors, with cumulative levels resulting in more severe symptomatology (Frick, 2006).

Youth who score high on certain dimensions of psychopathy are more likely to have CU traits, be arrogant and deceptive in their interpersonal style, and may not show the verbal intelligence deficits that are typically associated with severe conduct problems (Kotler & McMahon, 2005). When CU traits are present in children with conduct problems and in antisocial adolescents, such individuals are less distressed by the effects of their behavior on others (Pardini, Lochman, & Frick, 2003; Frick, Lilienfeld, Ellis, Loney, & Silverthorn, 1999). Further, when CU traits are present, children with psychopathic traits have a greater severity and variety of antisocial behavior and have more early contact with the police (Christian, Frick, Hill, Tyler, & Frazer, 1997).

Psychopathy and Conduct Disorder

Historical revisions of the DSM reflect attempts to extend the psychopathy construct to juveniles. The DSM-III distinguished children who were CD that were either "socialized" or "undersocialized" (APA, 1980). The socialized type of CD was characterized by behaviors associated with a deviant lifestyle and focused on the formation of antisocial peer groups that led to delinquent and aggressive acts. The undersocialized type was reflective of the interpersonal and affective views of the

psychopathic personality that was characterized by a failure to experience normal degrees of affection, empathy, or interpersonal bonds, a lack of peer relationships, egocentrism, manipulation, callous behavior, and a lack of guilt. However, this definition of CD was not comprehensive, as it focused on personality types and not on a distinct set of behaviors, making it hard to operationalize into clear behavioral terms (Kotler & McMahon, 2005).

The DSM-III-R followed and revised the CD subtype criteria to focus on more easily measured criteria, while shifting the focus away from the interpersonal and affective factors that tied it to psychopathy. Consequently, most literature following this became centered on antisocial behaviors in children and less on the psychological aspects representative of antisocial behaviors (Kotler & McMahon, 2005). Currently, CD criteria within the DSM are focused primarily on observable behaviors (APA, 2000). Psychopathy encompasses such behaviors while also placing emphasis on the deviant interpersonal and affective features of an individual that extend beyond current CD criteria.

The presence of CD symptoms should not necessarily be viewed as indicators of psychopathy in youth, but rather should be understood as possible indicators of the presence of psychopathy when a greater number of symptoms are observed (Rogers, Johansen, Chang, & Salekin, 1997). To this end, a pattern of covert and destructive behavior or a diagnosis of psychopathy suggests an increased risk for aggressive behavior above and beyond a CD diagnosis.

As almost all adolescent offenders meet the DSM-IV criteria for CD, the utility of a CD diagnosis is limited in predicting re-offending within such individuals (Forth, 1995;

Gretton et al., 2004). As research indicates that those with psychopathic traits constitute a smaller subgroup among those diagnosed with CD, discriminating this particular population is informative when assessing risk for violent offending. This higher level of assessment is necessary, as the base rate for psychopathy is 25% for institutionalized male adolescent offenders and 10% for male adolescents on probation, suggesting that a substantial number of CD offenders have symptoms of psychopathy (Forth et al., 2003).

Psychopathy and Juvenile Offenders

While adolescents can exhibit some features of psychopathy and then grow out of them, juveniles with a greater number of features have a more extreme condition than found in adults with psychopathic traits (Hare, 2003). Further, psychopathic traits found in adolescence are more strongly related to externalizing psychopathology, including CD, ASPD, and substance abuse and dependence disorders, and less strongly, but still significantly, related to internalizing psychopathology such as anxiety disorders (Salekin et al., 2004; Lynam & Gudonis, 2005).

Children and adolescents who have psychopathic traits or are approaching high levels of psychopathy are more likely to have been involved in violent and nonviolent antisocial acts, to have become involved in antisocial activity at an earlier age, to engage in a wider variety of antisocial behaviors, to have abused drugs and alcohol, and to persist longer in criminal behavior than those without psychopathic traits. While those without such traits can also engage in serious, violent, and chronic offending, those with psychopathic traits start earlier and maintain such behaviors for a longer period of time (Vaughn & Howard, 2005).

The CU traits most commonly associated with psychopathy are related to increased problem severity, aggression, and violence in a variety of clinical, juvenile offender, and community samples. The presence of these traits is related to and more likely to predict a more severe, pervasive, stable constellation of conduct problems (Kotler & McMahon, 2005). Specifically, CU traits in juveniles have been found to predict more premeditated and instrumental violence, more sadistic violence, repeated violence against the same victim, and more serious injuries to victims. This is in contrast to the violent acts committed by those low on psychopathic traits, as such individuals commit violence mostly when they believe they have been provoked, and typically do not have more than one incident of violence with the same victim (Caputo, Frick, & Brodsky, 1999).

Adults who were antisocial as children are more likely to have delinquent histories, including an increased number of arrests and imprisonments, marital difficulties, geographical mobility, and alcohol abuse, as well as poorer occupational and economic histories, social relationships, and physical health. In addition, those who demonstrate such behaviors in adulthood are more likely to have engaged in similar behaviors in adolescence (Robins, 1966). Further, when psychopathy is present in adolescence, an earlier history of offending is likely. This pattern of disruptive behaviors is significant, as juveniles with psychopathic traits are more likely to re-offend, recidivate, and abuse substances than those without such traits (Vaughn & Howard, 2005). They are also estimated to commit more than 50% of serious crimes and are more likely to relapse into criminality earlier after release than juveniles without psychopathic traits (Hare, 1997; Gretton, 1998).

Psychopathy Theories

There are numerous theories posited in the psychopathy literature, including, but not limited to, biological factors, sociological theory, moral reasoning deficits, and personality theory. Through considering all such factors it may be better understood how each theory, depending on the individual presentation of symptoms, may cumulatively influence the development of psychopathic traits. A summative review of each is provided in the following.

Biology

Frontal lobe dysfunction. Injury to the frontal lobes can result in behaviors similar to those seen in individuals who have psychopathic traits, including a lack of interpersonal sensitivity, aggression, shallow affect, impulsiveness, and sensation-seeking behavior (Brower & Price, 2001; Lapierre, Braun, & Hodgins, 1995). Dysfunction in this area may also lead to a loss of self-control, altered emotionality, and a lack of ability to modify one's own behavior (Raine, Buchsbaum, & LaCasse, 1997). However, research is still needed in this area to determine the precise location, nature, and functional aspects of the dysfunction in youth with psychopathic traits (Vaughn & Howard, 2005).

Lateralization theory. Lateralization theory suggests that the functional connectivity of the left and right hemispheres affect the behavior and emotions of humans. For example, it is suggested that reduced lateralization in those with psychopathic traits may cause language processing problems in the right visual field (Vaughn & Howard, 2005). Diminished right ear processing of language in such populations, particularly in regard to responses to emotional statements, as well as

reduced ear asymmetries, may also be found (Williamson, Harpur, & Hare, 1991; Raine, O'Brien, Smiley, Scerbo, & Chan, 1990).

When the corpus callosum of those with psychopathic traits is abnormal, resulting in an increased functional connectivity between the two hemispheres, the relationship between the callosal structural abnormalities and psychopathy can affect cognition, affect, and emotion. When there is an increase in callosal white matter and callosal length, corpus callosum abnormalities may be due to processes of early axonal pruning or to increased white myelination, leading to abnormal inter-hemispheric integration. Increased callosal volume is also associated with blunted affect, a lack of remorse, a lack of social closeness that extends into peer relationships, reduced skin conductance, and heart rate activity during the presence of a stressor (Raine et al., 2003).

Behavioral inhibition and brain activation systems. It is proposed that a primary cause of psychopathy is a deficit in the violence inhibition mechanism, which suggests that humans are biologically prepared to respond to the appearance of distress in others, including an increase in autonomic activity and an inhibition of ongoing behavior (Blair, 1999). This theory suggests that one role of the behavioral inhibition system (BIS) may be to inhibit behavior in novel situations or when the mind perceives that an act is likely to be punished or not rewarded. A role of the behavioral activation system (BAS) directs behavior toward safety and positive reinforcers. When a highly under active BIS is paired with a highly active BAS, risk-taking, sensation seeking, impulsivity, a failure to suppress behavior with cues for punishment, and an absence of fear and anxiety are typical (Fowles, 1988).

When dysfunction in this area results, individuals with psychopathic traits may not inhibit their behavior or understand that their actions are hurting another person. In contrast, normal individuals typically cease undesirable behavior because they feel bad, which leads to negative arousal associated with the actions that led to it. Future actions are then inhibited in efforts to avoid negative arousal. Alternatively, for those with psychopathic traits this emotional impairment interferes with the ability to properly interpret the emotions of others, which as a result prevents them from learning to avoid antisocial behavior (Blair, 1999). The impulsivity, risk-taking, and other related behaviors that result are associated with a criminal lifestyle and an inability to learn from experience. However, future research in this area is needed, as there are individuals who have similar brain inhibition and activation systems that do not have these traits (Vaughn & Howard, 2005).

Amygdala and hippocampus. Together, the amygdala, hippocampus, and thalamus regulate learning, memory, and attention. The amygdala helps to control aggressive behavior, the expression of emotions, and the recognition of affective and socially significant stimuli (Raine, Stoddard, Bihrle, & Buchsbaum, 1998). Criminals with psychopathic traits have significantly less affect-related activity in the amygdala when compared to criminals who do not have these traits and control groups. They show an increased activation of the amygdala to negative pictures, are less responsive to distress cues, demonstrate deficiencies in recognizing sad vocal tones, and have deficits in sensitivity to sad and fearful emotional expressions (Muller et al., 2003; Blair, 1999; Stevens, Charman, & Blair, 2001; Blair, Colledge, Murray, & Mitchell, 2001). Further, those with psychopathic traits have higher levels of instrumental and reactive aggression

that are modulated by the amygdala, with murderers having low activity in the left and high regions of the right amygdala (Blair, 2004; Raine et al., 1998).

The hippocampus may also show deficits in individuals with psychopathic traits. Since the hippocampus is involved in contextual fear conditioning, this impairment may lead to insensitivity to signals that predict punishment and arrest, leading to criminal offenses. Criminals with psychopathic traits also have an exaggerated structural asymmetry in the anterior hippocampus, in that the right is larger than the left. This results in affect dysregulation, poor contextual fear conditioning, and insensitivity to signals predicting capture (Raine et al., 2004). Research in this area therefore suggests that dysfunction in the amygdala and hippocampus may lead to increased risk for criminal behaviors due to impaired social and affective conditioning.

Low fear/ arousal theory. Anxiety facilitates learning to avoid conditions associated with pain and stress. Since those with psychopathic traits are low on anxiety, they have difficulty with avoidance learning (Patrick, 1994). Because they have a low level of autonomic cortical arousal and hyperactivity, they are in a chronic state of sensation seeking and stimulation. They also have reduced electrodermal and skin conductance responses to threatening and neutral stimuli, meaning that they have low arousal and low physiological responsiveness to threatening stimuli due to high aversion (Blair, Jones, Clark, & Smith, 1997). This explains why they do not become autonomically aroused in response to stressful, exciting, or frightening stimuli. Increased sensory input is therefore required to stimulate their arousal level. When the normal level of arousal falls, stimulation and sensation seeking and sensory intake increase to raise arousal to the desired level. When the arousal level is high, the need for sensation seeking

decreases and the level of arousal goes down (Hare, 1970). Extreme levels of violence or aggression would have to be reached to have an aversive effect on this population (Patrick, 1994). As a result, children and adolescents who are fearless may be more impulsive, take more risks, not plan ahead, be hard to punish, have more problems learning from experience, be prone to boredom, and not consider the consequences of their actions (Vaughn & Howard, 2005).

Additional biological theories. Twin studies have suggested a large genetic contribution in monozygotic twins and little relationship in dizygotic twins with psychopathy, indicating a genetic rather than environmental contribution to psychopathy (Blonigen, Carlson, Kruegar, & Patrick, 2003). Psychopathy has also been found to be associated with the number of substance use disorders present, with the propensity for violence and vulnerability to substance abuse sharing the same underlying biological mechanisms (Rutherford, Alterman, Cacciola, & McKay, 1997; Fishbein, 2000). Findings suggest that although the influence of the environment can be substantial, psychopathy can also have a strong genetic link.

Sociological Factors

Sociological factors also contribute to the development of psychopathy, with influencing factors including peer associations, social ties, socioeconomic status (SES), school problems, living in poor neighborhoods, and harsh/ inconsistent parenting (Vaughn & Howard, 2005). While the family backgrounds of those with psychopathic traits do not typically differ from other criminals and does not influence the age in which they start their criminal careers, poor backgrounds are associated with more violent

crimes. In addition, while unstable and criminal parents do not cause psychopathy, they are influential in the development of antisocial traits in their children (Hare, 1997).

Finally, biological factors are strongest in those who were raised in supportive environments. The presence of less biological factors is also possible when an individual is from an adverse background (Raine, 2002). This again suggests the influencing interaction of biological and sociological factors on the expression of psychopathy.

Moral Reasoning Deficits

Juvenile psychopathy and a CU temperament are a result of failure in conscience development. This is due to a deficit in behavioral inhibition that is characterized by under-activity of the autonomic nervous system, low fear in response to novelty or threat, and poor responsiveness to punishment cues (Frick et al., 2003). The proper functioning of this violence inhibition mechanism is a prerequisite for moral development, and when it is not present or does not develop, increased aggression and violence result (Blair, 1995). This low fear inhibition also affects conscience development and moral socialization, leading to CU traits and the development of psychopathy (Frick et al., 2003). Such a deficit may be due to an inability to experience guilt and anxiety rather than a failure to understand ideas of morality and appropriate emotional attributions (Blair et al., 1995).

Personality Theory

Personality characteristics also strongly influence the development of psychopathic traits (Saltaris, 2002). Personality traits that develop over time are of importance, as those that characterize psychopathy are stable across adolescence and

remain into adulthood. As a result, most individuals who have psychopathic traits in adolescence will continue to carry these traits in adulthood (Lynam & Gudonis, 2005).

The development of personality may be traced to processes as early as disrupted early attachment to caregivers, where inner working models of the self result. From this perspective, the infant and caregiver relationship is the primary bond for basic trust in the availability of the caregiver and the world. When disruption to this process occurs, the child may be led to perceive him or herself as unworthy of trust, concern, and care (Saltaris, 2002).

The psychopathic personality is related to the Big 5 Personality Theory, which is also known as the Five Factor Model (FFM). The 5 personality theories included in this theory include extraversion, agreeableness, conscientiousness, neuroticism, and openness (Farrington, 2005). When evaluated according to structural models of personality, adolescents with psychopathic traits have been found to be low on the personality traits of Agreeableness and extremely low in the area of Conscientiousness. Lack of agreeableness is associated with interpersonal antagonism, including suspiciousness, deception, exploitativeness, arrogance, and tough-mindedness. Low conscientiousness is related to trouble with controlling impulses and the endorsement of nontraditional values and standards, as well as a tendency to experience negative emotions when angry or distressed (Lynam & Derefinko, 2004). There is also some evidence across studies for the association of Neuroticism with the construct of psychopathy. The mixed findings for this domain are likely due to the fact that Neuroticism is associated with self-consciousness, anxiety, and vulnerability, all of which would not be expected to be related to

psychopathy. However, Neuroticism is also related to angry hostility and impulsiveness, both of which are areas that are expectedly related (Lynam & Gudonis, 2005).

Eysenck's (1977; 1996) personality theory is also of importance. This theory focuses on 3 independent dimensions of personality, including Neuroticism-Stability (N), Psychoticism-Superego (E), and Extraversion-Introversion (E). Each dimension has a biological basis and is related to cortical arousal and activity in the limbic and autonomic systems. Eysenck argues that individuals with psychopathy exhibit lower arousal and weaker conditionability, and have higher mean scores on all 3 dimensions. For example, compared to introverts, extroverts demonstrate low arousal and seek higher levels of stimulation in pursuit of pleasurable activities, as well as are less susceptible to forming conditioned responses (Eysenck, 1996).

As can be seen, through considering personality theory the traits and behaviors characteristic of psychopathy may be better conceptualized according to the theoretical structures of personality. The psychopathic personality may then be understood as a personality dimension representative of a more pathological personality subtype.

Measuring Personality

Numerous assessment instruments exist for the assessment of personality. For the measurement of psychopathy in children and adolescents, popular assessment instruments include the Antisocial Process Screening Device (APSD) (Frick & Hare, 2001), the Child Psychopathy Scale (CPS) (Lynam, 1997), the Youth Psychopathic Traits Inventory (YPI) (Andershed, Kerr, Stattin, & Levander, 2002), the Hare P-SCAN (Hare & Harve, 1999), and the Hare Psychopathy Checklist: Youth Version (PCL: YV; Hare, 2003).

All scales have relative strengths and weaknesses and require additional research to further substantiate their use with youthful populations. For example, the ASPD is short, easily administered, and shows clear links to adult psychopathy measures. However, further study is required to identify a clear and stable factor structure for the scale. In addition, the limited number of items may not adequately capture the constructs, the items have limited variance and may increase response bias, and it is possible that the response set is influencing the factor structure of the scale. The CPS also has its strengths and weaknesses. For example, a strength of the CPS is that it uses multiple items to assess psychopathic characteristics. However, additional research is needed to further examine construct validity and to clarify the most appropriate factor structure for the scale. The YPI is also useful in that it addresses a number of problems with the self-assessment of psychopathy, and because it uses multiple items to measure each personality trait. Future research with the YPI should include exploring the consistency of multiple informants across psychopathy measures and further validating the YPI's psychometric properties. Finally, the Hare P-SCAN is useful in that a large number of items are included on the scale; however, continued reliability and validity research is needed with adolescent populations (Kotler & McMahon, 2005).

The PCL: YV is useful in that it provides a more in depth assessment of psychopathy and is therefore more comprehensive. For example, it requires completion by a skilled rater and includes the additional benefit of a record review. This is also likely to reduce reporter bias. In addition, unlike the other measures, it is modeled directly after the Hare Psychopathy Checklist- Revised (PCL-R) and is not a screening device. A weakness of the PCL: YV is that some adolescents may have incomplete documented

histories that can limit the accuracy of the ratings. In addition, the measure may have limited use with non-offender populations due to requiring record reviews, as non-offenders are not likely to have a documented history of behavior. The developmental appropriateness of the items also continues to be questioned (Kotler & McMahon, 2005).

Despite its criticisms, research has indicated the use of the PCL: YV in youthful populations. For example, it has been found that the PCL: YV outperformed the ASPD and a modified version of the Self-Report Psychopathy II Scale (SRP-II) when relations among psychopathy and criterion variables were examined. In this study, only the PCL: YV was able to predict overall, violent, and nonviolent offenses after accounting for the overall predictive effects of CD, ODD, and ADHD symptoms, indicating that only the PCL: YV predicted previous violent and nonviolent offenses beyond these disorders. Beyond suggesting the use of the PCL:YV over other similarly targeted assessment instruments, this study also suggests that the construct of psychopathy is supported in adolescents, with psychopathy, assessed through use of the PCL:YV, having better convergent and discriminant validity than ODD and CD (Salekin et al., 2004).

In the assessment of psychopathy, researchers argue that the Rorschach Inkblot Method (RIM) should be included in collaborating findings from the PCL: YV when assessing adolescents with psychopathic traits. Although the RIM does not assess specifically for psychopathy, it provides characteristics of psychopathy that aids in the personality assessment of the psychopath. Specifically, researchers argue that the RIM provides unique information that complements the PCL: YV, with the two assessment measures providing different but complementary dimensions of personality (Gacono, 1998). Incremental validity therefore results when both assessment measures are

administered (Gacono & Meloy, 1994; Gacono, Loving, & Bodholdt, 2001). It should also be considered that the RIM is one of the most commonly used tests in clinical practice, and when administration integrity is upheld, produces valuable information that aids in diagnosis, intervention, and description of the types of variables that would be related to future delinquent behaviors (Cunliffe & Gacono, 2005).

