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# Born or Made? History of Child Abuse in Subtypes of Psychopathy

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# BORN OR MADE? HISTORY OF CHILD ABUSE IN SUBTYPES OF PSYCHOPATHY

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*Keywords: psychopathy, subtypes, variants, primary psychopathy, secondary psychopathy, childhood abuse*

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## Introduction

Psychopathy is a personality disorder characterized by deficits in affective and interpersonal functioning (Poythress, Skeem, & Lilienfeld, 2006). The current conceptualization of psychopathy dates to Cleckley (1941), who described psychopathy as a disorder by which individuals are unable to experience feelings of empathy, anxiety, remorse or guilt; they manipulate and exploit others and engage in risky behaviors to satisfy their own needs with little concern for the consequences. Cleckley (1941) originally theorized that psychopathy was a unique clinical profile consisting of 16 personality features, including superficial charm, an absence of delusions, poverty of emotions such as love, anxiety, and guilt, and impersonal and unresponsive interpersonal relationships. Although many of the 16 features are still present in the current conceptualization of psychopathy some, (e.g., suicide rarely carried out) have been dropped based on empirical evidence (e.g., Douglas, Herbozo, Poythress, Belfrage, & Edens, 2006). The current conceptualization generally describes psychopathy as a group of personality features that include remorselessness, callousness, deceitfulness, egocentricity, failure to form close emotional bonds, low anxiety propensity, superficial charm, and externalization of blame (Lilienfeld, 1998).

The most well-known and robust measure for assessing psychopathy is Hare's (2003) Revised Psychopathy Checklist (PCL-R; Fowles & Dindo, 2006). Based in part on Cleckley's (1941) original conceptualization, the PCL-R assesses for a cluster of affective, interpersonal, and behavioral traits that comprise the unitary construct of psychopathy. According to the manual, the PCL-R provides scores on four facets of psychopathy: interpersonal, affective, lifestyle, and antisocial, and a total score (Hare, 2006). Although the PCL-R provides scores on four facets, there is currently debate on how many factors underlie psychopathy (see Cooke,

Michie, & Hart, 2006). In addition, psychopathy has been reported to co-occur with Anti-Social Personality Disorder (ASPD). Widiger (2006) summarized that research consistently finds that most individuals who meet criteria for psychopathy within forensic settings also meet the DSM-IV-TR criteria for ASPD. Widiger further states that ASPD correlates more with Factor 2 of PCL-R, which he states suggests that ASPD is capturing a tendency to be aimless, impulsive, irresponsible, delinquent, or criminal, rather than core personality features seen in psychopathy. Further, Skeem, Poythress, Edens, Lilienfeld, and Cale (2003) note that although 80% of criminal offenders meet criteria for an antisocial personality disorder diagnosis, only 15-20% (Hart & Hare, 1997) possess the additional affective deficits that classify them as a psychopath according to the PCL-R (Hare, 1991, 2003).

Further, until the last decade, psychopathy was viewed as a unitary construct; however advances in theory and research suggest that there are variants of psychopathy (Skeem, Johansson, Andershed, Kerr, & Louden, 2007). The current conceptualization of the variants of psychopathy is an expansion of Karpman's (1941) original idea of primary and secondary psychopathy. The underlying distinction made by Karpman was that primary psychopathy was characterized by a heritable affective deficit, while secondary psychopathy was characterized by an environmentally acquired affective disturbance. More recently, similar distinctions have been theorized and, to a degree, empirically tested. Although the theories have been somewhat empirically tested, little is known about the principal distinction made by Karpman and several other theorists on the etiology of the variants of psychopathy. This study will add to the knowledge of the etiology of the subtypes of psychopathy by examining differences in abuse history between primary and secondary psychopaths.

## Literature Review

### Theories of the Subtypes of Psychopathy

*Karpman.* Karpman's (1941) seminal article distinguishing between primary and secondary psychopathy provided the basis for subsequent theories and research on its variants. According to Karpman (1941), the principal distinction is based in etiology and motivation of behavior. He theorized that primary psychopaths are characterized by an affective deficit that is congenital, whereas secondary psychopaths are characterized by an affective disorder that develops as a result of harmful interactions with the environment. Karpman (1941) said that secondary psychopaths exhibit their symptoms as an emotional adaptation to harmful factors in their home environments. Karpman (1941) argued that secondary psychopaths develop the traits of psychopathy in an effort to cope with such adverse conditions as abuse and parental rejection. Karpman (1948b) believed that, as a result, only secondary psychopaths are amenable to treatment because their behavior is acquired and based on an underlying conflict and that, therefore, they possess the capacity to live moral and ethical lives.