In sum, the PCL: YV and the RIM have been indicated in the literature as useful instruments for the assessment of psychopathic adolescent populations. However, research also supports their continued use in future studies to further establish their use with this population. It is for these reasons that the PCL: YV and the RIM were selected from among other personality assessment instruments to be reviewed more specifically in what follows.

The Hare Psychopathy Checklist

The original Hare Psychopathy Checklist (PCL) was introduced in 1980 and revised in 1991 (Hare, 1980, Hare, 1991). It was introduced as a research scale that operationalized psychopathy for its assessment in criminal populations, while allowing for a dimensional assessment of psychopathy. The PCL is currently in its second edition (PCL-R) (Hare, 2003).

The PCL-R is a 20-item measure that includes scores ranging from 0-40, with scores of 30 and above indicating the presence of psychopathy. A background information section is required, as well as a semi-structured interview. With the PCL-R, the administrator gathers information from a record review prior to conducting the semi-structured interview, and uses both information sources to arrive at a total score. The scale is composed of 2 factors, with factor 1 representing interpersonal and affective cues

(e.g. callous/ lack of empathy) and factor 2 representing behavioral characteristics (e.g. serious criminal behavior) (Hare, 1991).

The Hare Psychopathy Checklist: Youth Version

History and psychometric properties of the PCL: YV. Until relatively recently, a modified version of the PCL-R has been used to assess for the presence of psychopathy in juveniles (Forth et al., 1990; Smith, 1997; Smith et al., 1997; Rogers et al., 1997; Myers, Burket, & Harris, 1995). This was so despite the fact that there are no established norms for adolescents with the PCL-R. However, its use was indicated due to the ability of the PCL-R to detect psychopathy in adult populations, as well as because PCL-R scores were found to be associated with delinquent behavior and CD, and identified those with a CD diagnosis that engaged in delinquent behaviors without applying DSM-III-R CD criteria (Myers et al., 1995).

The PCL: YV was more recently introduced (Forth et al., 2003), and is similar to the PCL-R. The PCL: YV retains all of the 20 PCL-R items, although some items were revised to make them more appropriate for adolescents. The instructions were also modified to emphasize normal adolescent behavior (Gretton et al., 2004). A major change was that the construct of psychopathy was extended to children through modification of the factors, with factor 1 representing impulsive/ conduct problems and factor 2 encompassing the callous/ unemotional problems (Frick, O'Brien, Wootton, & McBurnett, 1994). For example, whereas callous unemotional traits are represented on factor 1 of the PCL-R, they are instead represented on factor 2 of the PCL: YV. Items related to "parasitic lifestyle" and "many short-term marriages" were omitted, and the scoring for items related to "juvenile delinquency" and "criminal versatility" was

modified, as adolescents have a shorter period of time to develop behavioral histories (Kotler & McMahon, 2005). The items also reflect the involvement of and adjustment to peers, family, and school (Forth et al., 2003).

Table 3, presented below, provides a comparison of Cleckley's (1941) core psychopathic traits and the 20 items on the PCL: YV. The scale is intended for youth aged 12-18 years, although it is acceptable to use the instrument for those a few months outside of this age range. It utilizes a 3-point ordinal scale, measuring the interpersonal, affective, and behavioral domains of psychopathy to assess for the absence of, sometimes present, and consistently present traits. As with the PCL-R, scoring is to follow a semi-structured interview, and if available, a record review (Forth et al., 2003).

Table 3

Cleckley's Core Traits of the Psychopathic Personality and Items from the PCL: YV

Cleckley's Core Traits	Hare's PCL: YV Items
1. Superficial charm and good intelligence	1. Impression Management
2. An absence of delusions and other signs of irrational thinking	2. Grandiose Sense of Self-Worth
3. An absence of "nervousness" or psychopathic manifestations	3. Stimulation Seeking
4. Unreliability	4. Pathological Lying
5. Untruthfulness and insincerity	5. Manipulation for Personal Gain
6. A lack of remorse or shame for their behavior	6. Lack of Remorse
7. Inadequately motivated antisocial behavior	7. Shallow Affect
8. Poor judgment and failure to learn from previous experiences	8. Callous/ Lack of Empathy
9. Pathologic egocentricity and incapacity for love	9. Parasitic Orientation
10. General poverty in any major affective reactions or emotions	10. Poor Anger Control
11. A specific loss of insight	11. Impersonal Sexual Behavior
12. A general unresponsiveness to interpersonal relationships	12. Early Behavior Problems
13. Fantastic and uninviting behavior with or without alcohol	13. Lacks Goals
14. Suicide is rarely carried out because of love of the self	14. Impulsivity
15. Sex life will be impersonal, trivial, and poorly integrated	15. Irresponsibility
16. A failure to follow any kind of life plan	16. Failure to Accept Responsibility
	17. Unstable Interpersonal

Relationships
18. Serious Criminal Behavior
19. Serious Violation of Conditional Release
20. Criminal Versatility

It has been found that normal developing adolescents typically score less than 5 on the PCL: YV, compared to an average score of at least 20 for adolescent delinquents who score high on this construct (Forth et al., 2003). Another study has suggested that male young offenders have a mean score of 26.2, with higher PCL: YV scores predicting increased aggression and violence among adolescents in forensic samples (Forth et al., 1990; Rogers et al., 1997).

Adequate levels of reliability for the total scores on the PCL: YV have been found, with average alphas of .83 and average inter-rater intra-class correlations of .93 detected (Forth & Burke, 1998). Reliability is demonstrated in that the PCL: YV can predict risk and recidivism accurately, with higher scores indicating higher rates of recidivism and crime (Vien & Beech, 2006).

Psychopathy and juvenile offenders on the PCL: YV. It is important to study psychopathy in childhood and adolescence, as a small number of offenders commit the majority of crimes. In addition, the early identification of offenders could prevent the development of chronic criminal careers (Vaughn & Howard, 2005). However, the PCL: YV should not be used alone for making decisions about youth in the mental health and criminal justice systems. Rather, interpretations should be made in consideration of information from others sources, assessment tools, and direct observations. Through consideration of information from multiple sources and contexts, and evaluating items

according to frequency, intensity, and duration, information may be integrated effectively from a variety of sources. Even with the adoption of best practices in assessment, continued research is needed with the PCL: YV before adolescents are diagnosed as psychopaths for clinical or forensic purposes (Forth et al., 2003). For example, more test-retest reliability of measures of juvenile psychopathy is needed. As a result, labeling children and adolescents as psychopaths should be done with caution in clinical decision-making and in court proceedings (Vaughn & Howard, 2005).

Continuous versus categorical data. Controversy exists regarding the appropriate cutoff score to use when assessing for the presence of psychopathy in adolescents. This is so as it has not yet been resolved if psychopathy is best characterized as a dimension or as a categorical diagnostic entity. While it is common on the PCL-R to use a cutoff score of 30, the PCL: YV manual does not provide a categorical diagnostic cutoff, as research has not yet established the validity of a specific cut off score for psychopathy in juveniles. In addition, its diagnostic efficiency has not been evaluated and additional longitudinal research is needed to assess the stability of the construct into adulthood (Forth et al., 2003).

Researchers have suggested that psychopathy in juveniles be understood dimensionally rather than as a taxon so that clinical information of severity is not overlooked. Such individuals propose that psychopathy at this age should be understood as a range of true scores that vary according to context and the standard error of measurement. It is in this way that the ranges of psychopathy may predict behavior through a dimensional assessment when applied clinically. It is also suggested that the

determination of cutoff scores will vary according to the context in which they will be used (Gacono, Loving, et al., 2001).

It is recommended that when those without psychopathic traits are close to the cutoff point, due to the standard error of measurement only scores at the extreme ends of the distribution should be used, as the mid range may contain individuals both with and without these traits. Further, the influence of the degrees of freedom in 3 group comparisons can statistically conceal true between-group differences. Comparing higher versus lower scores within a sample is therefore more informative when assessing for the presence of psychopathy (Gacono, Loving, et al., 2001).

It is because of these precautions that some studies have used a specific cutoff score to compare those who do and do not meet the taxon (Forth et al., 1990; Myers et al., 1995; Gretton et al., 2003; Gretton, McBride, Hare, O'Shaughnessy, & Kumka, 2001), while others have opted to use high, medium, and low scoring groups (Forth et al., 2003; Smith, 1994; Smith et al., 1997; Loving & Russell, 2000; Laurell & Daderman, 2005).

As can be seen, there may be a need to establish cutoff scores when assessing adolescents so that courts and mental health professionals can identify the risk level they want to take when making decisions that will impact youth. Currently, cutoff scores for juvenile offenders are set at the convenience of researchers. However, such cutoff points should be set with caution, as there is a continued need to establish a theoretical and empirical basis for identifying adolescents who have psychopathic traits (Seagrave & Grisso, 2002). It is therefore suggested that future research in this area with dimensionally set cutoffs is appropriate, as the prevalence of psychopathy in adolescence is currently unknown.

The Rorschach Inkblot Method

The RIM is a personality assessment tool whose use has been indicated in the assessment of psychopathic personalities; however, research in this area remains preliminary (Gacono & Meloy, 1994; Gacono, Loving, et al., 2001; Gacono, 1998; Gacono, 1995; Smith et al., 1997; Loving & Russell, 2000; Hartmann, Norbech, & Gronnerod, 2006; Gacono et al., 2000; Nunez, 1996; Loftis, 1997; Ponder, 1998). The following outlines the clinical utility and psychometric properties of the RIM, as well as findings of studies conducted with the RIM that examine youth and adults with CD and psychopathic traits.

Clinical Utility and Psychometric Properties of the Rorschach

Historically, the utility of the RIM has been debated in clinical practice. As Jensen stated in 1965, "The rate of scientific progress in clinical psychology might well be measured by the speed and thoroughness with which it gets over the Rorschach" (p. 501). Presently, attitudes toward the RIM abound in society, and thus the debate ensues.

Opponents of the RIM suggest that the instrument is limited in its use, as it cannot predict psychiatric diagnoses and because it is not as good as the DSM as a diagnostic instrument (Wood, Lilienfeld, Garb, & Nezworski, 2000). Others argue that there is a need to further establish its reliability, validity, and clinical utility, and that there is not enough known about the scales and variables to substantiate their use. It is also argued that poor administration of the test is common. Additional arguments include that there is a lack of consensus among proponents of the RIM regarding what it measures, how to use it, and how to validate it, and that there is no scientific basis to support its continued use

in clinical, legal, forensic, and occupational settings, as there is little replicated evidence from high-quality studies (Hunsley & Bailey, 2001).

However, counter arguments exist in support of the RIM. For example, it is suggested that past studies in this area may have proven faulty due to non-standardized administrations and comparison of groups that should not have been compared, such as ill-defined populations. It should also be considered whether different scoring systems were used across studies (Hughes et al., 2007). For example, it is suggested that the rising effect sizes of the RIM over time are likely due to the improvements made in Exner's Comprehensive System (Hiller, Rosenthal, Bornstein, Berry, & Brunell-Neuleib, 1999). In fact, when accurately critiquing the literature, it has been found that those who provide arguments against the RIM may themselves fall victim to lack of appropriate methodology in their critiques of the RIM, as well as to inappropriate conclusions, inferences, and distortions of the interpretations of others works. Because of this, caution is warranted when accepting published studies disconfirming use of this test (Meloy, 2005).

Within the legal profession, the RIM has been consistently supported as an effective measure that aids in court decisions, with its use becoming increasingly prevalent when supplemented by additional sources of client information. Examples of cases in which the RIM has been used include death penalty appeals, emotional disability, child custody, competency to stand trial, conditional release and parole, sexually violent predator status, guardianship, family visitation, child sexual abuse, and other criminal appeals. In fact, within the last decade there has not been a single documented case where the RIM was criticized by opposing counsel. The court has only

considered the test unfounded and speculative when clinicians have attempted to make decisions that go beyond the data provided by the test (Meloy, 2008).

An additional benefit is that it is ambiguous how to fake good or bad on the RIM, making the test resistant to examinees minimizing their difficulties or to presenting themselves in a positive light (Brems & Johnson, 1991). This is important, as it provides information that is not observable from self-report, and guards against the attempts of individuals to manipulate and deceive the examiner (Loving & Russell, 2000). It also provides a different stimulus for generating hypotheses about personality than is provided by other performance measures like free drawings, sentence completion, TAT stories, and items on a rating scale. This is so as it is able to address a number of interest areas through response to unstructured situations (Yalof et al., 2001).

The RIM has also been found to have reliability similar to other accepted personality assessment instruments. In addition, when used responsibly, its use in personality assessment is appropriate and justified across disciplines. It has also been determined that the RIM has adequate psychometric properties, can be scored reliably with proper training, and that the scores measure important psychological domains and provide unique information that cannot be obtained from other relevant instruments or clinical interviews (Society for Personality Assessment, 2005).

Research indicates the validity of the RIM in clinical practice as well. For example, results from a meta-analysis conducted by Hiller and colleagues (1999) suggest that the RIM is as valid as the MMPI/ MMPI-2, with criterion validity estimates as good as can be expected for personality tests. Further, it is argued that criticisms of the validity of the RIM are faulty, as validity depends not necessarily on a weakness in psychometric

properties, but rather on what the measure is used for (Gacono, 1998). For example, the validity of the RIM rests in the interpretations that may be drawn for the purposes of the examination. Because of this, the decision-making processes engaged in by the examinee to solve the problems posed by the inkblots may be validly assessed according to appropriate usage of the measure, yielding treatment rather than diagnostic validity (Society for Personality Assessment, 2005).

It may also be considered that findings from over 125 meta-analyses and 800 multi-method assessment studies indicate assessments with the RIM do not produce consistently lower validity coefficients than alternative personality tests. Instead, performance tests of cognitive ability and personality, as well as self-report tests of personality, all yield validity coefficients that vary according to the uses for which the RIM and other projective measures are applied (Meyer et al., 2001). This highlights the fact that scientific validity is always conditional, and that questions of validity can only be addressed in the context of its specific uses. Because of this, it can be seen that the RIM, like other diagnostic instruments, is valid according to the purposes for which it is used (Weiner, 1996).

Incremental validity is also supported, in that the RIM provides valuable information beyond what is available from diagnosis, self-report, and interview (Gacono, Evans, & Viglione, 2002). Through using this instrument, different types of information may be extracted so that supplementary information is given to expand upon data provided by other assessments, such as forced choice measures (Flanagan, 2003; Janson & Stattin, 2003).

Research indicates that the RIM is a useful instrument for assessment and intervention when collaborated with information from multiple sources. That is, thorough assessment procedures include not only the nomothetic assessment of an individual, but also integration of an idiographic approach, with the RIM being only one method that can be applied within this framework. The RIM is useful in this respect, as it helps to individualize treatment according to specific individual needs. In addition, indirect measures like the RIM are helpful when understanding unconscious, automatic thought processes. It is in this way that the clinician can integrate information from multiple sources for a more in depth assessment of pathology (Stricker & Gold, 1999).

Clinicians should also consider the fact that long-term behavior is better predicted by performance measures, whereas short-term behavior is predicted better by forced choice measures. Further, when used appropriately, the RIM does as well as or better than forced choice measures. That is, forced choice measures are based on organized, cognitive, self-reflective thought processes that predict behavior in specific situations, whereas performance tests measure personality traits that are relatively stable and representative across time and differing contexts (Masling, 1997). As a result, performance measures like the RIM aid in treatment planning that is more likely to have long-term positive outcomes.

Overall, it can be seen that the use of the RIM can be reasonably and arguably applied across contexts to aid in the assessment of personality. A thorough critique of the literature reveals ample evidence for its continued use within the field of psychology.

Conduct Disorder and the Rorschach

The RIM is useful when assessing for CD, as the RIM adds additional valuable information to the assessment process through focus on the following 8 areas: control and stress tolerance, situation related stress, affective features, information processing, mediation, ideation, self-perception, and interpersonal perception (Exner & Erdberg, 2005). As the RIM does not correspond directly to the DSM diagnosis of CD, the evaluator should look at how RIM findings do and do not correspond with other test findings and diagnoses so that a more holistic understanding of the person may result. As traits manifest differently in psychological testing, valuable information may be produced when administering the RIM to youth with CD (Gacono, Loving, et al., 2001). The following provides a description of common RIM elevations among this population.

General. Most adolescents with CD have dysfunctional problem-solving styles, with 70% having either avoidant or ambitent coping styles, and with most being introversive rather than extratensive. High lambda is also noted, indicating difficulties with managing ambiguity or complexity, becoming easily overwhelmed, and having limited coping strategies (Gacono et al., 2008; Gacono & Meloy, 1994).

Controls. Fewer Sum Shadings indicate that the adolescent has begun to compartmentalize painful affect through acting out. Lower EA indicates that there are fewer available psychological resources than developmentally expected. Higher CDI indicates that adolescent controls and adjustment are more impaired than non-patients (Gacono et al., 2008). The D and AdjD are normal. Most are not overwhelmed by feeling badly, as indicated by the FM+m<Sum. Less than 10% are disorganized and unpredictable in their stress tolerance and controls, indicating organized, predictable, and

controlled behavior in antisocial samples regardless of age or gender (Gacono & Meloy, 1994).

Affect. The presence of a greater number of Pure C and a higher DEPI reflects an impairment in the ability to manage emotions. Lower FC:CF+C ratios indicate that males modulate affect as well as a 5 or 6 year-old, which is the same as an adult male psychopath, and females as well as a 7 year-old. A lack of blends suggests simplicity of psychological operations and possible confusion due to emotions. These adolescents will be less responsive to color than controls, as indicated by a lower Sum C, but when affect is felt it will be less modulated (Gacono et al., 2008; Gacono & Meloy, 1994). Low Sum Y may indicate that CD adolescents experience less felt helplessness compared to the CD child. A lower Afr suggests difficulties with modulating affect that may lead to the avoidance of affective situations and emotional simplicity, as indicated by a lower number of blends. This easily fluctuates according the number of S present, which indicates anger and resentment, and may lead to acting out behaviors (Gacono et al., 2008).

Dysphoric feelings (V) are notable, with the CD adolescent more than twice as likely to experience painful introspective feelings when comparing him or herself negatively to others. Anxiety and a sense of felt helplessness (Y) are experienced less frequently. The Afr is within normal limits, although some affective avoidance is present. CPs are also noted, indicating a primitive hysterical defense, like the denial and dissociation that appears linked to psychopathy (Gacono & Meloy, 1994).

Thinking and processing. Adolescents with CD fail to attend to important details of the world (lower ZD). They put in as much energy into organizing and synthesizing

information but do so less effectively. Particularly for males, they are under-incorporators and will often strive beyond their abilities (W:M) (Gacono & Meloy, 1994). Distorted interpersonal ideation impairs their thinking (higher M-). This results in a reality-testing impairment that accompanies human movement and perceptual problems such as reasoning, judgment, and delay of gratification. Level 2 special scores indicate cognitive slippage and other thought disorder and perceptual distortion. They do not see the world as others (greater PTI), with Xu% representing unusual thinking and S suggesting the influence of anger on their cognitive development (Gacono et al., 2008).

Youth diagnosed with CD are more likely to respond to primitive need states and to seek immediate gratification (FM). They are not likely to intellectualize (2AB+Art+Ay>5), but when they do think, they often evidence a thought disorder (higher WSum6) that may not be detected during a routine mental status examination. Their perceptions are highly idiosyncratic (X+%, F+%), and their reality testing is severely impaired (higher X-%) (Gacono & Meloy, 1994).

Self-perception. Narcissism in children with CD differs from that seen in adolescents and adults, as the narcissistic defenses of children are not yet crystallized. As 72% of children with CD have a negative self-evaluation, this inner worthlessness is predictive of future narcissism (Gacono, 1995). Consequently, many adolescents with CD compare themselves poorly to others (lower 3r+ [2]/R), with this new strategy of self-absorption developing in adolescence to ward off a negative view of self (Fr+rF). Further, a lower FD indicates a lack of introspection and may predict the solidification of narcissistic defenses to compensate for a deeper sense of being damaged (MOR). Gender

differences are also noted at this age, with pathological narcissism twice as common in males than in females (Gacono et al., 2008; Gacono & Meloy, 1994).

Interpersonal. Youth diagnosed with CD tend to view relationships as negative interpersonal experiences, preventing them from developing an inner representation of a mutually cooperative interpersonal world (COP). They are therefore less expectant of cooperative interpersonal interactions than normal adolescents. They show a diminished interest in others, and their object relations and attachments are impaired (lower H>(H)+Hd+(Hd) and less T) (Gacono et al., 2008, Gacono & Meloy, 1994; Gacono, 1995; Weber, Meloy, & Gacono, 1992). According to the theoretical personality organization of neurotic, borderline, and psychotic levels of functioning (McWilliams, 1994), this is characteristic of a neurotic personality organization, as there is a lack of integration of the good and bad split of objects into whole objects. Less pure H indicates that their relational attitudes are likely based in fantasy and not reality. Their interpersonal functioning is problematic and ineffective, with a decreased number of good and an increased number of poor human responses observed (Gacono et al., 2008, Gacono & Meloy, 1994). When at the borderline level of functioning between neurosis and psychosis, adolescents with CD are likely to have fewer pure humans and more part-object attachments, suggested by the low frequency of M and greater number of A (McWilliams, 1994; Gacono & Meloy, 1994).

Interestingly, this population is likely to have fewer Ag responses, as they act out their aggression in an ego-syntonic, conflict-free manner, resulting in an absence of aggressive impulses. Together with their anger, interpersonal disconnect, and distorted reality testing, a cycle of exploitation is triggered, as well as criticism and punishment by

others that leads to an increased damaged interpersonal worldview. This may serve to cover dependency needs (Fd), despite the fact that they may isolate themselves (higher Isolate/ R). With time, adolescents with CD become more defensively detached and self-justified in their acts, and fail to learn from experience. Acting out behaviors to avoid painful affect and identification with the aggressor may be observed, as well as grandiosity to ward off a devalued view of self (Gacono et al., 2008, Gacono & Meloy, 1994).

Psychopathy and the Rorschach

As 25% of adolescents who are CD also meet criteria for psychopathy, it is important to administer the RIM in conjunction with the PCL: YV to assess whether youth with CD are also elevated on psychopathic traits (Gacono et al., 2008). As the RIM provides unique information that complements the PCL: YV, additional information is provided to assess for the presence of psychopathy, including problem solving and response style, processing, reality testing, perceptual accuracy and conventionality, controls and current stress levels, levels of emotionality and how the subject deals with them, self-perception, coping resources, a desire for affectional relatedness, interpersonal interest, maturity, and personal expectations (Gacono, 1998).

Although not meant to diagnose psychopathy, the RIM increases validity (e.g. decision-making) through contributing valuable information to the assessment process (Gacono & Meloy, 1994; Gacono, Loving, et al., 2001). For example, the RIM may detect attachment deficits, reduced anxiety, and pathological narcissism in psychopathic subjects that aids in interpretation of PCL: YV data. In addition, as the RIM is known to

be vulnerable to malingering, it is useful to use the PCL: YV with the RIM when assessing potential psychopaths to increase validity (Hartmann et al., 2006).

However, as a singularly used measure the RIM cannot verify the presence of psychopathy (Gacono, 1995). A single RIM variable may also not be interpreted in conjunction with the PCL: YV to diagnose psychopathy, as much meaningful data would then be left out. For example, when assessing for the presence of narcissism, reflections may not be interpreted singularly to confirm a diagnosis of Narcissistic Personality Disorder. Instead, reflections should be interpreted according to the totality of information presented rather than confining ones understandings to certain diagnostic criteria (Gacono & Meloy, 1994). It is in this way that the PCL: YV quantifies attitudes and behaviors while the RIM data correlate with them, with the two providing data on different but complementary dimensions of personality (Gacono, 1998).

Rorschach Elevations in Adult Psychopathic Populations

Similar to CD populations, those with psychopathic traits also evidence elevations on the RIM, although elevations are typically of greater clinical concern (Gacono & Meloy, 1994). The following is a summary of RIM findings with adult psychopathic populations.

Controls. Research with adult populations indicate that psychopaths view the world simplistically, do not orient to interpersonal and emotional cues, and demonstrate poor judgment (Lambda). They have adequate controls and consciously use affect to meet personal goals (D, AdjD). They also have less psychological resources than expected to cope with daily demands ((EA) (Gacono, 1995; Gacono & Meloy, 1994).

Affect. This population avoids affect (Afr) and exhibits less anxiety (Y), likely because they have a decreased tolerance for expressing strong emotions. They are emotionally explosive (Pure C), angry (S), affectively shallow (Sum Shading), and show little interest in emotional closeness to others (T) (Gacono, 1995; Gacono & Meloy, 1994; Gacono, Meloy, & Bridges, 2000; Cunliffe, 2002; Cunliffe & Gacono, 2005). They have poor emotional modulation, with their more unconventional behavior and thinking likely due to affective problems (Hartmann et al., 2006).

Interpersonal. Interpersonally, this population has little interest in others as integrated, meaningful objects (Pure H) and has a tendency to view people as parts (Hd). They are typically organized at the borderline level of personality organization. They interact with others at a superficial level, have limited understanding of the motivations of others, don't expect cooperativeness in relationships (COP), and have a nearly nonexistent attachment capacity (T). However, female populations may produce more T responses or part T responses than male populations (Gacono, 1995; Gacono & Meloy, 1994; Cunliffe, 2002). They are also not troubled by aggression (Gacono et al., 2000). This is likely because their violence is more frequently acted out and used for self-motivated ends (Ag). A preoccupation with sex, sexual exploitation, or sexual identity problems is noted as well (Sx) (Gacono, 1995; Gacono & Meloy, 1994).

Self-perception. Psychopaths are narcissistic, grandiose, and self-focused (Fr+rF; W:M, Ego) (Gacono, 1995; Gacono & Meloy, 1994; Gacono et al., 2000; Cunliffe & Gacono, 2005). Some evidence is present for self-injury (MOR), as they may feel damaged, hurt, or victimized, as well as have a negative self-image, dysphoric affect, poor self-regard, and a limited capacity for introspection (FD). Males, rather than

females, generally have a less conflicted sense of grandiosity (Gacono & Meloy, 1994; Hartmann et al., 2006; Cunliffe, 2002; Cunliffe & Gacono, 2005). Interactions with others are therefore viewed in a self-centered manner to serve personal needs (PER). They are more likely to identify with the predator than the victim in crimes (PER) (Gacono, 1995; Gacono & Meloy, 1994; Cunliffe, 2002). Compared to males, female populations are more likely to be histrionic rather than narcissistic (lower R) (Cunliffe, 2002).

Thinking and processing. Adults with psychopathic traits also evidence thought disorder (WSum6 Special Scores). They view the world differently than those without such traits (X+%, F+%), and their reality testing (X-%) and interpersonal relations are impaired (M-) (Gacono, 1995; Gacono & Meloy, 1994; Gacono et al., 2000; Cunliffe, 2002; Cunliffe & Gacono, 2005). Their perception of the world is based more in fantasy and less in reality (Ma<Mp), and they are under-incorporative in their understandings of the world (Gacono, 1995; Gacono & Meloy, 1994).

Overview of RIM and PCL Data in Adolescent Populations

Although adolescents with psychopathic traits engage in more delinquent behaviors and constitute a particularly at-risk group for future offending, less research exists validating the use of the RIM with this population. The following is a review of those studies that have contributed findings in this area.

Smith (1994) completed a doctoral dissertation focusing on 60 adolescent males aged 13-17 years of age who were diagnosed with conduct disorder. As the PCL: YV was not yet published, a modified version of the PCL-R was used to assess for the presence of psychopathy according to 3 levels of psychopathy: severe, moderate, and non-

psychopathic. Nine RIM variables were selected to assess for the presence of narcissistic traits: Fr, EI, PER, W:M, exhibitionistic M, omnipotence, primitive idealization, devaluation, and grandiosity. Findings from this study indicate that the severe and moderate psychopaths did not differ significantly, although the more severe psychopathic subjects scored higher on the egocentricity index and had more violent histories. In addition, significant differences were not found between the severe and non-psychopathic CD groups on any of the RIM variables associated with narcissism. The author concluded that the presence of egocentrism, aggression, and under-socialization features of narcissism in the severe group may be due to the egocentrism, rebellion, and defiance commonly observed among adolescents.

Soon thereafter, Nunez (1996) proposed a dissertation investigating a group of 18 adolescent males with CD who were charged with homicide or attempted homicide. A modified version of the PCL-R was again used to assess for the presence of psychopathy in this population, with the RIM utilized to assess for the presence of psychopathic traits. RIM findings indicated that the adolescents had inadequate coping resources, poor affect modulation, poor attachment capacity, impaired reality testing, and poor self-concept. A high lambda was detected, suggesting that this population is more likely to withdraw from affect and to adopt a simplistic problem solving approach. The majority was introversive, meaning that they were likely to think things through rather than acting impulsively, with their acts being planned and purposeful. The EA score revealed a deficiency in coping resources, and the D and AdjD showed that stressors did not overwhelm them. They were not found to modulate affect well (FC<CF+C), and a majority were not concerned with painful and introspective affect (C, V). The presence of

CP responses indicated a primitive level of hysterical denial. Their anxiety was higher than would be expected in normal populations (Y), and they were not likely to be carried away by affect (Afr). The sample did not see others as whole and integrated objects (H:H+(H)+Hd+(Hd)), and they evidenced little capacity for attachment (T). Their relationships were likely to be based on fantasy and not reality (Pure C, M-), they were more likely to feel isolated (Isolation Index), had a lower number of Ag responses, and did not compare themselves favorably with others (Egocentricity Index). The group was also found to engage in unconventional thinking (mediation), had a drive to achieve beyond their actual abilities, and was less effective in synthesizing incoming information (processing). Overall, the sample was found to have RIM elevations that interpretatively supported the construct of psychopathy.

In 1997, Smith, Gacono, & Kaufman published a study conducted on 48 male adolescent subjects who met the DSM-IV criteria for CD. The subjects were assessed for psychopathy level using a modified version of the PCL-R. Selected RIM variables included self-perception, affect, object relations, early behavioral problems, and history of violence. The authors found that both groups evidenced decreased attachment and anxiety, a higher level of grandiosity, lacked the presence of texture responses, and had a lower number of COPs and diffuse shadings. However, the youth with psychopathic traits were more likely to have an earlier onset of behavior problems, to be of lower socioeconomic class (SES), and to be more aggressive and violent. The means of the egocentricity index were also found to be higher for the psychopathic group. Reflections were not found to differ significantly, although this group provided more reflection responses that were predominantly on atypical cards. This finding, along with

significantly higher scores on factor 1 of the PCL-R for this group, suggest that the higher scores found on the egocentricity index for the psychopathic conduct disordered youth represents a self-absorption that is higher than would be expected in normal adolescents. This suggests that narcissism may already be developing in adolescence, and that when paired with biologically based aggression, may facilitate violent acts. In addition, findings suggest that a lack of attachment capacity and shallow affect are already beginning to develop at this age. Interestingly, although this article was based on the unpublished doctoral dissertation by Smith (1994), the interpretations drawn between the two studies lie in contrast to one another (Smith, Gacono, & Kaufman, 1998).

In 1997 another doctoral dissertation was published in this area. Loftis chose to compare 40 matched pairs of delinquent and non-delinquent male subjects on measures of object relations, attachment, reality testing, and personality functioning to predict which participants were most likely to develop CD, ASPD, and psychopathy. The RIM's effectiveness in this task was evaluated by comparing follow-up data and criminality with RIM predictions of behavioral functioning. Significant differences were found for W, Afr, and F+%. Non-significance was found for H, M-, DQ+, 3r+(2)/R, Lambda, X+%, X-%, Isolate Index, primitive responses, and the HEV (Human Experience Variable [HEV]) scale. The RIM and HEV were not found to identify subjects who developed psychopathy. However, the delinquents did have poor reality testing and avoided affective stimuli. The child antisocial pattern was also seen in the low pure H, poor human responses, and the presence of an angrier, oppositional view of the world (S) (Loftis, 1997).

Ponder (1998) presented the next relevant research in this area. Her doctoral dissertation focused on investigating a mixed gender sample of violent juvenile offenders through use of a modified version of the PCL: YV and the RIM. Modifications were made to address gender differences on the expression of psychopathy. The majority of the youth were diagnosed with CD, although only 28% were identified as psychopathic. Aggressive narcissism was not found to predict antisocial behavior, although it was found to predict psychopathy directly. Highly psychopathic youth evidenced an increased number of prior offenses and immature interpersonal perceptions. However, they did not demonstrate more pathological narcissism, use of the splitting defense, prior violence, institutional behavioral problems, or an earlier onset of antisocial behavior. Overall, the psychopathic group was found to commit more crimes but showed little personality differences from those who were not found to be high on psychopathic traits. The author concluded that findings did not support the existence of juvenile psychopathy, reasoning that the psychopathic personality is not fully expressed until adulthood (Ponder, 1998).

It should be noted that other researchers caution what conclusions may be drawn from Ponder's findings due to her mixed gender sample. It is suggested that using such a sample overlooks possible gender differences in the expression of psychopathy (Gacono, Loving, et al., 2001). Further, additional caution is warranted in that Ponder utilized a modified version of the PCL: YV prior to the release of the instrument in its entirety for commercial purposes. Findings should therefore be interpreted with caution, as this suggests an attempt to validate the use of a newly modified version of the PCL: YV prior to the measure being validated either in its totality or as a modified version in other studies.

Loving & Russell (2000) followed, choosing to study a population of 66 adolescent males through use of the RIM and PCL: YV. Nine RIM variables were studied as dependent variables, including Fr+rF, Egocentricity Index, FD, S, m, Sum Y, Sum V, Sum T, and Pure Human Content. Reflection responses discriminated the highly psychopathic group from the least psychopathic group, indicating that narcissistic features were present in the younger psychopathic sample, and that highly psychopathic adolescents did not grow out of the narcissism that is common in children and that normally disappears by adolescence. The egocentricity index was not found to be significantly elevated, suggesting that this index may not be as effective as reflection responses alone in discriminating narcissistic individuals from control groups. A lack of T responses in the high group indicated that interpersonal detachment and an aversion to closeness may be detected in adolescents. Finally, more anger (S) and less painful introspection (V) were detected (Loving & Russell, 2000).

Finally, in 2002 Reilly presented a doctoral dissertation on the ability of select RIM composite indices to predict violent offenses in male adolescent populations. Violence was found to be best predicted by a low Schizophrenia Index along with a high Isolation Index. It was hypothesized this was because violent adolescent males, although more isolated, have less cognitive distortion in comparison to youth with CD who have a borderline personality organization that is vulnerable to ego fragmentation and cognitive distortion. Here, violent male teens may be more like adult psychopaths, in that they have internal experiences regulated by grandiosity, with an absence of internalized human objects, thus leaving them less vulnerable to ego fragmentation and a break down of reality testing. The high Isolate/ R of the violent youth was interpreted to reflect a lack of

internalized objects, which is expressed as a tendency to maintain distance from others or as a lack of interest in social relationships. Additional findings included a correlation of H and CDI with measures of violence, high Lambdas, and lower than normal Afr and egocentricity scores. Results indicated the use of the RIM in screening for psychopathy, with a more intensive evaluation of psychopathy recommended with use of measures like the PCL: YV.

Future Research

In summary, existing research suggests that psychopathy is present in juveniles, and that the PCL: YV and RIM provide complimentary information that aids in the assessment of such youth. However, additional research is needed in this area to further establish the presence of the construct in youth, as well as to establish the utility of the RIM as a supplementary psychometric measure for the assessment of psychopathy.

In fact, the authors of the PCL: YV recommend that the instrument not be used to diagnose adolescents as having psychopathic traits for clinical or forensic purposes, as continued research is needed in this area. The authors also recommend that, given our current knowledge in this area, youth not be labeled as psychopaths, scores not be used for making recommendations for or against treatment, PCL: YV ratings not be used as the only source of evidence for determining length of criminal sentencing, and that scores not be used as the sole source of information when determining whether or not juveniles be charged as adults for criminal offenses (Forth et al., 2003). In regards to the RIM, only 1 published study has assessed its use in concert with the PCL: YV for similar research purposes, although one dissertation has used a modified version of the PCL: YV for similar research purposes. Taken together, it may be understood that research in this area

is relatively new, and therefore replication and generalization of existing studies is needed for clinical certainty when applying results across settings.

Continued research will therefore aid in establishing the use of both the PCL: YV and the RIM as effective assessment measures of psychopathic traits among adolescents. As youth with CD are likely to be the most high-risk adolescent group for the presence of psychopathic traits, focus on this population is likely to be informative. Consequently, the present study will expand upon previous research by not only seeking to re-establish the use of the PCL: YV in youthful CD populations, but will also seek to provide further evidence of the effectiveness of select RIM variables in detecting individual differences in juvenile offenders who do and do not have psychopathic traits in a school setting.

Chapter III

METHOD

Subjects and Procedures

The current study examined a de-identified pre-existing data set that is maintained by an alternative education charter school in Western Pennsylvania. The data set was utilized to examine RIM score elevations in youth diagnosed with CD that have either high or low psychopathy scores.

The charter school services the school districts in the surrounding metropolitan area. Students are placed in this setting because they are on probation. Approximately 65% of the students are in special education, and many students as a whole demonstrate poor academic progress in various areas. Length of placement in this setting is determined by the individual needs of the students, as well as by the school administration and probation officers. Students may remain in this setting until graduation even if they are no longer on probation.

Participants chosen for inclusion in the study were male students between the ages of 13-19 who were previously administered the requisite battery of measures chosen for analysis during routine special education evaluation by the charter school. Subjects chosen for inclusion met the DSM-IV-TR criteria for CD as determined by the home school district independent of this study. Consistent with standardized procedures, only RIM protocols with responses ≥14 were included in this study. This precaution is used with subjects who meet the criteria for CD as this group tends to be more guarded and as a result produce a lower number of responses on RIM protocols, resulting in less clinical data and invalid protocols (Smith, 1994). The number of RIM responses refers to the

number of times that the examinee responds to a card, and is not reflective of the richness of RIM variable production. Students diagnosed with mental retardation, bipolar disorder, and psychotic disorders were excluded from the study. Of the 79 students reviewed for inclusion, 6 (8%) were excluded for not having a diagnosis of CD, 5 (6%) were excluded for being mentally retarded, 1 (1%) was excluded for having a diagnosis of bipolar disorder, 3 (4%) were excluded for being mentally retarded and also not having a diagnosis of CD, and 1 (1%) was excluded for having a psychotic disorder and not having a diagnosis of CD. This resulted in a sample of 63 students.

A school psychologist and graduate students trained in standardized test administration completed the test battery. The same individuals made the diagnosis of CD as part of the typical diagnostic process independent of the study. Psychopathy level was determined through use of the PCL: YV. Inter-rater reliabilities were established by comparing scores on each of the measures (PCL: YV and RIM) made by graduate students blind to the original scores. Further, teams scoring PCL: YV protocols were different than those scoring RIM protocols. Randomly selected PCL: YV and RIM protocols were rescored by independent teams, as has been recommended for establishing inter-rater reliabilities (Exner, Kinder, & Curtiss, 1995; Loving & Russell, 2000; Smith, 1994). Rescored RIM protocols replaced original protocols for use in this study.

It is the practice of the charter school to administer consent forms as part of all program evaluation procedures. Written assent was obtained from all students at the time of participation. The charter school maintains consent forms from all of their participants (e.g., parents and guardians) as part of the school's special education evaluation process.