Karpman (1941) also theorized that primary and secondary psychopaths differ in their core affective and interpersonal features, and that their level of impulsivity and motivation for aggression may vary. Karpman (1941) argued that secondary psychopathy carries with it underlying depression, anxiety, and character neurosis not present in primary psychopathy. Karpman (1941) also believed that primary psychopaths have an "absent conscience," whereas secondary psychopaths have a "disturbed conscience." According to Karpman (1941), secondary psychopaths experience the same high level of hostility as primary psychopaths, but secondary psychopaths remain capable of experiencing higher human emotions such as empathy, guilt, love, or a desire for acceptance. In contrast, primary psychopaths have the "instinctive

emotional organization of a sub-human animal" (Karpman, 1948a, p.533). Further, primary psychopaths are less impulsive than secondary psychopaths. Karpman (1941) also suggested that primary psychopaths often act instrumentally to maximize their own gain or excitement, whereas secondary psychopaths often act reactively from emotions such as hatred and revenge. Karpman (1941) believed that this reactive response was a result of the secondary psychopath's underlying neurotic conflict. Karpman's theory laid the ground work for the further exploration of the originally hypothesized unitary construct of psychopathy. Karpman's (1941) "neurotic" secondary psychopath theory has not been tested directly, but it has been supported through several lines of research on the etiology and correlates of psychopathy (Skeem et al., 2003). First, information processing and neuroimaging studies support Karpman's etiology theory by demonstrating evidence for various cognitive deficits in psychopaths (e.g., processing deficits; Patrick, Bradley, & Lang, 1993). Some authors suggest that these deficits may have a stronger association to Factor 1 than Factor 2 of the PCL-R (Harpur, Hare, Hakstian, 1989; Patrick, Zempolich, & Levenston, 1997). Further, there is a large body of research that indicates that punitive environmental factors (e.g., neglect and abuse) are associated with antisocial behavior and psychopathy in later life (Skeem et al., 2007). Several studies support a differentiation between "high anxious" and "low anxious" psychopaths (e.g., Kosson & Newman, 1995; Skeem et al. 2003).

*Lykken.* Lykken (1995) further developed Karpman's (1941) seminal distinction by including the behavioral inhibition system (BIS) and the behavioral activation system (BAS) components of Grey's (1987; Grey & McNaughton, 1996) biological model of personality. In Grey's model, the BIS regulates responsiveness to aversive stimuli and is associated with the experience of negative affect; the BAS regulates appetitive motivation and is associated with the

experience of positive affect and impulsivity. Lykken (1995) theorized that primary and secondary psychopathy both have underlying, but different, deficits in these two systems. It was postulated that primary psychopaths had an underactive BIS and that secondary psychopaths had an overactive BAS. In this model, primary psychopaths are thought to lack anticipatory anxiety that inhibits most people from activity that does not have a reward. Lykken (1995) specified that the lack of anticipatory anxiety in primary psychopaths can be conceptualized as fearlessness. Secondary psychopaths were thought to lack responsiveness to aversive stimuli and therefore act more impulsively. Like Karpman , Lykken (1995) thought that secondary psychopaths experience negative affect and act impulsively (or reactively), whereas primary psychopaths do not. In his later work Lykken argued that incompetent parenting is responsible for individuals who commit crimes and argued, perhaps somewhat tongue-in-cheek, that parental licensure may be the only effective way to reduce crimes and other pathology (Lykken, 2001). Lykken's (2001) hypotheses have received mixed support with several studies reporting contrary results (See Poythress, Skeem, Lilienfeld, Douglas, Edens, 2009 for a review) and critiques (Redding, 2002).

*Porter.* Similar to Karpman (1941), Porter (1996) theorized that primary psychopathy reflects a congenital affective deficit, and secondary psychopathy reflects an acquired, environmentally based affective disturbance. However, Porter suggested that dissociation rather than character neurosis underlies secondary psychopathy. Porter thought that a specific environmental insult (i.e., extreme physical or sexual abuse or abandonment) results in an inability of the individual to form or sustain significant interpersonal relationships based on positive affect. Porter suggested that although these individuals have the capacity for empathy and positive attachments with others, they use dissociation to cope with the trauma and "turn off"

or "deactivate" their emotions. As a result of this coping mechanism, these individuals acquire features of psychopathy. Despite the disagreement with Karpman's character neurosis distinction, Porter's theory is in line with Karpman's in that they agree that secondary psychopathy is more amenable to treatment than primary psychopathy.