Statistical power for the study was estimated based on previous research citing the importance of considering the dependent measures. A review of the extant literature revealed that previous researchers have utilized a sample size of around 60 participants when differing levels of psychopathy have been examined (Smith, 1994; Smith et al., 1997; Loving & Russell, 2000). Because of this, it was estimated that a similar sample size would yield sufficient power for a credible comparison for a test of significance.

Measures

Selected measures for this study include the Woodcock-Johnson III Tests of Cognitive Abilities (WJ III COG), the Hare Psychopathy Checklist: Youth Version (PCL: YV), and the Rorschach Inkblot Method (RIM). Additional sources of information gathered include the age and ethnicity of the participants.

Woodcock- Johnson III Tests of Cognitive Abilities (WJ III COG)

The Woodcock-Johnson III Tests of Cognitive Abilities (WJ III COG) is a standardized intelligence test for ages 2- 90 that provides an estimate of cognitive ability. The cognitive battery includes 20 subtests for measuring broad and narrow cognitive abilities, as well as overall intellectual ability. The tests measure the cognitive performances of verbal ability, thinking ability, and cognitive efficiency, and are further broken down into the seven broad Cattell-Horn and Carroll (CHC) factors (Woodcock, McGrew, Mather, & Schrank, 2001). The reliability for the WJ III COG is .92 for verbal ability, .95 for thinking ability, and .91 for cognitive efficiency. The overall estimate of cognitive functioning, computed as the General Intellectual Ability (GIA) score, has the highest reliability at .97 for the standard battery and .98 for the extended battery (Woodcock, McGrew, Schrank, & Mather, 2007).

Internal consistency estimates range from .80 to .90 for the individual tests, and are in the .90s for the cluster scores. Most test-retest reliabilities and inter-rater correlations range from the .80s to the .90s (Woodcock et al., 2007). The internal structure of the measure is supported through correlational analysis that supports the discriminant validity of the subtests, and confirmatory factor analysis, which supports the 7-factor CHC model (Cizek, 2003; Woodcock et al., 2007). Criterion validity is supported in that high correlations have been obtained between cognitive scores and other popular individual cognitive tests, such as the Wechsler scales, with the GIA score correlating in the .70s with other total intelligence scores (Sandoval, 2003).

The Hare Psychopathy Checklist: Youth Version (PCL: YV)

The PCL: YV is a 20-item, 40-point scale that assesses for the presence of psychopathy in criminal populations through consideration of interpersonal and affective cues and behavioral characteristics (Forth et al., 2003). Interrater reliability estimates in institutional, probation, and community settings have been found to be generally acceptable, with most estimates above .70. Internal consistency ranges from .85-.94 across settings, with inter-item correlations ranging from .23-.43. Evidence for convergent, discriminant, and predictive validity is supported. The factor structure of the PCL: YV is similar to that of the PCL-R, suggesting that the construct of psychopathy may be validly assessed in juveniles as well as in adults (Fleenor, 2005).

The Rorschach Inkblot Method (RIM)

The RIM is a performance-based personality measure that uses ten stimulus cards to elicit unstructured responses from subjects. Exner's Comprehensive System will be used for normative comparisons on the RIM (Exner & Erdberg, 2005). Inter-rater

reliability is estimated to be between 88-99% with trained scorers on the major variables. Test-retest reliability with many variables in the Comprehensive System is estimated to be at or above .70. Validity estimates have generally been found to be higher for summed responses than those for single responses (Hess, Zachar, & Kramer, 2001). The mean effect size of the RIM has been estimated to be .26, with this validity estimate as good as can be expected for performance measures (Hiller et al., 1999). Incremental validity is also supported, in that scores measure important psychological domains and provide unique information that cannot be obtained from other relevant instruments or clinical interviews (Society for Personality Assessment, 2005).

Research Design

The current study utilized a de-identified pre-existing data set to examine RIM elevations in youth diagnosed with CD that have either high or low psychopathy traits. An ex post facto design was used to compare the archival data of this population on a set of variables conceptually linked to the construct of psychopathy.

The independent variable was the level of psychopathy as measured by the PCL: YV. Psychopathy level was treated as the independent variable to categorically distinguish those who have high as compared to low psychopathy traits on RIM variables. Through assessing psychopathy dimensionally, RIM elevations may be more clearly delineated for research groups (Gacono, Loving, et al., 2001).

The dimensions of psychopathy were determined by use of all questions on the PCL: YV. Psychopathy was defined as the pattern of affective and behavioral characteristics as provided by Hare (2003). Age, GIA, number of responses, and ethnicity were examined in the first research question to address differences in demographic

variables according to high and low scoring psychopathy groups. For the second research question, the following dependent variables from the RIM were assessed: White Space, FC+CF+C+Cn, Vista, Diffuse Shading, Afr, and EA. Together, these variables assess a variety of affective disturbances associated with poor emotional modulation. Emotional deficits are defined as a deficient capacity to deal with one's own feelings and to respond to the feelings of others, limited ability to solve problems and to cope with stress, lack of empathy and interest in others, avoidance of affect, failure to experience negative emotional experiences, and higher levels of and less restrained hostility (Exner, 2000).

Dependent variables for research question three include Pure Human Content, the CDI, Texture, Inanimate Movement, AG, and COP. These variables collectively measure social deficits in this population. Social deficits are defined as lack of capacity for attachment, deficient understanding of interpersonal relationships, disregard for social convention, social immaturity, adjustment difficulties, and intentional ignoring of social and interpersonal cues to increase the likelihood of engaging in behavior that does not meet the expectations of situations (Exner, 2000). For the final research question, cognitive and perceptual disturbances were assessed through examination of the following dependent variables: X-%, Personals, M-, Populars, XA%, WSum6, the PTI, Reflections, Egocentricity Index, and Form Dimension. Cognitive and perceptual disturbances include inaccurate perception and impaired reality testing, poor capacity for insight and introspection, self-involvement, egocentricity, and authoritarian intellectualization (Exner, 2000).

Internal validity may be threatened since conclusions were drawn based on association rather than the direct manipulation of the independent variables. That is, the

use of an ex post facto design limits the amount of experimenter control (i.e. subject selection, subject history, use of naturally formed groups). As such, age, IQ, number of responses, and ethnicity were investigated statistically to determine if these variables were associated with RIM elevations. Experimenter bias was controlled by having independent raters provide PCL: YV ratings and scores for the RIM protocols. As stated previously, raters were blind to scores across the two measures. Another threat to internal validity was that the database was preexisting, leading to threats of validity through instrumentation.

Threats to external validity include having a small sample size and participants representative of a single geographic location. Further, the restricted IQ range of the sample made the results less generalizable to other school settings that are not similarly impoverished. Ecological validity is supported in that an ex post facto design was used, as tests were previously administered in a natural setting for psychological evaluation purposes. This also serves to eliminate experimenter effects.

Caution is also warranted with the use of nonparametric statistics, as they are not as effective as parametric tests in finding differences between groups, which consequently decreases the certainty of what conclusions may be drawn.

Data Analysis

Preliminary Data Analysis

Due to the clinical meaning of individual variables, and the nature of RIM variables as a frequency response, the presence of selected variables were interpreted to add valuable data across emotional, social, and cognitive domains. However, because there are many RIM variables reported in the literature that are related to these constructs,

several pre-analyses were ran to determine the viability of conducting inferential statistics. Specifically, exploratory analyses (e.g., frequencies and modal responses) were used to determine how many of each of the selected RIM variables were present in the sample. This clarified which subsequent comparisons could be made. This was done with the intent of excluding from the final data analyses those variables whose low frequencies did not allow for statistical comparisons.

A box-and-whisker plot was also examined when running descriptive statistics to determine the distribution of PCL: YV scores according to upper and lower quartile ranges. The results of these analyses determined the cut off scores for the high and low scoring psychopathy groups, allowing differences in RIM elevations to be interpreted according to psychopathy level. Note that students who met the CD criteria but fell into the middle range of psychopathy scores were excluded from the study. The current study did not posit a specific cut off score for psychopathy due to the lack of an accepted criterion to determine the presence of psychopathy in youth, as further research is needed in this area. This is consistent with past research, which has posited dimensional levels of psychopathy for its assessment in this population (Forth et al., 2003; Smith, 1994; Smith et al., 1997; Loving & Russell, 2000).

Once the preliminary data analyses were conducted, the tenability of the chi-square analysis was evaluated for the categorical variables to determine if their frequencies could be compared across high and low scoring groups (see Table 4 for a listing of ordinal versus interval variables). A test of assumptions for the remaining RIM variables was then conducted. Specifically, the assumptions of normality, homogeneity of variance, and independence of observations were examined to determine the need for

parametric versus non-parametric tests for the remaining variables (Gravetter & Wallnau, 2007). If data for the dependent variables was non-normal and considered ordinal, the nonparametric Mann-Whitney U test was utilized. It was hypothesized that this non-parametric test may be warranted due to the small sample size and the clinical meaning of the individual variables, as well as prospectively due to distributions that may not approximate normal curves (Smith, 1994; Smith, Gacono, & Kaufman, 1997). If the data was interval and the assumptions satisfied, then *t* tests were used. Pearson's correlation coefficient was used to assess the degree of agreement between raters' PCL: YV scores (Loving & Russell, 2000; Smith, Gacono, & Kaufman, 1997). Inter-scorer reliability measures were obtained for 8 major categories of RIM Comprehensive System variables, as recommended by Exner, Kinder, and Curtiss (1995). Specifically, the percentage of agreement between scorers were reported and evaluated against the standards recommended by Exner et al. (1995).

Table 4

Rorschach Variables Defined and Selected Analyses

Rorschach Variable	Definition	Ordinal/ Interval	Analysis
Research Question 2: Emotional			
White Space	Angry affect/ negativity	Ordinal	Chi-square
FC+CF+C+Cn	Index of emotional modulation	Ordinal	Chi-square
Vista	Negative emotions experienced from self-focusing	Ordinal	Chi-square
Diffuse Shading	Emotional experience as a result of helplessness	Ordinal	Chi-square
Affective Ratio	Response to emotional arousing stimuli	Ordinal	Mann-Whitney
Experience Actual	Available internal coping resources	Ordinal	Mann-Whitney
Research Question 3: Social			
Pure Human Content	Attitude toward others in social environment	Ordinal	Chi-square
Coping Deficit Index	Index of social and ego coping resources	Ordinal	Chi-square

Texture	Dependency and affiliation need	Ordinal	Chi-square
Inanimate Movement	Unstable/ frustration/ tension or conflict	Ordinal	Chi-square
Cooperative Movement	Interpersonal style and interest	Ordinal	Chi-square
Aggressive Movement	Negative/ hostile attitudes toward others	Ordinal	Chi-square
Research Question 4: Cognitive			
X-%	Reality testing	Interval	*t* test
Personals	Self-centered interactions/ defensive self-image	Ordinal	Chi-square
M-	Impaired interpersonal relations	Ordinal	Chi-square
Populars	Conventionality and reality testing	Ordinal	Chi-square
XA%	Number of appropriate responses	Ordinal	Mann-Whitney
WSum6	Thought disorder/ cognitive slippage/ perceptual distortion	Ordinal	Mann-Whitney
Perceptual Thinking Index	Mediational/ ideational distortion	Ordinal	Chi-square
Reflections	Self-absorption/ self-focus	Ordinal	Chi-square
Egocentricity Index	Index of self-absorption/ self-focus	Interval	*t* test
Form Dimension	Introspection	Ordinal	Chi-square

Final Data Analysis

The current study utilized a pre-existing data set to examine RIM elevations in youth diagnosed with CD who also have psychopathic traits. To this end, the following research questions were hypothesized:

1. Are there differences between high and low psychopathy groups on the variables of age, ethnicity, GIA, and number of RIM responses?

Hypothesis:

There are not differences between high and low psychopathy groups on the variables of age, ethnicity, GIA, and number of RIM responses.

Ethnicity was investigated using chi-square analysis. Age and GIA were found to meet the assumptions of normality, independence of observations, and homogeneity of

variance, and were analyzed through the use of *t* tests. Number of RIM responses was found to be non-normal and was therefore analyzed through use of the Mann-Whitney U test. $P < 0.05$ was used to evaluate statistical significance.

2. Do youth with CD that are high on psychopathy scores experience significantly more affective disturbances than those with low psychopathy scores as measured by RIM variables?

Hypothesis:

White Space and FC+CF+C+Cn will be more frequently observed in the high versus low psychopathy group. Vista, Diffuse Shading, Afr, and EA will be less frequent in the high psychopathy group.

Chi-square analysis was performed on White Space, FC+CF+C+Cn, Vista, and Diffuse Shading to compare their frequencies across groups. Afr and EA were found to be non-normal and were therefore analyzed through use of the Mann-Whitney U test. $P < 0.05$ was used to evaluate statistical significance.

3. Do youth with CD that are high on psychopathy scores experience significantly more social deficits than those with low psychopathy scores as measured by RIM variables?

Hypothesis:

The CDI will be more frequently observed in the high versus low psychopathy group. Pure Human Content, Texture, Inanimate Movement, AG, and COP will be less frequent in the high psychopathy group.

Chi-square analysis was performed to compare the frequencies of these variables across groups.

4. Do youth with CD that are high on psychopathy scores experience significantly more cognitive and perceptual disturbances than those with low psychopathy scores as measured by RIM variables?

Hypothesis:

X-%, Personals, M-, WSum6, PTI, Reflections, and the Egocentricity Index will be more frequently observed in the high versus low psychopathy group. Populars, XA%, and Form Dimension will be less frequent in the high psychopathy group.

Chi-square analysis was performed on Personals, M-, Populars, PTI, Reflections, and Form Dimension to compare their frequencies across groups. X-% and the Egocentricity Index were found to meet the assumptions of normality, independence of observations, and homogeneity of variance, and were therefore analyzed through the use of *t* tests. WSum6 was found to be non-normal and was therefore analyzed through use of the Mann-Whitney U test. $P < 0.05$ was used to evaluate statistical significance.

CHAPTER IV

RESULTS

This chapter presents the statistical analysis of the PCL: YV scores, age, ethnicity, GIA, number of RIM responses, and RIM variables selected for the study. Additional analyses not originally hypothesized are also presented below.

Preliminary Data Analysis

Frequencies, quartiles, and a box-and-whisker plot were examined for the entire sample (N = 63) to determine cutoff scores for psychopathy level. These were examined when running descriptive statistics by evaluating the distribution of PCL: YV scores according to upper and lower quartile ranges. Based on these analyses it was determined that a cutoff score of 19 would be used for the low psychopathy group, and a cutoff score of 28 would be used for the high psychopathy group. This resulted in 17 subjects in the low psychopathy group and 12 subjects in the high psychopathy group (total n = 29). The remainder of the sample was excluded for use in the study.

Table 5

PCL: YV Scores by Group

		Total Score	
Group	*Cutoff Scores*	*M*	*SD*
High Psychopathy[a]	28	29.0	1.81
Low Psychopathy[b]	19	16.2	2.97

[a]n = 12. [b]n = 17.

A test of assumptions was then conducted to determine whether *t* tests or the Mann-Whitney U test would be used for the following variables: GIA, age, number of

responses, X-%, Egocentricity Index, EA, Afr, XA%, and WSum6. As required for both the *t* test and the Mann-Whitney U test (Gravetter & Wallnau, 2007), the assumption of independence of observations was met because the responses of the participants were independent and not related. This assumption was satisfied because each participant in the database was tested alone, or when tested in groups did not have contact with any other participants during the testing process. Normally distributed refers to the residuals fitting the normal curve. As necessitated for the use of *t* tests, normality was checked through skewness, kurtosis, and by evaluating histograms. When evaluating skewness and kurtosis, these values were divided by their respective standard errors and determined to be normal when the values did not exceed +/- 2 (Gravetter & Wallnau, 2007). Homogeneity of variance refers to the same population variances for both groups. This was evaluated using Levene's test for equality of variances for each of the *t* tests.

GIA, age, X-%, and the Egocentricity Index were found to meet these three assumptions. They were therefore determined to be interval and analyzed through the use of a *t* test. The RIM variables EA, Afr, XA%, and WSum6, as well as number of RIM responses, were found to be non-normal. They were therefore determined to be ordinal and analyzed through use of the Mann-Whitney U test.

Reliability Measures

Inter-rater reliability, established using 50% of the protocols in the PCL: YV total data set, was excellent (r = .94). This value is comparable to the inter-rater reliability of the PCL: YV manual value of 0.90-0.92 (Forth et al., 2003). For the RIM, the percentage of agreement between scorers on 1/3 of the protocols met or exceeded the standards recommended by Exner et al. (1995). Specifically, Exner and colleagues recommend that

inter-rater reliability meet or exceed the following criteria: (a) Location and *DQ* should approach 100%, (b) Determinants should not fall below 80%, (c) *FQ* should be well over 85%, (d) Pairs should approach 100%, (e) Contents should be well over 85%, (f) Populars should approach 100%, (g) Z scores should approach 100%, and (h) Special Scores should not fall below 80%. The percentages obtained for each major category of Exner's Comprehensive System variables were as follows: (a) Location and *DQ* = 95%, (b) Determinants = 91%, (c) *FQ* = 95%, (d) Pairs = 96%, (e) Contents = 90%, (f) Populars = 99%, (g) Z Scores = 97%, and (h) Special Scores = 88%.

Final Data Analysis

Research Question 1

When examining the differences between high and low psychopathy groups on the variables of age, ethnicity, GIA, and number of RIM responses, the hypotheses were supported that there were no differences between the high and low psychopathy groups on these variables. None of the four variables analyzed as potential confounds demonstrated statistically significant differences across groups (at $p > .05$). Data for these variables are presented in Tables 6 and 7.

The ages of the participants ranged from 14 to 19, and the overall mean for age was 16.69 ($SD = 1.14$). The mean age was 16.58 years ($SD = 1.16$) for the high psychopathy group and 16.76 ($SD = 1.15$) for the low psychopathy group. No significant differences were found on this variable through the use of a *t* test ($t(2) = .417$, $p > .05$). According to Cohen's *d,* there was a small effect size of -0.16 for age.

Differences in ethnic background for both groups were not significant according to chi-square analyses ($x^2(1) = 1.71$, $p > .05$). Across both groups, 73% of the subjects

were African American (n = 21), 14% were Caucasian (n = 4), 3% were Hispanic (n = 1), and 10% were Bi-racial (n = 3).

Table 6

Ethnicity of Subjects According to PCL: YV Groups

	African American		*Caucasian*		*Hispanic*		*Bi-racial*	
Group	*f*	*%*	*f*	*%*	*f*	*%*	*f*	*%*
High Psychopathy[a]	8	67	2	17	1	8	1	8
Low Psychopathy[b]	13	76	2	12	0	0	2	12
Total[c]	21	73	4	14	1	3	3	10

[a]n = 12. [b]n = 17. [c]n = 29.

GIA scores across the two groups were not found to be significantly different when analyzed using a t test ($t(2) = 1.17$, $p > .05$). The high psychopathy group had an average IQ of 74.25 (SD = 9.85), while the low psychopathy group had a mean IQ of 78.59 (SD = 9.82). Overall GIA scores ranged from 61 to 98, with an overall mean of 76.79 (SD = 9.90). According to Cohen's *d,* there was a medium effect size of -0.44 for GIA.

The total number of RIM responses for both groups ranged from 14 to 26, and the overall mean was 16.34 (SD = 2.92). The mean number of responses was 15.75 (SD = 2.60) for the high psychopathy group and 16.76 (SD = 3.13) for the low psychopathy group. No significant differences were found on this variable through use of the Mann-Whitney U test (U = 77, $p > .05$). The mean rank for the high psychopathy group was 12.92, and the mean rank for the low psychopathy group was 16.47.