The evidence supporting Karpman's "neurotic" secondary psychopath theory also supports Porter's (1996) "dissociative" secondary psychopath theory. Additionally, Weiler and Widom (1996) examined relationships among early childhood abuse, psychopathy, and violence in 652 previously abused and neglected individuals who were processed through either the county juvenile or adult criminal court between 1967 and 1971 and 489 matched controls who were also processed through either the county juvenile or adult criminal court between 1967 and 1971, but were not victimized as children. Psychopathy was measured with the PCL-R and violence was assessed with arrest records and self-report information. Weiler and Widom found that individuals who experienced childhood abuse and/or neglect received significantly higher mean PCL-R score ($M = 9.2$, $SD = 6.9$) than those in the control group ($M = 6.8$, $SD = 5.9$). This finding remained significant even when demographic and criminal history was controlled for in the model.

*Mealey.* Unlike other theorists, Mealey (1995a, 1995b) suggested that rather than being an emotional impairment, secondary psychopathy is an emotional adaptation to adverse life experiences or environment. Mealey believed that both primary and secondary psychopaths engage in a strategy of "cheating" in interpersonal interactions by applying a simple short-term cost-benefit analysis with no regard for the emotional reactions of others. The distinction Mealey made is that for primary psychopaths this is a genetic mechanism, whereas for secondary psychopaths, this is a learned mechanism based on life experiences and environment. In line

with other theorists, Mealey thought that secondary psychopaths were more amenable to treatment then primary psychopaths, and that secondary psychopathy could be prevented by reducing social stratification and intervening with disadvantaged, at-risk children. This alternative conceptualization of psychopathy has been criticized for several reasons. For example, Mealey's theory of psychopathy was not based on a sample of psychopaths, rather it was based on research on individuals with antisocial behavior and ASPD (see Skeem et al., 2003). Psychopathy, antisocial behavior, and ASPD are not one in the same, with only 15-20% of individuals diagnosed with ASPD meeting criteria for psychopathy (Hare, 1991, 2003). Therefore, there is limited application of Mealey's theory to the conceptualization of psychopathy.

*Blackburn.* Like Mealey (1995a, 1995b), Blackburn (1975, 1998) diverged from previous theorists by linking empirical results with interpersonal theory suggesting the distinction between primary and secondary psychopathy is degree of social withdrawal. Blackburn asserts that primary psychopaths have greater sociability, whereas secondary psychopaths are more socially withdrawn. Blackburn suggested that primary psychopathy is characterized by extraversion, confidence, dominance, and low to average anxiety. He suggested that secondary psychopathy is characterized by emotional disturbance, social anxiety, social withdrawal, moodiness, submissiveness, and low self-esteem. Blackburn specified that the variants of psychopathy differ widely on variables including aggression, symptoms of personality disorder, self-reported physiological arousal in response to provoking hypothetical scenarios, and interpersonal behavior, as rated by self and others. Specifically, Blackburn stated that primary psychopaths are more aggressive committing more violent crimes, secondary psychopaths have more 'deviant' personality profiles, primary psychopaths reports more

physiological arousal to hypothetical scenarios, and secondary psychopaths exhibit greater social withdrawal.

Blackburn (1998) based his conceptualization and the distinction based on withdrawal on his findings from two cluster analysis studies of the Minnesota Multiphasic Personality Inventory (MMPI). In one study, Blackburn (1971) used cluster analysis of the MMPI profiles of 56 homicide offenders at a maximum-security hospital to look for subgroups of psychopathy. A second study (Blackburn, 1975) at the same hospital used cluster analysis of the MMPI profiles of 79 non-psychotic mentally disordered offenders. From the results Blackburn (1975) identified a fourfold typology of the offenders that included "primary" and "secondary" psychopaths. Type 1 (n = 15) displayed undersocialization, impulsivity, aggression, externalization, and low anxiety or other subjective disturbance. Blackburn (1975) thought that Type 1 represented primary psychopaths. Type 2 (n = 21) displayed a high level of anxiety, depression, and social avoidance. Further, Type 2 exhibited more hostility, aggression, impulsivity, and undersocialization than Type 1. Blackburn (1975) thought that Type 2 in his study represented secondary psychopaths. Type 3 (n = 19) was classified as non-psychopathic with no attributes of psychopathy, with the exception of low levels of anxiety. Type 4 (n = 8) was also classified as non-psychopathic with no attributes of psychopathy and were predominately shy, introverted, and depressed.

Poythress and Skeem (2006) reported that this typology has been replicated in the United Kingdom with various offender populations using Blackburn's MMPI-based assessment, the Special Based Hospitals Assessment of Personality and Socialization (SHAPS) (see Blackburn 1975, 1998). Poythress and Skeem note that Blackburn's conceptualization of psychopathy in this assessment measure overlaps, but is not synonymous with the PCL-R conceptualization of psychopathy. They caution that only a portion of Blackburn's primary and secondary

psychopaths exceeds the PCL-R threshold for a diagnosis of psychopathy. Further, more of Blackburn's primary psychopaths exceed the PCL-R threshold than the secondary psychopaths suggesting that secondary psychopaths as determined by this measure may share few phenotypical characteristics with the primary psychopaths.

Morrison and Gilbert (2001) used a self-report measure to directly test Blackburn's theory by using the Antisocial Personality Questionnaire (APQ; Blackburn & Fawcett, 1999). Using the APQ selection criteria for group assignment, the authors classified 50 mentally disordered offenders into one of three groups: primary psychopath, secondary psychopath, or nonpsychopath. The results showed that, in line with Blackburn's (1998) theory, secondary psychopaths self reported a lower social rank, greater shame proneness, and greater levels of anger than primary psychopaths. Specifically, this study supported Blackburn's theory by distinguishing subtypes of psychopathy on degree of withdrawal and sociability.

*Skeem and colleagues.* In line with these theories and research Skeem et al. (2003) theorized four key dimensions to best differentiate subtypes: (1) etiology, (2) pattern of traits across the PCL-R facets, (3) degree of borderline traits, and (4) type of narcissistic traits. Skeem and her colleagues stated that etiology is one of the most fundamental differences between primary and secondary psychopathy. They postulated that primary psychopathy is congenital, reflecting stronger genetic influences, and secondary psychopathy is acquired, reflecting stronger environmental influences. Another key dimension Skeem et al. outlined included differences in dimensions of the PCL-R, specifically deficits in affect, impulsive, and irresponsible behavioral style facets. Similar to Karpman (1941), Porter (1996), and Mealey (1995a, 1995b), Skeem et al. suggested that compared to secondary psychopaths, primary psychopaths are characterized by more affective deficits (PCL-R Factor 1, affect facet) and lower levels of impulsivity (PCL-R

Factor 2, lifestyle facet). A third key dimension Skeem et al. outlined as a means of differentiating between primary and secondary psychopathy is neuroticism or trait anxiety. However, the authors noted that it remains to be determined whether the conceptualization of the dimension is more narrowly neuroticism or more broadly negative affectivity (e.g., anxiety, dysphoria, depression, hostility, and alienation). Another key dimension of distinction is the constellation of traits that characterizes Borderline Personality Disorder. This distinction is primarily based on Blackburn's (1998) hypothesis that secondary psychopaths may have borderline personalities. This theory has been suggested by several other authors as well (see Meloy, 1988; Meloy & Gancono, 1993). The final key dimension of distinction that Skeem et al. hypothesized is narcissism. Skeem et al. suggested that differences in overt and covert narcissism characterize subtypes of psychopathy. Narcissism in primary psychopathy may manifest as overt narcissism (e.g., aggressive, egotistical, outspoken) and in secondary psychopathy as covert narcissism (e.g., anxious, moody, and defensive).

In sum, as shown in Table 1, Skeem et al. (2003) hypothesized that primary psychopaths are characterized by high heritability etiology, high factor 1 scores on the PCL-R, and higher levels of overt narcissism. Additionally, primary psychopaths have low levels of environmental etiology, low factor 2 scores, low anxiety and few borderline traits. In contrast, Skeem et al. suggested that secondary psychopaths are characterized by high environmental etiology, high factor 2 scores on the PCL-R, a higher level of covert narcissism and anxiety, and a constellation of borderline traits. Secondary psychopaths have low levels of heritability etiology and low factor 1 scores on the PCL-R.

Table 1

*Skeem et al. (2003) Hypothesized Key Dimensions of Distinction of the Subtypes of Psychopathy*

| Trait | Level of Trait in Subtype | |
|---|---|---|
| | Primary | Secondary |
| Heritability | High | Low |
| Environmental | Low | High |
| Factor 1 of PCL-R | High | Low |
| Factor 2 of PCL-R | Low | High |
| Overt Narcissism | High | Low |
| Covert Narcissism | Low | High |
| Anxiety | Low | High |
| Borderline | Low | High |

*Note.* Adapted from Skeem, J. L., Poythress, N., Edens, J. F., Lilienfeld, S. O., & Cale, E. M. (2003). Psychopathic personality or personalities? Exploring potential variants of psychopathy and their implications for risk assessment. *Aggression and Violent Behavior, 8,* 513-546. doi: 10.1016/S1359-1789(02)00098-8