Table 7

Descriptive Data for Age, GIA, and Number of Rorschach Responses

	High Psychopathy		*Low Psychopathy*		*Overall*	
Variable	*M*	*SD*	*M*	*SD*	*M*	*SD*
Age	16.58	1.16	16.76	1.15	16.69	1.14
GIA	74.25	9.85	78.59	9.82	76.79	9.90
Number of Responses	15.75	2.60	16.76	3.13	16.34	2.92

Research Questions 2-4

For those variables analyzed through use of the *t* test or the Mann-Whitney U test, the only variable that was found to discriminate between high and low psychopathy groups was WSum6 ($U = 58.5$, $p < .05$). This variable measures difficulties with ideation and conceptual thinking that may lead to faulty judgment. Those with high psychopathy scores had a mean rank of 18.62 on this variable, and those with low psychopathy scores had a mean rank of 12.44, suggesting that the high psychopathy group experienced more difficulties in this area. For the remainder of these variables, significant differences were not found to discriminate between high and low psychopathy groups, suggesting that the two groups were similar in these respects (see Table 4 for RIM variable definitions). Specific data obtained for these analyses are provided in Tables 8 and 9.

Table 8

Results of Rorschach Variable t Tests by PCL: YV Groups

Variable	*t (1, N = 29)*	*Cohen's d*	*Magnitude of d*
X-%	-0.24	0.09	Small
Egocentricity Index	1.07	-0.36	Medium
X+%	1.58	-0.55	Medium
Xu%	0.36	-0.14	Small
Zd	-0.74	-0.33	Medium

Table 9

Results of Rorschach Variable Mann-Whitney U Tests by PCL: YV Groups

Variable	*U (1, n = 29)*	*Psychopathy Group Mean Rank*		*Mean Rank Difference*
		High[a]	*Low*[b]	
Afr	98.5	15.29	14.79	0.50
EA	81.5	13.29	16.21	-2.92
XA%	84.5	13.54	16.03	-2.49
WSum6	58.5*	18.62	12.44	6.18
WDA	82.0	13.33	16.18	-2.85
Zf	97.5	15.38	14.74	0.64

[a]$n = 12$. [b]$n = 17$.
*$p < .05$

The remaining variables were evaluated through use of the chi square analysis. For each of these analyses the expected cell frequencies were less than 5, suggesting that the chi square test should not be performed due to violation of this assumption (Gravetter & Wallnau, 2007). This assumption was violated even when cell sizes were collapsed using RIM mean values above and below Exner's nonpatient means (Exner, 2001). For example, for each collapsed analysis, two groups of variables were created, with one group inclusive of those scores below Exner's nonpatient means for 16-year olds, and the other group inclusive of those scores above these individual values. It was in this manner that RIM values were created into categorical groups for statistical analysis. Due to the low expected cell frequencies that resulted, the values for these analyses are not presented; however, cross tabulation data is provided in Table 15 of the appendix to graphically display the frequencies and expected frequencies of these variables.

In addition to the tables listed above, Tables 10 through 12 include extensive descriptive statistics for each of the RIM variables studied by PCL: YV group. This information is presented to allow for closer inspection of these variables by group. Exner's nonpatient means for 16-year olds are also provided to allow for comparison of these values to group data. Interpretation of this data is discussed in further detail in chapter 5. When comparing the means from this study across high and low scoring psychopathy groups, it becomes apparent that although both groups evidenced emotional, social, and cognitive difficulties, the high psychopathy group generally evidenced more difficulties than the low psychopathy group across these domains. This was so despite the lack of statistical significance in between group comparisons.

Table 10

Descriptive Data for Rorschach Variables: High Psychopathy Group

Variable	*M*	*Exner's*	*SD*	*MIN*	*MAX*	*Mdn*	*f*	*Mode*	*SK*	*KU*
Emotional										
White Space	0.75	1.24	0.75	0	2	1	7	0	0.48	-0.87
FC+CF+C+Cn	2.17	6.26	1.03	1	4	2	12	2	0.81	-0.02
Vista	0.00	0.19	0.00	0	0	0	0	0	-	-
Y	0.50	1.04	0.80	0	2	0	4	0	1.29	0.15
Afr	0.44	0.65	0.18	0.25	0.83	0.4	12	0.25	0.92	0.62
EA	2.96	8.87	1.81	1	6.5	2.75	12	1	0.64	-0.52
Social										
Pure H	0.92	3.39	0.90	0	3	1	8	1	1.08	1.49
CDI	4.08	-	1.00	2	5	4	12	5	-0.85	-0.14
Texture	0.42	1.02	0.90	0	3	0	3	0	2.54	6.77
m	0.58	1.14	0.79	0	2	0	5	0	0.99	-0.46
COP	0.42	1.60	0.67	0	2	0	4	0	1.46	1.39
AG	0.42	1.20	0.52	0	1	0	5	0	0.39	-2.26
Cognitive										
X-%	0.28	0.07	0.16	0.01	0.50	0.26	12	0.14	0.02	-1.01
Personals	0.58	0.96	0.79	0	2	0	5	0	0.99	-0.46
M-	0.33	0.09	0.65	0	2	0	3	0	1.93	3.17
Populars	2.83	6.46	1.27	1	5	3	12	2	0.05	-0.88
XA%	0.62	0.93	0.25	0.09	0.86	0.71	12	0.86	-1.29	1.88
WSum6	7.83	4.57	6.29	1	23	5.5	12	3	1.42	1.87

PTI	1.33	-	1.72	0	4	0	5	0	0.66	-1.55
Reflections	0.17	0.48	0.58	0	2	0	1	0	3.46	12.00
Ego Index	0.24	0.43	0.18	0	0.64	0.22	10	0	0.79	1.07
FD	0.25	1.31	0.87	0	3	0	1	0	3.46	12.00

Note. n = 12. Exner's = Exner's (2001) nonpatient means for 16-year olds (N = 140). MIN = minimum; MAX = maximum. *f* indicates the number of participants who produced at least one response in a given category.

Table 11

Descriptive Data for Rorschach Variables: Low Psychopathy Group

Variable	*M*	*Exner's*	*SD*	*MIN*	*MAX*	*Mdn*	*f*	*Mode*	*SK*	*KU*
Emotional										
White Space	1.00	1.24	0.71	0	2	1	13	1	0.00	-0.74
FC+CF+C+Cn	2.71	6.26	1.93	0	7	2	16	2	1.24	1.38
Vista	0.06	0.19	0.24	0	1	0	1	0	4.12	17.00
Y	0.59	1.04	0.87	0	3	0	7	0	1.63	2.56
Afr	0.48	0.65	0.27	0.21	1.11	0.4	17	0.50	1.19	0.52
EA	3.62	8.87	2.12	1	9	3.5	17	1.5	1.10	1.18
Social										
Pure H	1.88	3.39	1.45	0	5	1	15	1	0.78	-0.24
CDI	3.65	-	0.86	2	5	4	17	4	-0.52	0.02
Texture	0.47	1.02	0.72	0	2	0	6	0	1.27	0.40
m	1.24	1.14	1.09	0	3	1	12	1	0.45	-0.98
COP	0.53	1.60	0.94	0	3	0	5	0	1.68	1.83
AG	0.59	1.20	1.06	0	4	0	6	0	2.39	6.35
Cognitive										
X-%	0.27	0.07	0.13	0	0.44	0.31	16	0.07	-0.75	-0.33
Personals	0.47	0.96	0.87	0	3	0	5	0	2.01	3.70
M-	0.47	0.09	0.80	0	3	0	6	0	2.18	5.66
Populars	3.94	6.46	1.25	1	6	4	17	4	-0.31	0.78
XA%	0.72	0.93	0.13	0.56	1.00	0.68	17	0.64	0.80	-0.28
WSum6	4.59	4.57	5.32	0	21	4	13	0	2.02	5.03
PTI	1.06	-	0.97	0	3	1	11	0	0.34	-0.98
Reflections	0.12	0.48	0.33	0	1	0	2	0	2.61	5.44
Ego Index	0.30	0.43	0.16	0	0.64	0.33	16	0.31	-0.27	0.42
FD	0.76	1.31	0.97	0	3	0	8	0	1.00	-0.06

Note. n = 17. Exner's = Exner's (2001) nonpatient means for 16-year olds (N = 140). MIN = minimum; MAX = maximum. *f* indicates the number of participants who produced at least one response in a given category.

Table 12

Descriptive Data for Rorschach Variables: Both High and Low Psychopathy Groups

Variable	*M*	*Exner's*	*SD*	*MIN*	*MAX*	*Mdn*	*f*	*Mode*	*SK*	*KU*
Emotional										
White Space	0.90	1.24	0.72	0	2	1	20	1	0.16	-0.99
FC+CF+C+Cn	2.48	6.26	1.62	0	7	2	28	2	1.48	2.61
Vista	0.03	0.19	0.19	0	1	0	1	0	5.39	29.00
Y	0.55	1.04	0.83	0	3	0	11	0	1.45	1.47
Afr	0.46	0.65	0.23	0.21	1.11	0.40	29	0.40	1.24	1.03
EA	3.35	8.87	1.99	1	9	3	29	3.5	0.97	0.82
Social										
Pure H	1.48	3.39	1.33	0	5	1	23	1	1.08	0.65
CDI	3.83	-	0.93	2	5	4	29	4	-0.50	-0.40
Texture	0.45	1.02	0.78	0	3	0	9	0	1.86	3.16
m	0.97	1.14	1.02	0	3	1	17	0	0.73	-0.56
COP	0.48	1.60	0.83	0	3	0	9	0	1.68	2.04
AG	0.52	1.20	0.87	0	4	0	11	0	2.56	8.47
Cognitive										
X-%	0.27	0.07	0.14	0	0.50	0.29	28	0.14	-0.26	-0.66
Personals	0.52	0.96	0.83	0	3	0	10	0	1.56	1.73
M-	0.41	0.09	0.73	0	3	0	9	0	2.08	4.71
Populars	3.48	6.46	1.35	1	6	4	29	4	-0.15	-0.30
XA%	0.68	0.93	0.19	0.09	1.00	0.68	29	0.64	-1.40	4.06
WSum6	5.93	4.57	5.86	0	23	4	25	4	1.57	2.32
PTI	1.17	-	1.31	0	4	1	16	0	0.78	-0.53
Reflections	0.14	0.48	0.44	0	2	0	3	0	3.43	12.01
Ego Index	0.28	0.43	0.17	0	0.64	0.31	26	0.36	0.15	-0.08
FD	0.55	1.31	0.95	0	3	0	9	0	1.60	1.42

Note. n = 29. Exner's = Exner's (2001) nonpatient means for 16-year olds (N = 140). MIN = minimum; MAX = maximum. *f* indicates the number of participants who produced at least one response in a given category.

Additional Analyses

As the WSum6 measures conceptual thinking by evaluating ideational clarity, the following RIM variables were examined to determine if any other variables that measure cognition would also discriminate between high and low psychopathy groups: WDA, X+%, Xu%, Zf, and Zd. Because the RIM measures information processing, mediation,

and ideation (i.e., the input, translation, and conceptualization of information), with all three constituting the cognitive domain of functioning, these additional variables were assessed to determine if other cognitive variables in each of these areas, in addition to the WSum6, were also significant. These variables were not originally posited in the research questions but were chosen as follow up analyses to provide a more comprehensive understanding of the cognitive processes of these two groups due to the significance obtained.

When examining these variables, X+%, Xu%, and Zd were found to meet the assumptions of normality and homogeneity of variance, following procedures described in the preliminary data analysis section. These variables were therefore analyzed through the use of a *t* test. The WDA and Zf were found to be non-normal and were therefore analyzed through use of the Mann-Whitney U test. None of these variables were found to be significant at $p < 0.05$. The results of these additional analyses are provided in Tables 8 and 9. The following variables related to cognitive functioning could not be measured due to assumption violation of the chi square analysis: Level 2 Special Scores, Intellectualization Index, Sum6, Mor, eb, PSV, OBS, and HVI.

Qualitative Analyses

To provide a qualitative analysis of those with high and pure psychopathy, those individuals with psychopathy scores greater than or equal to 30 were examined. Specifically, the RIM scores of the variables originally examined in research questions 2 through 4 were evaluated for these students. Table 13 provides the data for these variables.

Table 13

Rorschach Data of Individuals with Psychopathy Scores ≥ 30 (n = 4)

	Individual Scores					
Variable	*1*	*2*	*3*	*4*	*Mean*	*Exner's*
Emotional						
White Space	1	0	1	0	0.50	1.24
FC+CF+C+Cn	3	2	4	2	2.75	6.26
Vista	0	0	0	0	0.00	0.19
Y	1	0	0	2	0.75	1.04
Afr	0.33	0.83	0.25	0.56	0.49	0.65
EA	3	5	3.5	5	4.13	8.87
Social						
Pure H	1	2	1	1	1.25	3.39
CDI	5	3	3	5	4.00	-
Texture	1	0	0	0	0.25	1.02
m	1	0	0	0	0.25	1.14
COP	1	1	2	1	1.25	1.60
AG	1	0	1	1	0.75	1.20
Cognitive						
X-%	0.50	0.32	0.40	0.01	0.31	0.07
Personals	1	0	1	2	1.00	0.96
M-	0	1	0	0	0.25	0.09
Populars	2	3	4	3	3.00	6.46
XA%	0.50	0.68	0.47	0.01	0.41	0.93
WSum6	6	1	14	3	6.00	4.57
PTI	3	2	3	0	2.00	-
Reflections	0	0	0	0	0.00	0.48
Ego Index	0.20	0.23	0.27	0.36	0.27	0.43
FD	0	0	0	0	0.00	1.31

Note. Exner's = Exner's (2001) nonpatient means for 16-year olds (N = 140).

In addition, because of the low number of RIM responses obtained, the overall low GIA of the sample, and the lack of richness in RIM variable production, Lambda was examined. A high Lambda reflects defensiveness and avoidance, and may reflect low intelligence (Exner, 2000). This variable becomes particularly relevant given the low number of RIM responses and low GIA, as well as the simplicity of the protocols. Lambda was found to be non-normal and analyzed through use of the Mann-Whitney U

test. There were no differences between psychopathy groups on this variable ($U = 93$, $p < .05$). Those with high psychopathy scores had a mean rank of 15.75, and those with low psychopathy scores had a mean rank of 14.47. A mean of 1.13 ($SD = 0.70$) was obtained for the overall sample. This mean value is high when compared to non-patient samples (Exner, 2001), and is similar to values obtained for youth with CD (Gacono & Meloy, 1994; Gacono et al., 2008).

Due to the cognitive and emotional constriction that a low number of RIM responses, low GIA, and high Lambda place on the production of RIM variables, which together limit the utility of group comparisons, descriptive statistics were therefore examined for the entire sample (N = 63) for a better understanding of these youth and are provided in Table 14. Specifically, Table 14 presents the descriptive statistics of the RIM variables for these youth, irrespective of psychopathy level, to aid clinicians in understanding the personality characteristics of the type of students that may be typically found in such a school setting. RIM data is used as a dependent measure for understanding CD and psychopathy by providing the Comprehensive System data for this sample. This data is provided so that comparisons may be made to Exner's (2001) 16-year old nonpatient means for interpretative purposes.

As can bee seen in Table 14, the means, standard deviations, frequencies, and overall percentages are provided for each variable where applicable. For example, the table reflects that for the number of RIM responses (*R*), the mean is 16.75 and the standard deviation is 3.46. For EB style, it is represented that there is 1 introversive individual in the sample, which constituted 2% of the overall sample (N = 63). For some variables, data is provided according to certain cutoffs that are determined by the

individual nature of the RIM variable. For example, it can be seen that four individuals, or 6% of the sample, gave XA% responses greater than 0.89. Finally, for the constellations, cutoffs are given according to the threshold met for the individual variable. For example, there were no students from the overall sample that had PTI scores equal to 5, resulting in 0% of the sample falling into this category.

Table 14

Conduct Disordered Adolescents (N=63) Group Mean and Frequencies for Select Ratios, Percentages, and Derivations

R = 16.75 (*SD* = 3.46)	*L* = 1.77 (*SD* = 2.15)	
EB: 1.27 : 1.79	*EA* = 3.06 (*SD* = 2.01)	
eb = 2.81 : 2.13	*es* = 4.94 (*SD* = 3.00) (*FM + m < Sum Shading*...20, 32%)	
D score = -0.48 (*SD* = 0.88)	*AdjD* = -0.35 (*SD* = 0.83)	
EB style		
Introversive……..…....1		2%
Pervasive Introversive……..1		2%
Ambitent……...5		8%
Extratensive……..3		5%
Pervasive Extratensive……..2		3%
Avoidant…….42		67%
EA-es differences: D scores		
D score > 0…….…..6		10%
D score = 0…….…....30		48%
D score < 0…….……27		43%
D score < -1…….....8		13%
AdjD score > 0……..…...6		10%
AdjD score = 0……..….36		57%
AdjD score < 0 ……..…21		33%
AdjD score < -1……..….6		10%
Affect		
FC: CF + C = 1.52 : 0.89		
Pure C = 0.27 (*SD* = 0.55)	(*Pure C* > 0 = 14, 22%; *Pure C* > 1 = 3, 5%)	
FC > (CF + C) + 2……...8		13%
FC > (CF + C) + 1……16		25%
(CF + C) > FC + 1…….4		6%
(CF + C) > FC + 2…….2		3%

Sum C' = 1.11 (*SD* = 1.49) *Sum V* = 0.06 (*SD* = 0.30) *Sum Y* = 1 (*SD* = 1)
Afr = 0.46 (*SD* = 0.19) (*Afr* < .40 = 30, 48%; *Afr* < .50 = 16, 25%)
S = 1.32 (*SD* = 1.32) (*S* > 2 = 7; 11%)
Blends: R = 1.48 : 16.75
CP = 0.05 (*SD* = 0.22)

Interpersonal

COP = 0.35 (*SD* = 0.68) (*COP* = 0 = 47, 75%; *COP* > 2 = 1, 2%)
AG = 0.30 (*SD* = 0.66) (*AG* = 0 = 48, 76%; *AG* > 2 = 1, 2%)
Food = 0.13 (*SD* = 0.38)
Isolate/ R = 0.19 (*SD* = 0.11)
H: (H) + Hd + (Hd) = 1: 2.33 (*H* = 0 = 24, 38%; *H* < 2 = 11, 17%)
(H) + (Hd): (A) + (Ad) = 1.30 : 0.43
H + A: Hd + Ad = 10.51 : 2.68
Sum T = 0.29 (*SD* = 0.61) (*T* = 0 = 49, 78%; *T* > 1 = 3, 5%)
GHR = 1.83 (*SD* = 1.67)
PHR = 2.16 (*SD* = 1.64) *GHR* > *PHR* = 19, 30%

Self-perception

3r + (2)/ R = 0.26 (*SD* = 0.14) (*3r + (2)/ R* < .33 = 20, 32%; *3r + (2)/ R* > .44 = 5, 8%)
Fr + rF = 0.19 (*SD* =0.50) (*Fr + rF* > 0 = 9, 14%)
FD = 0.60 (*SD* = 0.99)
An + Xy = 0.83
MOR = 1.19 (*SD* = 1.51) (*MOR* > 2 = 11, 17%)

Ideation

a:p = 2.75 : 1.35 (*p* > *a* + 1 = 6, 10%)
Ma: Mp = 0.81 : 0.46 (*Mp* > *Ma* = 12, 19%)
M = 1.27 (*SD* = 1.32) (*M-* = 0.30, *SD* = 0.64; *M none* = 0, *SD* = 0)
FM = 2.21 (*SD* = 1.82) *m* = 0.57 (*SD* = 0.86)
2AB+Art+Ay = 0.98 *(SD* = 1.69*)* *(2AB+Art+Ay* > 5 = 2, 3%)
Sum6 = 1.95 (*SD* = 1.58) *WSum6* = 5.65 (*SD* = 5.31)
Level 2 Sp Sc = 0.29 (*SD* = 0.61) (*Level 2 Sp Sc* > 0 = 14, 22%)

Mediation

Populars = 3.56 (*SD* = 1.43) (*P* < 4 = 29, 46%; *P* > 7 = 0, 0%)
XA% = 0.68 (*SD* = 0.18)
WDA% = 0.72 (*SD* = 0.18)
X+% = 0.44 (*SD* = 0.16)
X-% = 0.28 (*SD* = 0.17*)*
Xu% = 0.24 (*SD* = 0.13)
S- = 0.08 (*SD* = 0.13)

XA% > .89……4	6%
XA% < .70……34	54%
WDA% < .85……45	71%
WDA% < .75……27	43%

X+% < .55……45	71%	
Xu% > .20……39	62%	
X-% > .20……42	67%	
X-% > .30…… 29	46%	

Processing

Zf = 8.51 (*SD* = 3.53)	
Zd = -0.47 (*SD* = 4.55)	(*Zd* > +3.0 = 11, 17%; *Zd* < -3.0 = 17, 27%)
W:D:Dd = 6.51 : 6.56 : 3.68	
W:M = 6.51: 1.27	
DQ + = 3.22 (*SD* = 2.70)	
DQv = 0.70 (*SD* = 1.07)	(*DQv* > 2 = 4, 6%)

Constellations

PTI = 5…….0	0%	*DEPI* = 7…….0	0%	*CDI* = 5…….15	24%
PTI = 4…… .3	5%	*DEPI* = 6…….2	3%	*CDI* = 4…….30	48%
PTI = 3…….10	16%	*DEPI* = 5…….7	11%		

S-Constellation Positive…....0	0%	
HVI Positive……1	2%	
OBS Positive……...1	2%	

A thorough discussion of the clinical meaning of the data provided in Tables 13 and 14 may be found in the following chapter. Beyond this data, Table 16 of the appendix provides additional descriptive statistics for the overall sample to allow for a closer inspection of these variables.