**Evidence for the Subtypes of Psychopathy**

Until recently, the theories of subtypes of psychopathy, as demonstrated above, have been only somewhat empirically validated. Most of the early research on the variants of psychopathy was separate from theoretical work on the topic (Skeem et al., 2003). Haapasalo and Pulkkinen (1992) conducted one early study on the variants of psychopathy with a sample of 92 non-violent Finnish prison inmates. These authors used cluster analysis comparing 18 PCL (Hare, 1991) items with criminal history and self-report personality variables that were not used to derive the clusters. Three subgroups were identified: Cluster 1 was characterized by the

highest PCL total score, high scores on Factor 1 traits, and longer prison sentences compared to the other two groups; Cluster 2 was characterized by high scores on Factor 2 traits and a higher number of convictions compared to the other clusters; Cluster 3 was characterized by the lowest PCL total score, had less diverse offences then the other two clusters, and a later onset of criminal activity. The groups consisted of 29.3%, 25.0%, and 45.7% of the sample, respectively. Skeem et al. (2003) argued that Cluster 1 is consistent with conceptualizations of primary psychopathy, Cluster 2 with secondary psychopathy, and Cluster 3 with antisocial personality disorder.

A second early study conducted by Alterman et al. (1998) examined the typology of antisocial behavior in methadone patients. Alterman et al. (1998) used a multistage cluster analysis on 252 methadone maintained men from scores on four measures of continuous antisocial behavior: Conduct Disorder Criteria, Antisocial Personality Disorder Criteria, scores on a 17 item version of the PCL-R, and scores on the Socialization scale of the California Psychological Inventory. The authors identified six groups, three of which (Types 1, 2, and 5) were characterized by relatively high PCL-R scores. The first high PCL-R score group (early onset, high antisociality) was characterized by elevation across all four measures; they had severe drug and alcohol problems, extensive criminal history, and high levels of hostility, depression, anxiety, and personality disorder traits. The second group (late onset, high antisociality) was characterized by high elevations on all of the measures except for Conduct Disorder criteria, on which their scores were moderate. This group was similar to the first group in that they suffered from high levels of depression and anxiety, drug and alcohol problems, and personality disorder traits. The final group (psychopathic criminal, moderate antisociality) was characterized with elevated scores on the PCL-R, but not on any of the other antisociality

measures. This group was distinct because, unlike the other groups, they exhibited low levels of drug and alcohol problems, emotional distress, and features of other personality disorders. The groups consisted of 10.7 %, 11.9 %, and 15.1% of the sample, respectively. Skeem et al. (2003) argued that Types 1-2 may correspond to types of secondary psychopathy and Type 5 may correspond to primary psychopathy.

A third early study on the variants of psychopathy was conducted by Hervé (2003). He added to the previous findings by using cluster analytical techniques to determine whether there are clinically meaningful subtypes of psychopathy. In contrast with other studies, Hervé used the three-factor model of psychopathy (interpersonal, affective, and lifestyle) proposed by Cooke & Michie (2001) in the analysis instead of the commonly adopted two-factor model. The analysis was conducted on archival data from 411 Canadian federal prison inmates who had high scores (≥27) on the PCL-R. Four main clusters emerged from Hervé's study: (1) classic/idiopathic (2) manipulative (3) macho and (4) pseudopsychopath. The groups consisted of 25.1%, 21.4%, 27.7%, and 25.8% of the sample, respectively. The subtypes differed in the constellation of the core characteristics of the disorder they displayed. The classic/idiopathic subgroup was characterized by the highest overall PCL-R scores and high scores on all three factors. The macho group was characterized by the second highest overall PCL-R scores and low scores on the interpersonal factor, but high on the affective and lifestyle factors. The manipulative subgroup was characterized by high scores on the interpersonal and affective factors, but lower scores on the lifestyle factor. The final group, pseudopsychopath, had the lowest PCL-R total scores and had interpersonal and behavioral characteristics, but not affective ones. Hervé noted that, in general, this group did not meet the PCL-R research cut-off of a total score ≥30, typically required for a diagnosis of psychopathy. This study provided an alternative to the primary-

secondary distinction and may suggest that lower levels of psychopathic traits may result in additional subtypes of psychopathy. In general, this study provides support for the heterogeneity of psychopathy.

Since these early studies, several others have empirically investigated subtypes of psychopathy. Hicks, Markon, Patrick, Krueger, and Newman (2004) conducted a study to identify subtypes on the basis of personality structure. Hicks et al.'s study was a cluster analysis of 96 male inmates in low-medium security federal prisons in Florida and Wisconsin. The cluster analysis compared inmates with high PCL-R total scores (≥30) and their personality profiles from a brief form Multidimensional Personality Questionnaire (Patrick, Curtin, & Tellegen, 2002). Hicks et al. identified two clusters: emotionally stable and aggressive psychopaths. The clusters consisted of 31.3% and 68.7% of the sample, respectively. The emotionally stable psychopaths were characterized by low stress reaction, high agency, social dominance, a lack of close attachments, low impulsivity, sensation seeking, and fearlessness. In contrast, the aggressive psychopaths were characterized by high negative emotionality, low constraint, low empathy, higher aggression, and earlier age of onset. Hicks et al. stated that these findings provide evidence for two subtypes of psychopathy; further, that these variants can be distinguished by profile scores on the Multidimensional Personality Questionnaire. In this study, the emotionally stable psychopaths resembled conceptualizations of primary psychopathy and the aggressive psychopaths resembled conceptualizations of secondary psychopathy. In addition, Hicks et al. suggested that the subtypes they found may be a product of different etiologies. However, several authors (e.g., Swogger and Kosson, 2007) caution that these findings were based on self-report measures and that replication on non-self-report measures was needed.

Similar findings have been replicated using non-self-report measures and a different cluster analysis strategy. Vassileva, Kosson, Abramowitz, and Conrod (2005) investigated the presence of psychopathy variants among male county jail inmates. In this study Vassileva et al. conducted two types of cluster analyses on 200 male inmates using the two-factor scores of the PCL-R, the Interpersonal Measure of Psychopathy (IM-P; Kosson, Steuerwald, Forth, & Kirkhart, 1997), alcohol and drug abuse/dependence criteria, and anxiety criteria. From both types of cluster analysis, Vassileva et al. identified four groups. One group (cluster 3) resembled primary psychopathy and accounted for 29.5% of the sample. This group was characterized by higher PCL-R scores on Factor 1 and on the IM-P than the participants in the other clusters, with average scores on Factor 2. Individuals in cluster 3 also displayed a less severe pattern of alcohol and drug-related problems and lower anxiety. Another group (cluster 1) resembled secondary psychopathy and accounted for 27.5% of the sample. This group was characterized by higher PCL-R scores on Factor 2, with average scores on Factor 1 and the IM-R. Additionally, this cluster was characterized by more severe drug and alcohol problems and higher anxiety then all other clusters. Of the final two groups, one group (cluster 2) was classified as psychopathic and had antisocial characteristics and accounted for 17.0% of the sample; the other (cluster 4) was non-psychopathic and account for 26.0% of the sample. These findings are similar to other evidence supporting primary and secondary subtypes of psychopathy.

Swogger and Kosson (2007) conducted a study to replicate and extend the findings of Vassileva et al. (2005) by using an independent sample and, like Hervé (2003), used the three-factor model of psychopathy (Cooke & Michie, 2001) to reduce predictor criterion contamination and employed a novel cluster analysis method. Similarly to Vassileva et al., Swogger and Kosson analyzed 258 male European American county jail inmates using

dimensions of the PCL-R, the IM-P, alcohol and drug abuse/dependence criteria, and a trait anxiety measure (Kosson et al., 1997). In line with prior research, Swogger and Kosson identified four groups: low psychopathology criminals, criminals with negative affect, primary psychopaths, and secondary psychopaths. The groups consisted of 31.8%, 32.6%, 15.5%, and 20.2% of the sample, respectively. The groups with elevations on the PCL-R factors were defined as primary and secondary psychopathy. In this study, primary psychopaths were characterized by moderate trait anxiety scores, higher scores on the IM-P, and higher scores on the interpersonal and affective dimensions of the PCL-R than the members of other clusters. Individuals in this cluster exhibited elevations on the behavioral dimension of the PCL-R; however, it was lower in relation to the secondary psychopaths. Additionally, the primary psychopaths had mild drug and alcohol dependence. The secondary psychopaths were characterized by higher trait anxiety scores, lower scores then the primary psychopaths on the interpersonal and affective dimensions of the PCL-R, but they exhibited elevated scores on the behavioral dimension. They were also characterized by severe drug and mild alcohol dependence, and higher drug use than those classified as primary psychopaths. These findings were of particular importance because they extended the primary-secondary psychopathy distinction to the heterogeneity of the construct of psychopathy. Further, Swogger and Kosson added that these findings suggest that primary and secondary psychopathy are valid and reliable variants of psychopathy among criminal offenders.

Skeem et al. (2007) added to this evidence by conducting a study on subtypes of psychopathy of violent offenders who were relatively high in psychopathic traits using the three-factor model of psychopathy in their study. These authors conducted a model-based cluster analysis of the PCL-R, trait anxiety scores, personality traits, and violence risk variables from the

retrospective data of a subgroup (n=123) of highly psychopathic (the top third of offenders with a PCL-R ≥29) violent offenders from a National Reception Unit in Sweden. Skeem et al. identified two clusters that were considered similar to those of Hicks et al. (2004): primary and secondary psychopathy. The groups consisted of 60.2% and 39.8% of the sample, respectively. The primary psychopaths were characterized by lower trait anxiety than the secondary psychopaths. Secondary psychopaths were also characterized by fewer psychopathic traits, more borderline personality features, poorer interpersonal functioning (e.g., irritability, withdrawal, poor assertiveness), and more symptoms of a major mental disorder than the primary psychopaths. The two groups do not differ on the antisocial behavior dimension of the PCL-R.