CHAPTER V

DISCUSSION

The current study examined two groups of adolescents (n = 29) diagnosed with CD in a school setting to determine if RIM scores would differentiate the emotional, social, and cognitive functioning of high and low scoring psychopathy groups. In order to better understand the relationship between psychopathy and CD, psychopathy level and a specific behavioral pattern (CD) were analyzed as independent measures. All other variables were treated as dependent variables with the intention of using any differences to aid in understanding the unique personality of each group. When considering age, ethnicity and overall cognitive abilities (e.g., IQ), there were no differences between the groups. Of those analyses that were interpretable, statistical significance was obtained for the WSum6 variable. Statistically significant results were not obtained across the remainder of the variables that could be validly examined. The results of additional analyses examining RIM variables related to cognitive functioning were also not found to be significant. However, moderate effect sizes were obtained for GIA, the Egocentricity Index, X+%, and Zd. Select individuals with PCL: YV scores ≥ 30 were then examined to determine any relative patterns in RIM scores, and descriptive statistics were summarized for the overall sample (N = 63) to provide a description of the emotional, social, and cognitive functioning of the types of students that may be typically found in such a setting.

Interpretation of Findings

Considerations of the Data

Prior to considering the implications of these findings, it is important to fully consider the response style to the testing environment for this sample. Similar to previous findings (e.g., Gacono & Gacono, 2008), the low overall cognitive abilities, low number of RIM responses, and high Lambda limit the clinician's ability to make comparisons from the current sample to other studies. First, it is important to consider that a simplistic approach to problem solving, whether due to a defensive stand, cognitive style, or low cognitive skills, negatively impacts the production of RIM variables (Gacono & Gacono, 2008; Gacono, Loving, et al., 2001) and results in less complex RIM protocols.

However, researchers have argued that these types of protocols should not be immediately attributed to resistance or to the lack of validity of the RIM in providing valuable information regarding personality; rather, these irregularities may be understood as accurate measurements of the personality functioning of these individuals. That is, one explanation is that these data likely reflect the cognitive and emotional impoverishment of the sample, and subsequently the results accurately reflect the response style of these individuals. It is important to note that when working with an individual, it is important to determine the extent to which guardedness, defensiveness, and/ or denial contributed to the constricted protocol (Gacono & Gacono, 2008). However, another explanation may be that the response style is measuring defensiveness, as has been documented with adjudicated forensic populations, and therefore it is also just as likely that this profile is an accurate description of youth who are defensive, uninsightful, and lack the cognitive and emotional resources to interact with their world effectively. The data obtained is not invalid, but rather needs to be considered within the context of the patient's response style, and understood as an accurate portrayal of this sample (Gacono & Gacono, 2008).

Taken altogether, simple between-group comparisons cannot be recommended. Therefore, while a description of the response style of this group is useful, the RIM variables within these groups likely do not accurately reflect the personality characteristics beyond this data set. Rather, because of their impoverishment, the RIM variables that were produced are not representative of the true extent of dimensional personality traits (C.B. Gacono, personal communication, June 5, 2009). That is, although the WSum6 was found to differentiate between high and low psychopathy groups, there may be other relevant findings that at present are not detected by the analyses. The lack of significance should not be understood as evidence that the RIM is not a useful measure of personality, but rather signifies the fact that these three variables impact RIM production and must be interpreted prior to comparing RIM data to normative samples that are not similarly impacted (C.B. Gacono, personal communication, June 5, 2009). What the data does suggest is that in consideration of this constriction, the significance of the WSum6 variable actually strengthens the weight of this finding, revealing the resilience of this variable despite its suppression (Gacono, Loving, et al., 2001).

Findings Related to the Research Questions

The exclusionary criteria were hypothesized because past research has suggested that studies in this area need to control for the limitations posed by gender, concurrent Axis I functional psychosis, legal status, testing setting, age, and IQ. Further, research has suggested that it is necessary to control the number of RIM responses unless it is a hypothesized group difference (Gacono, Loving, et al., 2001). This is so because together these factors can influence the production of certain RIM variables. Due to the use of a preexisting data set, and therefore lack of random selection, research question 1 was

hypothesized so that these four variables may be analyzed statistically to determine if they were associated with RIM elevations. They were not found to be significant across groups and therefore were not viewed to indicate a threat to internal validity.

Consequently, the hypothesis for research question 1 was supported in that there were no differences between either group in regard to age, GIA, and number of responses. The lack of significance between the two groups in the overall number of responses made sense interpretively, as well as the overall low number of RIM responses, in that past research has suggested that a lower number of responses is expected in those who are deviant and not mentally ill. Specifically, those with psychopathic traits and other disruptive behaviors are expected to be more detached, affectively avoidant, and less interested in others than is normal. Further, an elevated number of responses is not expected in those with psychopathic traits where planned and purposeful rather than affective violence is the norm. It is in this way that response frequency aids in understanding the psychopathology of certain groups when interpreted in consideration of other RIM variables (Gacono et al., 2000).

The only interpretable significant variable revealed by this study was the WSum6 variable. This variable assesses difficulties in conceptual thinking by addressing ideational clarity. Composed of a weighted value of the six critical special scores, and in relation to the number of RIM responses, this variable reveals the level of cognitive mismanagement or ideational slippage experienced by an individual (Exner, 2000). The significance of this variable suggests that the high psychopathy group experiences a level of distorted thinking that is not present in the low psychopathy group. Specifically, the ideational activity of this group is marked more often by cognitive slippage and faculty

judgment than is common. Further, their thinking tends to be less clear and less sophisticated than is typical. This is in contrast to the low psychopathy group, whose faulty judgment does not reflect a thinking problem, although their thinking is less clear, mature, and sophisticated than is typical (Exner, 2000).

Despite the lack of significance, the moderate effect sizes of GIA, the Egocentricity Index, X+%, and Zd suggest that had a larger sample size been used, significance for these variables may have been obtained across the two groups (Gravetter & Wallnau, 2007). For example, if significance were obtained for X+%, this would have complimented the significance of the WSum6 variable. In such a case, not only would the high psychopathy group have experienced more difficulties with ideational clarity than the low psychopathy group, but difficulties with unconventional behavior that results from mediational dysfunction and problems in reality testing (X+%) would have been supported (Exner, 2000). Using similar reasoning, if significance were obtained for the remaining variables with moderate effect sizes, this would have supported less difficulty with scanning efficiency (Zd), a more negative self-evaluation (Egocentricity Index) that may predict the eventual solidification of narcissistic defenses (Gacono & Meloy, 1994), and a possible lower IQ for the high psychopathy group that has been supported in other CD samples (Christian et al., 1997).

Considerations Regarding Findings

In this particular sample, it cannot be assumed that the WSum6 variable is indicative of psychopathy; rather, it is necessary that this variable be interpreted within the context of the totality of information provided (Gacono, Loving, et al., 2001). That is, selected RIM variables should never be interpreted in isolation from other structural data,

determinants, content, form quality, or other information that is provided by the overall protocol (Gacono & Meloy, 1994). Further, this information should be collaborated with other information sources such as the PCL: YV in order to make such a determination (Gacono, 1998). However, due to the constriction present in this sample, safer interpretive grounds were established for this variable, as it was significant despite the influences of the number of RIM responses, GIA, and Lambda (Gacono et al., 2000; Gacono & Gacono, 2008).

Aside from the constriction and small sample size, non-significance may also be attributed to the developmental course of psychopathy that takes place in adolescence. That is, the non-significance of the results may be reflective of the developmental course of psychopathy, in that certain psychopathic traits may not emerge and become crystallized until later in life. It may then be argued that some aspects of psychopathy may be detected by adolescence, whereas others may not fully emerge until later years (Loving & Russell, 2000).

For those variables that were not normative but also not significantly different, this suggests that there were other individuals in the sample who were less psychopathic but more likely than average to exhibit difficulties on those variables (Loving & Russell, 2000). Interpretation of these variables may prove useful when seeking to understand this data; consequently, the RIM variables for selected protocols, as well as overall descriptive analyses, were conducted to derive additional valuable interpretive information and are provided below.

Qualitative Analyses

An Examination of Select Individuals with High PCL: YV Scores

As another interpretive routine, those students in the high psychopathy group with scores 30 or above were examined idiographically to determine the existence of any relative patterns in RIM scores. This resulted in an evaluation of the RIM variable means (see Table 13) of four participants. When comparing these means to those of Exner's (2001) nonpatient (NP) 16-year olds (N = 140) and previous research conducted on adolescent CD samples (Gacono & Meloy, 1994; Gacono et al., 2008), a number of emotional, social, and cognitive deficits were observed. Affectively, it was found that this group is less likely to be affected by anger or negativism than adolescent CD populations (CD, *S* = *M* = 0.5; NP, 1.24), and do not experience negative emotions resulting from self-focusing (CD, *V* = *M* = 0; NP, 0.19). Although higher than typical CD youth, they produced fewer aggression responses (CD, *Ag* = *M* = 0.75; NP, 1.20) than normal adolescents, suggesting that they act out their aggressive impulses in an ego-syntonic, conflict-free manner (Gacono & Meloy, 1994). These individuals have less internal coping resources available (CD, *EA* = *M* = 4.13; NP, 8.87) and have a poor capacity for insight and introspection (CD, *FD* = *M* = 0; NP, 1.31). Interestingly, they evidenced less narcissism than that typically seen in nonpatients and other CD adolescents (CD, *Fr*+*rF* = *M* = 0; NP, 0.48).

Socially, these individuals lack an understanding of interpersonal relationships and may lack empathy for others (CD, *Pure H* = *M* = 1.25; NP, 3.39). They are guarded and distant and do not benefit from interpersonal interaction (CD, *T* = *M* = 0.25; NP, 1.02). Cognitively, their ideation may be more clouded than expected and may indicate the possibility of disturbed thinking (CD, *M*- = *M* = 0.25, NP, 0.09). This group experiences significant mediational impairment that impairs their reality testing (CD,

XA% = *M* = 0.41; NP, 0.93). This is more likely to be problematic when situational cues are less obvious (CD, *WDA* = *M* = 0.42; NP, 0.94). They do not experience ideational inhibition and act out in a conflict free manner (CD, *m* = *M* = 0.25; NP, 1.14). This cognitive impairment may lead to social detachment and a disregard for social convention (NP, *P* = *M* = 3.0; NP, 6.46).

Interpretation of Additional Analyses

As the production of RIM variables was constricted in this study, the significance obtained may therefore be limited by the production of responses and therefore low frequencies obtained to measure group differences. Because these findings were limited in use for group comparisons of subjects, a personality description of the type of students found in this school setting is provided for a better understanding of these youth through examination of the RIM protocols of the entire sample (N = 63). This analysis was conducted without regard to psychopathy level by examining not only those RIM variables originally posited in the research questions, but also additional RIM variables (see Table 14). By understanding the areas of core characteristics, controls, stress tolerance, affect, self-perception, thinking and processing, and interpersonal functioning, this data may be useful to examiners evaluating similar populations. When appropriate group data are compared to Exner's (2001) 16-year old nonpatient group (N = 140). The findings are presented as group trends and may not be representative of the many individual differences present in this sample.

Core characteristics. These male adolescents (N = 63) had an approximate mean age of 16.69 (see Table 7). Of these adolescents, four had a PCL: YV score greater than or equal to 30. This overall group produced a lower number of responses than Exner's

nonpatient 16-year olds (CD, *M* = 16.75; NP, 22.89). A high percentage of the sample was Avoidant (CD = 67%; NP, 12%). High Lambdas (CD, *M* = 1.77; NP, 0.65), a component of the Avoidant style, suggests cognitive constriction and the individual's tendency to simplify the stimulus field by ignoring or denying the complexity or ambiguity of situations and experiences, as well as limited coping strategies and a tendency to act out. This may cause them to become easily overwhelmed (Exner, 2000). The low number of responses, although characterological of these youth, also contributes to the cognitive and emotional constriction in the production of RIM variables (Gacono & Gacono, 2008).

Controls. The CD adolescents have fewer available psychological resources when compared to similar aged nonpatients (CD, *EA* = *M* = 3.06; NP, 8.87). They have less Sum Shading (CD, *Sum Shading* = *M* = 2.13; NP, 3.44), suggesting that these adolescents ward off painful affect through acting out. Significantly greater impairment in their adjustment and controls than nonpatients was also observed (CD, *CDI* ≥ 4 = 72%; NP, 12%).

Adolescents with CD are able to consciously use affect to meet personal goals (CD, *D* = *M* = -0.48, *AdjD* = -0.35; NP, -0.31 & -0.11). Most are not overwhelmed by feeling badly (CD, *FM* + *M* < *Sum Shading* = *M* = 32%; NP, 14%). Only 10% of the sample was disorganized and unpredictable in their stress tolerance and controls. This suggests an organized, predictable, and controlled pattern of behavior.

Affect. This sample is much less responsive to color than normal 16-year olds (CD, *Sum C* = *M* = 2.41; NP, 6.26). This suggests that although these adolescents will consciously experience affect less than nonpatients, when they do experience affect it is

less modulated in its expression. This finding is supported by the Pure C responses, which also suggest difficulty with modulating emotions (CD, *Pure C* > 0 = 22%; NP, 4%). The constraint of affect is similar to their nonpatient counterparts (CD, *Sum C' = M* = 1.11; NP, 1.15). Their difficulty in modulating affect may lead to avoidance of emotionally provoking situations (CD, *Afr* < .40 = 48% & *Afr* < .50 = 25%; NP, 4% & 15%). Because they are less sensitive to their own emotions and to their environment and have a diminished sense of emotional complexity, they may become confused by their emotions (CD, *Blends* = *M* = 1.48; NP, 6.11).

This group does not experience negative emotional experiences related to self-inspection (CD, *Sum V* = *M* = 0.06; NP, 0.19). This is in contrast to past research, which has found an elevation of this variable when compared to nonpatients (Gacono et al., 2008; Gacono & Meloy, 1994). However, they may sense that something is wrong with their ability to manage their emotions (CD, *DEPI* ≥ 5 = 14%; NP, 0%). Inconsistent with past research (Gacono et al., 2008; Gacono & Meloy, 1994), these youth experience about the same amount of helplessness, anxiety, and tension as other adolescents their age (CD, *Sum Y* = *M* = 1; NP, 1.04). Similarly inconsistent, their experiences of anger and resentment are normative (CD, *S* > 2 = 11%; NP, 13%; Gacono et al., 2008; Gacono & Meloy, 1994). Five percent of the sample produced a color projection (CP) response (CD, *CP* = *M* = 0.05, NP = 0). This represents a primitive hysterical defense, such as denial and dissociation, which appears linked to psychopathy (Gacono & Meloy, 1994).

Thinking and processing. This group has mediation and thinking problems and do not see the world as others do (CD, *PTI* ≥ 3 = 21%, *P* < 4 = 46%; NP, 1% & 3%- see Table 12: XA%, WDA%, X+%, X-%, Xu%). However, the Sum6 and WSum6 are not

similarly elevated as in past descriptive studies (Gacono et al., 2008; Gacono & Meloy, 1994). Although they are not prone to intellectualize (CD, *2AB+Art+Ay > 5* = *M* = 0.98, NP, 1.14), when they do think they evidence cognitive slippage (CD, *Level 2 Special Scores* > 0 = 22%, NP = 5%). They produce less human movement responses (CD, *M* = *M* = 1.27; NP, 4.31), and M- is found more frequently than in normal adolescents (CD, *M*- = *M* = 0.30; NP, 0.09). This suggests a reality testing impairment that accompanies human movement, and suggests problems surrounding reasoning, judgment, deliberation, and delay of gratification. There is also some suggestion of a retreat into fantasy (CD, *Mp* > *Ma* = 19%; NP, 12%). Less nonvolitional ideation is observed (CD, *FM* = *M* = 2.21, NP, 4.58), and less ideational helplessness, tension, and conflict is experienced than is normal (CD, *m* = *M* = 0.57; NP, 1.14). As suggested previously, anger does not play a disruptive role in their cognitive development (CD, *S*- = *M* = 0.08; NP, 0.34).

These adolescents fail to attend to the important details in their world as a strategy to simplify their increasingly chaotic world, and as a result may act more impulsively (CD, *Zd* < -3.0 = 27% *Underincorporation*; NP, 10%). They strive beyond their abilities (W:M > 3:1) and are intellectually limited (CD, *Zf* = *M* = 8.51; NP, 12.61). They are guarded and mistrustful, attempt to minimize involvement with any perceived ambiguity, and are more conservative and economical in their processing than is typical (W:D:Dd; DQ+).

Self-perception. With the emotional, cognitive, and processing deficits that these individuals experience, many compare themselves poorly to others and may not meet their own expectations (CD, *3r + [2]/ R* < .33 = 32%; NP = 7%). Self-absorption and feelings of entitlement are not used defensively (CD, *Fr* + *rF* = *M* = 0.19; NP, 0.48),

which is in contrast to past research which suggests that self-absorption may be a defensive strategy that is used at this age (Gacono et al., 2008). However, a poor capacity for insight and introspection is observed (CD, *FD* = *M* = 0.60; NP, 1.31), and acting out may be used in response to a damaged self-image and external locus of control (CD, *MOR* = *M* = 1.19; MOR > 2 = 17%; NP, 0.58 & 4%). When considering the latter two variables, it is possible that their meaning may predict the eventual solidification of narcissistic defenses (Gacono & Meloy, 1994).