Skeem et al. (2007) concluded that it is possible to meaningfully distinguish violent psychopathic offenders into subgroups that resemble primary and secondary psychopathy. Notably, in Skeem et al. the average scores of psychopathic traits in the two groups both surpassed the traditional cut-off score (≥30) and were only 2 points apart ($M$ = 32, 34). As a result, variants of psychopathy in their study were difficult to distinguish on the basis of PCL-R score alone. In line with these findings, Hicks et al. (2004) were unable to differentiate the two clusters on core and general psychopathic traits alone (e.g. PCL-R Factor 1 and total score). From these studies it appears that the subtypes of psychopathy have similar profiles on psychopathic traits and the additional dimensions need to be utilized in order to meaningfully distinguish the subtypes. Skeem et al. caution that their limited ability to distinguish variants on the basis of PCL-R scores may be limited by the sample of their study, as they utilized individuals with only high psychopathic traits (the top third of offenders with a PCL-R ≥29). They suggested that individuals with high psychopathic traits may lead the two groups to have similar high interpersonal and affective traits of psychopathy.

Although several studies have supported the primary-secondary distinction of subtypes of psychopathy using differing cluster analytic techniques, samples, measures, and factor models of psychopathy, there is more recent evidence that suggests there may be more to the primary-secondary distinction than is currently known. Blackburn, Logan, Donnelly, and Renwick (2008) conducted a study to identify psychopathic subtypes in a sample of 79 male forensic psychiatric patients considered to be psychopathic (PCL-R total score ≥20)[1] from two high-security psychiatric hospitals in Britain. Blackburn et al. used the Antisocial Personality Questionnaire (APQ; Blackburn & Fawcett, 1999) and the PCL-R to divide the patients into primary psychopathy, secondary psychopathy, controlled, and inhibited groups using a clustering procedure. Blackburn et al. compared the groups on factors of the PCL-R, criminal history, Axis I and Axis II psychopathology, experience of child abuse, personality, interpersonal style, and clinical ratings of risk and treatability, in order to determine the utility of identifying variants of psychopathy with the APQ.

When compared with the other groups, primary psychopaths were characterized by the lowest scores on PCL-R Factor 1 and highest scores on Factor 2, lower anxiety, and lower neurosis. The secondary psychopaths in this study were characterized by relatively higher levels Axis I anxiety disorders and higher levels of Axis II disorders. The secondary psychopathy group was also more neurotic and introverted, displayed higher levels of post-traumatic stress disorder, and more frequent histories of childhood abuse than the other groups. The controlled group was characterized by the highest scores on PCL-R Factor 1 and lower score on Factor 2, low anxiety, and low neurosis. In this study, the controlled group was more representative of the previously found primary psychopath, characterized by higher Factor 1 scores and lower Factor 2

[1] This is not the usual cutoff for a PCL-R diagnosis of psychopathy. The usual clinical cutoff for a diagnosis of psychopathy is ≥30 or ≥25 for research purposes. The authors used this cut-off to maximize group size.

scores. This group was also more typical of primary psychopaths because they showed more control, less aggression, better socialization, and later onset of antisocial behavior. Similarly to the secondary psychopath group, the inhibited group was characterized by higher levels Axis I anxiety, Posttraumatic Stress Disorder, and Borderline Personality Disorder. Additionally, the inhibited group had frequent histories of childhood abuse, and higher levels of neurosis, and introversion (Blackburn et al., 2008).

Blackburn et al. (2008) suggested that the primary psychopathy and controlled groups in their study represent two subtypes of primary psychopathy. The primary psychopath and controlled groups were both characterized by low anxiety and less neurosis then the secondary psychopathy group. Similarly, the authors suggested that the inhibited and secondary psychopathy groups found in this study can be considered subtypes of secondary psychopathy. The inhibited group showed similar characteristics to the secondary psychopathy group, but differed from the secondary psychopath group in lower levels of schizoid, schizotypal, and paranoid personality traits and later onset of antisocial behavior. Additionally, differences in psychopathology between the primary and secondary psychopaths were paralleled as differences in psychopathology between the controlled group and secondary psychopath group. Blackburn et al. cautioned that these findings may be a reflection of the sample used in the study and stated that variants of psychopathy may be different in offenders with psychopathology than in prisoners in general. From this study, Blackburn et al. concluded that the APQ cannot be used to distinguish psychopaths from nonpsychopaths as defined by the PCL-R, but when combined with higher PCL-R scores it has utility for identifying distinct subtypes of psychopathy. In this study, the primary and secondary psychopathy groups were mirrored the primary-secondary distinction found in the literature.