Interpersonal. CD adolescents have deficiencies in social and ego coping resources, and their interpersonal functioning is problematic and ineffective (CD, *CDI* ≥ 4 = 72%, *GHR* = *M* = 1.83, *PHR* = *M* = 2.16; NP, 12%, 5.29 & 1.16). They do not anticipate positive interactions with others, which is likely influenced by past negative interpersonal experiences (CD, *COP* = 0 = 75% & COP > 2 = 2%; NP, 14 & 17%). This prevents them from developing an inner representation of a mutually cooperative interpersonal world. Acting out is becoming a more acceptable part of their self-identity, and there is an absence of tension surrounding aggressive impulses (CD, *AG* = 0 = 76%; NP, 24%). They struggle with understanding healthy interpersonal relationships and are not very interested in others (CD, *H* = 0 = 38%; NP, 1%), and their relational attitudes are unlikely to be reality based. Their object relations and attachments are impaired (CD, *T* = 0 = 78%; NP, 9%), and they have a neurotic personality organization, where the integration of good and bad slit objects into whole, integrated objects has not yet occurred (McWilliams, 1994; Gacono & Meloy, 1994). They have less dependency needs than is normative (CD, *Fd* = *M* = 0.13; NP, 0.51), although they are not socially isolative (CD, *Isolate/ R* = *M* = 0.19; NP, 0.16).

When considering their interpersonal disconnect, distorted reality testing, and difficulties with emotional modulation, a cycle of exploitation is triggered, as well as criticism and punishment by others, that lead to an increased damaged interpersonal worldview. With continued acting out, they become more defensive and self-justified in their acts, allowing them to more easily detach from their emotions and their devalued view of self (Gacono et al., 2008; Gacono & Meloy, 1994).

As can be seen, there are a number of deficits these individuals experience that interfere with their emotional, social, and cognitive functioning. As a whole, this information is informative when considering implications for treatment both within the school setting and beyond.

Implications for Treatment

When considering the descriptive findings from this study, which outlined difficulties with emotional modulation, interpersonal disconnect, and distorted reality testing, it can be seen how these problems are developmental in nature. Through reinforcement of negative experiences and an unsupportive and lack of nurturing environment, paired with criticism and punishment by others, as well as various other potential contributing factors, a damaged view of self and others results. Acting out fuels this, and a cycle of exploitation is created. Without intervention, through time the foundation of risk for later violent offending behavior is created, and an increased risk results for those with a propensity for violence.

When considering this developmental process, early intervention is key, as early predictors of CD symptoms, such as aggression, defiance, and disturbed peer relations, have been established in children as early as 1.5-2 years of age, with symptoms emerging

as early as the preschool years (APA, 2000; Shaw et al., 2006). With time males are more likely to predominate in the number of physically and verbally aggressive acts, with this earlier age of onset predictive of a poorer prognosis (APA, 2000). Whereas the presence of CD symptoms should not necessarily be viewed as indicators of psychopathy in youth, with time they should be understood as possible indicators of the presence of psychopathy when a greater number of symptoms are observed (Rogers et al., 1997).

Interventions that are in place at a younger age are critical, as those who are CD and also have psychopathic traits are more likely to engage in violent and delinquent acts in adolescence and early adulthood than those low on psychopathy, as well as are more likely to recidivate (Forth et al., 2003; Hemphill et al., 1998). Further, research suggests that treatment is more effective for this group when implemented at a younger age (Garrido, Esteban, & Molero, 1995). Due to this high risk, as well as the similar rates of psychopathy in childhood and adolescence to that of adults (Salekin et al., 2004) and the relative stability of psychopathic traits (Crawford et al., 2001; Lynam et al., 2005), proper assessment procedures are important so that variables contributing to aggressive behaviors may be used to inform comprehensive intervention services. As a small number of offenders commit the majority of crimes, the early identification and treatment of offenders could prevent the development of chronic criminal careers (Vaughn & Howard, 2005).

Dimensionally Indicated Treatment Needs

Because the heterogeneity of a CD diagnosis makes it of limited use when understanding adolescent delinquents, assessing for psychopathy and what levels of

disturbance are present is more informative when dealing with this population (Gacono & Hughes, 2004).

This study theorized about those with psychopathic traits according to dimensionally based findings in terms of the difference between high and low scores within this sample. This is considered acceptable, as psychopathy was not determined according to a taxon in the absence of an empirically acceptable cutoff score for adolescents, such as the cutoff of 30 posited for adults (Cunliffe & Gacono, 2008). Therefore, because lower cutoff scores were used to establish groups, the relative differences between the high and low scoring groups were examined (Gacono, Loving, et al., 2001).

Clinically, what ranges of psychopathy are best at predicting behavior is more of interest than if an individual meets this traditional threshold. In terms of treatment planning, psychopathy level, rather than a designation of psychopathy, is more informative for decision-making (Gacono, Loving, et al., 2001). This is because rather than placing the primary focus on labeling adolescents as psychopaths, focus is more appropriately shifted to how these traits relate to prevention, management, and treatment (Gacono & Hughes, 2004).

For example, it has been suggested that a score of 24 may be optimal for a forensic state hospital that is assessing the probability of problematic behavior, whereas a score of 15 may be more appropriate for a milieu-based day treatment program for mentally ill patients (Gacono, Loving, et al., 2001). Consequently, in this sample an exploratory cutoff score was used to determine an appropriate level of psychopathy to identify problematic behaviors in a school setting with delinquent youth. This is so

because as the particular setting moderates the expression of psychopathy, a normative cut off score would preclude the interpretation of valuable data that may aid in treatment planning (Gacono, Loving, et al., 2001). Further, as violence expresses itself in many ways, clinicians should consider that even those low on psychopathy can pose a threat of violence or recidivism due to factors such as impulsivity and comorbid diagnoses (Gacono & Hughes, 2004).

In this study a lower cutoff score of 28 was used for the high psychopathy group. When considering the interpretations made regarding the deficits described in the high psychopathy group, as well as for the overall sample, it may be understood how a dimensionally based assessment of psychopathy is informative for treatment planning and when assessing risk for offending. These RIM patterns should guide treatment recommendations and the clinician's understanding of treatment response.

Selecting Interventions

When selecting treatment interventions, it is important to understand specific personality characteristics according to the emotional, social, and cognitive difficulties of those with CD and those who also have psychopathic traits, as their treatment and prognosis vary across the two groups. In particular, those with more extensive delinquent histories may have different treatment needs. This is in contrast to the majority of youth who are only CD, as they are not likely to develop lifelong patterns of antisocial behavior (Gacono & Hughes, 2004). Even within psychopathy, differing levels of severity may indicate specific treatment needs (O'Neill, Lidz, & Heilbrun, 2003; Loving, 2002). When considering psychopathy, those who score lower on the PCL: YV are more likely to be responsive to treatment efforts (Garrido et al., 1995; Loving, 2002). As a result, when

considering the diagnosis of CD, and differentiation of psychopathy in these individuals, it becomes apparent that the treatment needs of a child who has a history of cruelty to animals, forced sexual activity upon others, and physical fighting including the use of weapons will differ from a child who meets the criteria for CD due to truancy, running away from home, and shoplifting behaviors (Gacono, Nieberding, Owen, Rubel, & Bodholdt, 2001).

Assessment, placement, and treatment planning considerations when serving these youth may also include understanding the pathogenic processes that serve to maintain educational difficulties. For example, by understanding how those within the same diagnostic category, such as CD, develop and maintain symptoms, treatments and interventions may be selected according to the individual's specific pathogenic process rather than providing treatments according to the general criteria that is provided by a particular diagnosis. In particular, it may be discerned whether CD behavior is motivated by emotional, interpersonal, or cognitive variables, as the treatments for each of these areas of developmental arrest will differ (Shirk & Russell, 1996).

For example, when considering emotional deficits, the coping style of emotional avoidance should be targeted to prevent relapse. For those with high Lambda, teaching more effective defenses while increasing comfort with affect may be beneficial. If difficulties with emotions lead to problems with reality testing, and subsequent acting out, affectively oriented therapies may be appropriate (Gacono & Gacono, 2008). In such a situation, a consistent and supportive therapist would be necessary to impact emotional detachment (Gacono & Meloy, 1994). When considering adolescent onset CD, the individual's identity development and the encouraging of pro-social contact with peers

may be a focus of intervention for an individual with emotional and behavioral regulation problems, whereas for childhood onset CD interventions for the same difficulties may instead focus on inhibiting impulsive and angry responses. In contrast, if this same child also had callous and unemotional traits, interventions may instead focus on increasing empathetic concern (Frick, 2004). Regardless of the pathogenic process, when selecting interventions, the students' openness to tasks and their own affect should be considered, as well as the individual's available psychological resources and coping skills (Gacono & Gacono, 2008). It is in this way that numerous considerations should be made when considering emotional deficits.

Due to the impact of cognitive impairment, processing issues should also be considered when formulating treatment goals and assessing treatment progress (Gacono & Gacono, 2008). Clinicians should be cognizant of these difficulties in the absence of another Axis I disorder, and address perceptual and thinking problems despite their absence during a routine mental status exam. With this particular population, it should be observed that the perceptual and associative abilities of these children are impaired and disorganized, and that they may become frustrated by therapeutic change processes that utilize cognitive skills, regardless of their IQ (Gacono & Meloy, 1994).

When describing between group differences, the significance of cognitive disruption should be understood in relation to real world behaviors and relationships (Gacono & Gacono, 2008). For example, when dealing with youth who are guarded and distant and do not benefit from interaction with others, and who act out in a conflict free manner, therapeutic steps may include developing capacity for insight and introspection and understanding ambiguous situational cues so that they do not misinterpret events.

The resulting behavioral outcome would then reduce instances of physical aggression toward others. These considerations should be taken when attempting to understand the disturbed thinking of these adolescents, and understood in relation to their real world behaviors of aggression and acting out.

Treating CD and Psychopathy

For those who present with higher levels of psychopathy, research has been mixed regarding the benefits of treatment for this particular group. Whereas some have suggested that those with psychopathic traits may improve from treatment (Garrido et al., 1995), other research has suggested that treatment may actually have a negative impact on these individuals or may be ineffective (Loving, 2002; Thornton & Blud, 2007; Gacono, Nieberding, et al., 2001). Some have suggested that higher scores are negatively related to attendance rates, quality of participation, clinical improvement, as well as re-arrest risk, while lower psychopathy scores result in positive treatment effects, as evidenced by abstaining from drug use, reduced levels of criminal behavior, lower re-arrest rates, and re-enrollment in school or employment (O'Neill et al., 2003). Factors moderating response to treatment may include variables such as the earlier onset of diagnoses, the presence of comorbid diagnoses, academic delays, a greater severity of family dysfunction, parent history of antisocial behavior in childhood, and socioeconomic disadvantage (Kazdin, 1997).

The use of cognitive-behavioral therapy has been suggested for treating both CD and psychopathy, although research has been mixed regarding its utility in psychopathic populations, especially when targeting those with high levels of psychopathy (Gacono, Nieberding, et al., 2001). However, at the present studies do not indicate that this type of

therapy has adverse effects on juvenile offenders with marked traits (Thornton & Blud, 2007). Further, this type of therapy may be particularly relevant when considering the cognitive deficits of this population.

Cognitive-behavioral therapy focuses on cognitive processes as mediators of behavior and emotion, and views behavioral and emotional dysregulation as resulting from cognitive deficiencies, such as irrational beliefs and thinking errors. Change is therefore produced by modifying the cognitive distortions that contribute to and maintain antisocial behavior, as well as by confronting the individual of their dysfunctional behaviors so that they may be stimulated to evaluate and take responsibility for their actions (Gacono, Nieberding, et al., 2001). In treating this population, and as especially related due to the significance of thinking problems observed in the high psychopathy group, analyzing offense precursors such as examining patterns of thoughts, feelings, and behaviors that precede the offending, learning alternative behaviors, cognitive restructuring, and skills training involving the development of self-control and problem-solving skills may be particularly relevant (Thornton & Blud, 2007). Empathy, social perspective taking, and substance abuse may also be targeted. Regardless of which cognitive-behavioral technique is utilized, cognitive skills should be taught according to the person's psychosocial developmental level (Gacono, Nieberding, et al., 2001).

There is other existing research for treating these populations. For those who do not have psychopathic traits, there is a foundation of research that exists for therapeutic communities such as milieu therapy, family-based approaches such as multi-systemic therapy and family functional therapy, psychoanalytic treatment, parent management training, and psychopharmacology (Gacono, Nieberding, et al., 2001; Kazdin, 1997). For

example, once defensive processes are broken down, psychodynamic or relationship-oriented therapy addressing concerns such as childhood trauma may be targeted, which may lead to affect tolerance and identity growth (Gacono, Nieberding, et al., 2001). For those with psychopathic traits, there has been research conducted on groups with psychopathic traits using therapeutic communities, prison education, expressive psychotherapy, parenting, and eclectic mental health services, although research has again been mixed (Gacono, Nieberding, et al., 2001; Thornton & Blud, 2007). Psychopharmacology has also been suggested, although there is no established pharmacological treatment for this group. However, this sort of intervention may be particularly relevant when another Axis I disorder like depression or anxiety is present (Gacono, Nieberding, et al., 2001).

Currently, institutional management prevails and is effective in helping to control behavior and reducing risk of violence (Gacono, Nieberding, et al., 2001). When considering juvenile delinquents, an increased level of security such as a residential program that is mandated by governing authorities may be appropriate (O'Neill et al., 2003). By providing a structured environment, disruptive behaviors may be controlled, which would reduce the threat of violence.

Based on current knowledge in treating these youth, what may be determined is that some of these treatments may work on a select number of these youth under certain circumstances; however, given the cognitive and other emotional and social deficits of this group, additional research is warranted to confirm these treatments, especially with adolescent populations (Gacono, Nieberding, et al., 2001). However, research does

suggest that sustained treatment is associated with more positive outcomes (Thornton & Blud, 2007).

Implications for School Psychologists

School psychologists should have adequate training to assess a number of problematic behaviors so that they may be sufficiently prepared to treat subpopulations such as the youth included in this study. Assessment and intervention efforts cannot be limited to self-report data that do not provide a comprehensive understanding of psychopathology. To accurately describe the psychological condition of these youth, a number of evaluation methods are necessary to assess psychological functioning, prognosis for treatment, and risk levels. Consequently, an assessment battery that includes use of the PCL: YV and RIM becomes germane when assessing behaviorally disordered adolescent populations (Gacono & Hughes, 2004).

Specifically, these measures may be useful when differentiating emotional disturbance (ED) from social maladjustment (SM; Gacono & Hughes, 2004). Preliminary research has suggested the use of the RIM in school settings to differentiate students who are ED (Pierce & Penman, 1998), as well as the use of the PCL: YV when assessing youth who are SM (Gacono & Hughes, 2004). It should be considered that although personality assessments may not be useful for determining educational eligibility when assessing for learning disabilities, personality assessments such as these may be appropriate when assessing for ED or SM. For example, just as intelligence tests such as the Wechsler Intelligence Scale for Children- Fourth Edition (WISC-IV; Wechsler, 2004) may be useful in special education eligibility, the RIM may be similarly indicated for

assessing social-emotional adjustment. The proper use and utility of each lies within the clinical decision-making of the evaluator (Smith, 2007).

For these types of students, the RIM and PCL: YV may prove useful in an adjudicated school based facility where individual education plan (IEP) teams may use data gleaned from these assessments when developing school-based behavioral plans (Hughes et al., 2007). For example, valuable information may be produced when determining an appropriate intervention for a behaviorally disordered adolescent who is experiencing difficulty in his or her thinking. Different motivations to aggression may then be understood, including aggression resulting from impaired social cognition and low self-esteem, in comparison to aggression resulting from self-focus and a lack of remorse. In IEP meetings, this information may aid in understanding the child's disruptive behaviors and its relationship to the child's disability, as well as in developing individual education programs and treatment interventions. Because the content of the person's decision-making is reflected in the assessment data, RIM information may be used to anticipate real life behaviors (Hughes et al., 2007).

Assessment considerations should include how familial influences and low socioeconomic status contribute to the development of disruptive behaviors (Hinshaw & Lee, 2003; Capaldi & Patterson, 1994). When examining delinquent youth, it should be considered that histories of violent and nonviolent antisocial acts and criminal offending are likely to be more extensive for those with higher levels of psychopathy (Vaughn & Howard, 2005). When considering callous and unemotional traits, it should be realized that these may be exacerbated by the environment and may be influenced by factors such as poor family interactions, harsh or inconsistent discipline, and impoverished

neighborhoods (Hinshaw, 1992). School psychologists should also be aware that those high on both psychopathy factors are more likely to be SM, whereas ED students will have low trait-based features (Gacono & Hughes, 2004).

Academic underachievement, ADHD, peer rejection, failure to keep the same friends, and insecure attachments are all behaviors that should be monitored in the school environment, as they may contribute to the development of the types of problems that these students demonstrate (Hinshaw & Lee, 2003; Rutter et al., 1998; Frick et al., 2000). In addition, it should be realized that drug use, truancy, lying, stealing, association with a negative peer group, and poor supervision may predict later delinquency (Stouthamer-Loeber & Loeber, 1988). For school psychologists, it should be acknowledged that the presentation and labeling of symptoms will vary across the ages, as antisocial behaviors manifest in different forms and become more diverse through time (Loeber, 1990).

School personnel should be aware that within the school setting different behavioral manifestations will result depending on the particular pathology of the child. For the youth with CD who is also ED, problems in the school setting may include impulsive and unplanned aggressive acts that they may later feel remorse for, which may lead to anger due to peer bullying, truancy, association with a negative peer group, and high emotional arousal leading to arguments and fights with teachers and classmates. This may impair social cognitive skills that prevent the adolescent from effectively processing information that would allow the individual to respond effectively to their environment. In contrast, the SM adolescent with CD may be aggressive due to an uninhibited temperament, lack of conscience development, and an absence of anxiety related to the consequences of their actions (Frick, 2004).

When selecting interventions, school psychologists should be aware that treatment efforts should be supported by an ongoing structured program that targets positive behavioral change so that behavioral stability may be attained during treatment (Gacono & Gacono, 2008). Such a program may also target deficient social skills (Gacono & Meloy, 1994). This type of setting is fitting for those with elevated psychopathy levels that do not respond to traditional treatment approaches. In fact, when treating SM children, traditional treatment approaches may increase problematic symptoms. It should therefore be considered that behavior management strategies within a secure setting may be the more appropriate change alternative (Gacono & Hughes, 2004). Within the school setting itself, clear rules and structured behavior management plans will help to reduce the number of conduct problems within the classroom (Frick, 2004).

Limitations

An ex post facto design limited the amount of experimenter control over threats to validity, such as subject selection, subject history, and the use of naturally formed groups. Due to the lack of random selection, age, IQ, number of responses, and ethnicity were investigated statistically to determine if these variables were associated with RIM elevations. These variables were not found to be significant and therefore were not viewed to indicate a threat to internal validity. However, as the dataset was preexisting, threats to internal validity were posed through instrumentation.

A notable limitation of this study was that the sample size was barely adequate. Past relevant research in this area has used similar sample sizes (Loving & Russell, 2000; Smith et al., 1997; Smith, 1994); however, researchers have warned that such sample sizes may not produce enough power, resulting in Type II error (Smith, 1994; Loving &

Russell, 2000). While it was hoped that a larger sample size could be obtained for this study, due to difficulty in securing additional data, the sample sizes were ultimately similar to those used by past researchers. Further, caution is warranted due to the use of nonparametric statistics, as they are not as effective as parametric tests in finding differences between groups, which consequently decreased the power of these analyses and thus the certainty of what conclusions were drawn.

In addition to having a small sample size, another threat to external validity was that the participants were representative of a single geographic location. Further, the restricted range of the sample makes the results less generalizable to other school settings that are not similarly impoverished.

Recommendations for Future Research

Despite its shortcomings, this study added to the literature base in a number of ways. To begin, this study is the first reported that sampled an alternative education setting of special education adolescents with CD through use of the RIM and PCL: YV. Because the sample was not drawn from inpatient populations, but rather from actual special education evaluations, much like the assessment situations that clinicians are likely to encounter in practice, the generalizability of the findings were increased and thus the literature has been furthered in this area. Due to the natural setting in which the assessments occurred, experimenter effects on the subjects were eliminated. As the school collected the data during routine psychological evaluations, naturally occurring groups were studied from a population that could not be created in a more controlled situation due to ethical considerations. Further, this study examined additional RIM variables that have not yet been examined when considering both the RIM and PCL: YV

(Smith, 1994; Smith et al., 1997; Loving & Russell, 2000). Finally, unlike past samples that have used predominately Caucasian samples of high socioeconomic status, this group was primarily African American and of lower socioeconomic status, thus lending support for the generalizability of the descriptive findings to school settings in other areas of the population (Loving & Russell, 2000).

Aside from these positive considerations, there continue to be numerous avenues that may be taken when considering what additional research may be conducted in this area. Any continual related research would only further endeavors to understand this population so that more appropriate treatment protocols may be determined.

Future research would benefit from additional studies that are able to secure a greater number of participants so that power may be more robust (Type II error). As related to this particular study, further replication using a larger sample size would allow for chi square comparisons of those variables posited for investigation in this study. This would also reduce the chance of concluding that significant differences exist between groups when in fact they do not (Type I error), as this analysis is too sensitive when expected cell frequencies are small (Gravetter & Wallnau, 2007). Further, as this sample consisted of a special education population, sampling a general population of students within a school setting may result in a higher IQ and therefore a richer production of RIM variables for interpretive purposes. Together, these precautions would allow findings to be generalized more easily to a broader population of youth with CD. It would then be beneficial to compare the results of such a study to previous research in this area to evaluate its ability to differentiate between high and low psychopathy groups.

It would be especially interesting to conduct research in this area by examining a sample of female adolescents, as literature in this area has been generally limited to adults with psychopathy and adolescents with CD (Cunliffe & Gacono, 2008; Gacono & Meloy, 1994). Because psychopathy manifests itself in varying forms across populations, such as gender, and because there are inter-gender differences in the expression of psychopathy, additional knowledge in this area would prove valuable (Gacono et al, 2001; Gacono & Meloy, 1994; Cunliffe & Gacono, 2005). At this point it may be speculated that a sample of female youth with CD may yield different results than research conducted using male subjects.

With regard to predictive validity, additional longitudinal studies demonstrating that youth who are elevated on psychopathic traits are also elevated in adulthood would provide further evidence for the construct of psychopathy at a younger age, and underscore the importance of intervention at this time (Gretton et al., 2004). Similarly, if it were demonstrated that the Rorschach could reflect this development, the additional use of this measure would be indicated.

Overall, additional research is needed in this area to further establish the presence of psychopathy in youth, as well as the utility of the RIM as a supplementary psychometric measure for the assessment of psychopathy. At the present, the authors of the PCL: YV recommend that the instrument not be used to diagnose adolescents with psychopathy for clinical or forensic purposes, scores not be used for making recommendations for or against treatment, PCL: YV ratings not be used as the only source of evidence for determining length of criminal sentencing, and scores not be used as the sole source of evidence for determining length of criminal sentencing. This is so as

continued research is needed in this area (Forth et al., 2003). By extending this research, conclusions regarding these decisions may be backed with empirical certainty when applying results across settings. Continued research will therefore aid in establishing the use of both the PCL: YV and the RIM as effective assessment measures of psychopathic traits among adolescents so that risk for violence and appropriate treatments may be more effectively assessed.

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Table 15

Cross Tabulation Data for Chi-Square Analyses Using Groups Created According to Exner's (2001) Nonpatient Means for 16-Year Olds

Crosstab

			1 = low 2= high28		
			1	2	Total
White Space	0	Count	13	10	23
		Expected Count	13.5	9.5	23.0
	1	Count	4	2	6
		Expected Count	3.5	2.5	6.0
	Total	Count	17	12	29
		Expected Count	17.0	12.0	29.0

Crosstab

			1 = low 2= high28		
			1	2	Total
FC+CF+C +Cn	0	Count	10	9	19
		Expected Count	11.1	7.9	19.0
	1	Count	7	3	10
		Expected Count	5.9	4.1	10.0
	Tota	Count	17	12	29

Crosstab

			1 = low 2= high28		
			1	2	Total
	0	Count	10	9	19
		Expected Count	11.1	7.9	19.0
	1	Count	7	3	10
		Expected Count	5.9	4.1	10.0
		Count	17	12	29
		Expected Count	17.0	12.0	29.0

Crosstab

			1 = low 2= high28		
			1	2	Total
Vista	0	Count	16	12	28
		Expected Count	16.4	11.6	28.0
	1	Count	1	0	1
		Expected Count	.6	.4	1.0
	Total	Count	17	12	29
		Expected Count	17.0	12.0	29.0

Crosstab

			1 = low 2= high28		
			1	2	Total
Y	0	Count	15	10	25

		Expected Count	14.7	10.3	25.0
	1	Count	2	2	4
		Expected Count	2.3	1.7	4.0
	Total	Count	17	12	29
		Expected Count	17.0	12.0	29.0

Crosstab

			1 = low 2= high28		
			1	2	Total
Pure H	0	Count	14	12	26
		Expected Count	15.2	10.8	26.0
	1	Count	3	0	3
		Expected Count	1.8	1.2	3.0
	Total	Count	17	12	29
		Expected Count	17.0	12.0	29.0

Crosstab

			1 = low 2= high28		
			1	2	Total
CDI	0	Count	6	3	9
		Expected Count	5.3	3.7	9.0
	1	Count	11	9	20

		Expected Count	11.7	8.3	20.0
	Total	Count	17	12	29
		Expected Count	17.0	12.0	29.0

Crosstab

			1 = low 2= high28		
			1	2	Total
Texture	0	Count	15	11	26
		Expected Count	15.2	10.8	26.0
	1	Count	2	1	3
		Expected Count	1.8	1.2	3.0
	Total	Count	17	12	29
		Expected Count	17.0	12.0	29.0

Crosstab

			1 = low 2= high28		
			1	2	Total
m	0	Count	11	10	21
		Expected Count	12.3	8.7	21.0
	1	Count	6	2	8
		Expected Count	4.7	3.3	8.0
	Total	Count	17	12	29
		Expected Count	17.0	12.0	29.0

Crosstab

			1 = low 2= high28		
			1	2	Total
COP	0	Count	14	11	25
		Expected Count	14.7	10.3	25.0
	1	Count	3	1	4
		Expected Count	2.3	1.7	4.0
	Total	Count	17	12	29
		Expected Count	17.0	12.0	29.0

Crosstab

			1 = low 2= high28		
			1	2	Total
AG	0	Count	15	12	27
		Expected Count	15.8	11.2	27.0
	1	Count	2	0	2
		Expected Count	1.2	.8	2.0
	Total	Count	17	12	29
		Expected Count	17.0	12.0	29.0

Crosstab

			1 = low 2= high28		
			1	2	Total

Per	0	Count	15	10	25
		Expected Count	14.7	10.3	25.0
	1	Count	2	2	4
		Expected Count	2.3	1.7	4.0
	Total	Count	17	12	29
		Expected Count	17.0	12.0	29.0

Crosstab

			1 = low 2= high28		
			1	2	Total
M-	0	Count	11	9	20
		Expected Count	11.7	8.3	20.0
	1	Count	6	3	9
		Expected Count	5.3	3.7	9.0
	Total	Count	17	12	29
		Expected Count	17.0	12.0	29.0

Crosstab

			1 = low 2= high28		
			1	2	Total
Popular s	0	Count	15	12	27
		Expected Count	15.8	11.2	27.0
	1	Count	2	0	2

		Expected Count	1.2	.8	2.0
	Total	Count	17	12	29
		Expected Count	17.0	12.0	29.0

Crosstab

			1 = low 2= high28		
			1	2	Total
PTI	0	Count	16	8	24
		Expected Count	14.1	9.9	24.0
	1	Count	1	4	5
		Expected Count	2.9	2.1	5.0
	Total	Count	17	12	29
		Expected Count	17.0	12.0	29.0

Crosstab

			1 = low 2= high28		
			1	2	Total
Reflections	0	Count	15	11	26
		Expected Count	15.2	10.8	26.0
	1	Count	2	1	3
		Expected Count	1.8	1.2	3.0
	Total	Count	17	12	29
		Expected Count	17.0	12.0	29.0

Crosstab

			1 = low 2= high28		
			1	2	Total
FD	0	Count	13	11	24
		Expected Count	14.1	9.9	24.0
	1	Count	4	1	5
		Expected Count	2.9	2.1	5.0
	Total	Count	17	12	29
		Expected Count	17.0	12.0	29.0

Table 16

Structural Data for Adolescent Conduct Disordered Subjects (N = 63)

Variable	*M*	*Exner's*	*SD*	*MIN*	*MAX*	*Mdn*	*f*	*Mode*	*SK*	*KU*
R	16.75	22.89	3.46	14.00	32.00	15.00	63	15.00	2.12	5.89
W	6.51	8.96	3.34	1.00	19.00	6.00	63	5.00	1.40	3.16
D	6.56	11.91	3.71	0.00	20.00	6.00	63	4.00	0.88	1.55
Dd	3.68	2.02	2.54	0.00	12.00	3.00	58	2.00	0.84	0.91
Space	1.32	1.24	1.32	0.00	6.00	1.00	46	1.00	1.74	4.11
DQ+	3.22	7.94	2.70	0.00	10.00	2.00	57	2.00	1.09	0.34
DQo	12.78	13.12	3.64	5.00	28.00	12.00	63	12.00	1.16	4.39
DQv	0.70	0.89	1.07	0.00	5.00	0.00	29	0.00	2.42	7.04
DQv/+	0.03	0.84	0.18	0.00	1.00	0.00	2	0.00	5.47	28.87
FQX+	0.02	0.54	0.13	0.00	1.00	0.00	1	0.00	7.94	63.00
FQXo	7.30	16.43	2.37	1.00	13.00	7.00	63	6.00	-0.10	0.04
FQXu	4.19	3.19	2.53	0.00	15.00	4.00	59	5.00	1.29	4.42
FQX-	4.89	1.58	3.20	0.00	14.00	5.00	60	5.00	0.80	0.47
FQXnone	0.37	0.06	0.75	0.00	4.00	0.00	16	0.00	2.64	8.59
MQ+	0.02	0.35	0.13	0.00	1.00	0.00	1	0.00	7.94	63.00
MQo	0.67	3.50	0.78	0.00	3.00	0.00	31	0.00	0.88	-0.09
MQu	0.29	0.37	0.58	0.00	2.00	0.00	14	0.00	1.93	2.73

MQ-	0.30	0.09	0.64	0.00	3.00	0.00	14	0.00	2.33	5.49
MQnone	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	-	-
Space-	0.44	0.34	0.74	0.00	4.00	0.00	22	0.00	2.33	7.81
M	1.27	4.31	1.32	0.00	5.00	1.00	0	0.00	0.99	0.20
FM	2.21	4.58	1.82	0.00	10.00	2.00	55	2.00	1.59	4.27
m	0.57	1.14	0.86	0.00	3.00	0.00	24	0.00	1.44	1.28
FM+m	2.81	5.72	2.16	0.00	11.00	2.00	57	1.00	1.20	2.20
FC	1.52	3.43	1.64	0.00	7.00	1.00	46	1.00	1.71	3.18
CF	0.62	2.78	0.83	0.00	3.00	0.00	28	0.00	1.35	1.32
C	0.27	0.04	0.55	0.00	2.00	0.00	14	0.00	1.94	2.95
Cn	0.00	0.01	0.00	0.00	0.00	0.00	0	0.00	-	-
FC+CF+C+Cn	2.41	6.26	1.79	0.00	7.00	2.00	57	2.00	1.10	1.00
WgSumC	1.79	4.56	1.30	0.00	5.00	1.50	57	1.50	0.75	-0.15
Sum C’	1.11	1.15	1.49	0.00	6.00	1.00	32	0.00	1.46	1.52
Sum T	0.29	1.02	0.61	0.00	3.00	0.00	14	0.00	2.45	6.62
Sum V	0.06	0.19	0.30	0.00	2.00	0.00	3	0.00	5.25	29.13
Sum Y	0.63	1.04	0.92	0.00	4.00	0.00	26	0.00	1.57	2.31
Sum Shd	2.13	3.44	1.68	0.00	6.00	2.00	51	1.00	0.57	-0.38
Fr+rF	0.19	0.48	0.50	0.00	2.00	0.00	9	0.00	2.69	6.48
FD	0.60	1.31	0.99	0.00	4.00	0.00	21	0.00	1.60	1.76
F	9.02	6.85	3.35	2.00	20.00	9.00	63	8.00	0.78	1.76
Pairs	3.89	9.04	2.39	0.00	10.00	4.00	59	2.00	0.44	-0.08
Ego	0.26	0.43	0.14	0.00	0.64	0.27	60	0.33	0.30	0.06
Lambda	1.77	0.65	2.15	0.17	14.00	1.25	63	1.00	4.00	19.01
EA	3.06	8.87	2.01	0.00	9.00	2.50	60	1.50	0.70	-0.02
es	4.94	9.21	3.00	0.00	16.00	5.00	61	3.00	0.90	1.81
D Score	-0.48	-0.31	0.88	-3.00	1.00	0.00	63	0.00	-0.52	1.03
Adj D Score	-0.35	-0.11	0.83	-3.00	1.00	0.00	63	0.00	-0.86	1.03
Intell Index	0.98	1.14	1.69	0.00	7.00	0.00	23	0.00	2.02	3.91
Zf	8.51	12.61	3.53	3.00	18.00	8.00	63	6.00	0.87	0.57
Zd	-0.47	1.12	4.55	-8.50	13.50	0.00	60	-3.00	0.71	0.69
Blends	1.48	6.11	1.66	0.00	8.00	1.00	42	0.00	1.71	3.65
CSBlnd	0.71	0.24	0.85	0.00	3.00	0.00	31	0.00	0.92	-0.08
Afr	0.46	0.65	0.19	0.21	1.11	0.40	63	0.40	1.19	1.49
Populars	3.56	6.46	1.43	1.00	6.00	4.00	63	4.00	-0.25	-0.62
XA%	0.68	0.93	0.18	0.09	1.00	0.69	63	0.73	-1.14	2.40
WDA%	0.72	0.94	0.18	0.08	1.00	0.77	63	0.92	-1.29	2.59
X+%	0.44	0.78	0.16	0.04	0.87	0.45	63	0.47	-0.19	0.48
F+%	0.44	-	0.19	0.00	0.88	0.45	60	0.50	-0.25	-0.27
X-%	0.28	0.07	0.17	0.00	0.86	0.29	60	0.07	0.67	1.06
Xu%	0.23	0.15	0.13	0.00	0.58	0.23	59	0.20	0.22	0.22
S-%	0.08	-	0.13	0.00	0.50	0.00	22	0.00	1.63	2.00
IsoIndx	0.19	0.16	0.11	0.00	0.50	0.19	60	0.07	0.62	0.00
H	1.25	3.39	1.46	0.00	5.00	1.00	39	0.00	1.25	0.63
(H)	0.76	1.07	0.89	0.00	3.00	1.00	32	0.00	0.92	-0.10
Hd	1.03	0.59	1.09	0.00	5.00	1.00	40	1.00	1.32	2.10
(Hd)	0.54	0.46	0.78	0.00	3.00	0.00	24	0.00	1.24	0.56
Hx	0.19	0.00	0.47	0.00	2.00	0.00	10	0.00	2.52	5.91
H+(H)+Hd+(Hd)	3.59	5.51	2.18	0.00	9.00	3.00	59	2.00	0.51	-0.31

A	8.14	8.04	2.83	3.00	14.00	8.00	63	9.00	0.20	-0.58
(A)	0.56	0.32	1.83	0.00	14.00	0.00	18	0.00	6.65	48.73
Ad	1.03	2.11	1.31	0.00	7.00	1.00	37	0.00	2.22	6.97
(Ad)	0.08	0.07	0.27	0.00	1.00	0.00	5	0.00	3.19	8.44
An	0.79	0.81	1.18	0.00	6.00	0.00	28	0.00	2.00	5.11
Art	0.52	0.83	1.32	0.00	7.00	0.00	17	0.00	4.01	17.70
Ay	0.21	0.19	0.41	0.00	1.00	0.00	13	0.00	1.49	0.22
Bl	0.21	0.21	0.57	0.00	3.00	0.00	9	0.00	3.19	10.76
Bt	1.08	1.87	1.05	0.00	5.00	1.00	41	0.00	1.04	1.66
Cg	0.56	1.39	1.01	0.00	6.00	0.00	23	0.00	3.12	13.21
Cl	0.21	0.11	0.48	0.00	2.00	0.00	11	0.00	2.34	4.97
Ex	0.24	0.11	0.62	0.00	4.00	0.00	12	0.00	4.12	22.25
Fi	0.33	0.63	0.62	0.00	2.00	0.00	16	0.00	1.71	1.75
Food	0.13	0.51	0.38	0.00	2.00	0.00	7	0.00	3.16	10.23
Geog	0.05	0.01	0.28	0.00	2.00	0.00	2	0.00	6.31	41.30
HHold	0.30	0.91	0.56	0.00	2.00	0.00	16	0.00	1.72	2.08
Ls	0.60	1.07	0.87	0.00	5.00	0.00	28	0.00	2.39	9.23
Na	0.44	0.17	0.71	0.00	3.00	0.00	22	0.00	1.85	3.73
Sc	0.94	1.51	1.08	0.00	4.00	1.00	33	0.00	0.85	-0.25
Sx	0.13	0.11	0.38	0.00	2.00	0.00	7	0.00	3.16	10.23
Xy	0.03	0.04	0.18	0.00	1.00	0.00	2	0.00	5.47	28.87
Idio	0.38	1.31	0.66	0.00	3.00	0.00	19	0.00	1.86	3.55
DV	0.37	0.99	0.66	0.00	2.00	0.00	17	0.00	1.59	1.24
INCOM	0.51	0.83	0.82	0.00	3.00	0.00	21	0.00	1.51	1.37
DR	0.43	0.14	0.76	0.00	3.00	0.00	18	0.00	1.64	1.69
FABCOM	0.14	0.21	0.35	0.00	1.00	0.00	9	0.00	2.09	2.45
DV2	0.03	0.02	0.18	0.00	1.00	0.00	2	0.00	5.47	28.87
INC2	0.24	0.01	0.64	0.00	3.00	0.00	10	0.00	3.17	10.43
DR2	0.03	0.01	0.25	0.00	2.00	0.00	1	0.00	7.94	63.00
FAB2	0.02	0.04	0.13	0.00	1.00	0.00	1	0.00	7.94	63.00
ALOG	0.19	0.05	0.44	0.00	2.00	0.00	11	0.00	2.21	4.36
CONTAM	0.05	0.00	0.22	0.00	1.00	0.00	3	0.00	4.35	17.50
Sum6SpSc	1.95	2.30	1.58	0.00	8.00	2.00	52	2.00	1.20	2.36
Sum6SpScLv2	0.29	0.08	0.61	0.00	3.00	0.00	14	0.00	2.45	6.62
WSum6SpSc	5.65	4.57	5.31	0.00	23.00	4.00	52	4.00	1.30	1.66
AB	0.13	0.06	0.38	0.00	2.00	0.00	7	0.00	3.16	10.23
AG	0.30	1.20	0.66	0.00	4.00	0.00	15	0.00	3.35	15.12
COP	0.35	1.60	0.68	0.00	3.00	0.00	16	0.00	2.03	3.81
CP	0.05	0.00	0.22	0.00	1.00	0.00	3	0.00	4.35	17.50
MOR	1.19	0.58	1.51	0.00	6.00	1.00	34	0.00	1.43	1.73
PER	0.49	0.96	0.97	0.00	5.00	0.00	18	0.00	2.53	7.53
PSV	0.29	0.04	0.52	0.00	2.00	0.00	16	0.00	1.66	1.95

Note. Exner's = Exner's (2001) nonpatient means for 16-year olds (N = 140). MIN = minimum; MAX = maximum. *f* indicates the number of participants who produced at least one response in a given category.