A recent study by Patrick et al. (2009) on the conceptualization of psychopathy suggested that the key to understanding the primary and secondary subtypes of psychopathy is three phenotypic constructs: disinhibition, boldness, and meanness. Patrick et al. examined historical and contemporary efforts to conceptualize psychopathy and identified these three phenotypic constructs as recurrent themes in the conceptualization of psychopathy. The authors stated that, among psychopaths, the three phenotypes vary in severity and in configuration. The authors described disinhibition as a general phenotypic tendency to possess impulse control problems, impaired regulation of affect and urges, assertion of immediate gratification, and manipulative behavioral controls. The characteristics of disinhibition draws from several theorists, namely Lykken's (1995) conceptualization of secondary psychopaths negative affect and act impulsively. They added that this construct involves externalization, which has been shown to manifest as pathologic behaviors including high levels of negative affectivity, childhood conduct problems, adult criminal deviance, angry aggression, and addictive behaviors. Patrick et al. suggested that the clinical presentation of the disinhibition construct is consistent with that of secondary psychopathy.

The second phenotypic construct, boldness, is described as a phenotypic style of remaining calm and focused in high pressure or threatening situations, an ability to recover quickly from stressful situations, high levels of self-assurance and social efficacy, and high tolerance for unfamiliarity and danger (Patrick et al., 2009). They added that boldness has been related to absence of anxiety and neurotic symptoms. This absence of anxiety and neurosis is in line with the preceding theories (e.g. Karpman, 1941; Lykken, 1995; Skeem et al., 2003) of primary psychopathy. The concept of boldness appears to be related to primary psychopathy. The third phenotypic construct, meanness, is described by the authors as a constellation of

phenotypic attributes that include deficient empathy, disregard for and a lack of close attachment with others, rebelliousness, excitement seeking, exploitation, and empowerment through cruelty. Like, the author's concept of boldness, meanness appears to be related to primary psychopathy. Surprisingly, despite examining historical and contemporary conceptualization of psychopathy, the authors spent little time addressing the notion of subtypes of psychopathy in their paper.

Currently, there is growing support for the heterogeneity of psychopathy, however, as evidenced above, there is little agreement on how to differentiate and identify the subtypes of psychopathy. Although the literature appears to primarily support the primary-secondary distinction, it is too soon to conclude that this is the optimal distinction. Research is still limited and, as a result, there is currently no way to validly and reliably classify psychopaths into variants. Additionally, a common limitation is found in the above studies. To date research has only been conducted with male adults in forensic settings. It has yet to be determined whether the subtypes of psychopathy exist in females, children and adolescents, or individuals from the community. Further, there is limited research on the longitudinal stability of ASPD (Skeem, et al., 2003). Several studies have looked at variants of psychopathy in children and adolescents (e.g., Frick, Bodin, Barry, 2001); however, Skeem et al. argued that the results of juvenile studies have limited relevance to the distinctions of primary and secondary psychopathy in adults (see Edens, Skeem, Cruise, & Cauffman, 2001 for an extensive review).

As Vassileva et al. (2005) suggested all of the above results are preliminary and should not be generalized until future studies address these limitations. Despite these limitations, current research clearly supports heterogeneity of psychopathy. Although a definitive distinction is unknown and further research is needed, Skeem et al. (2007) suggested that, in addition to

studying which variables and characteristics differentiate the psychopathies, it will be crucial to study the etiology of the subtypes to advance our understanding and conceptualization.

**Etiology of the Subtypes of Psychopathy**

Several theories have made the principal distinction between the subtypes of psychopathy on the basis of etiology (e.g., Karpman, 1941; Mealey, 1995a, 1995b; Porter, 1996). Research on the etiology of psychopathy is still in its early phases; however, there have been recent advances in understanding neurobiological, genetic, and environmental factors in psychopathy. MacDonald and Iacono (2006) stated that, although there have been recent advances in understanding neurobiological aspects of the disorder, many researchers suggest that there are too few studies to date to draw conclusions and develop a comprehensive model on the neurobiological etiology of psychopathy (Weber, Habel, Amunts, Schneider, 2008 ; MacDonlad and Iacono, 2006). To date, psychopaths are known to suffer from a variety of abnormalities in various brain structures (Raine & Yang, 2006).

Weber et al. (2008) conducted a review of structural brain abnormalities in psychopaths to contribute to our understanding of the biological basis of psychopathy, but highlighted the fact that available research is limited and that there is still much to be learned. In their review, Weber et al. identified several brain abnormalities in psychopaths. These include amygdala volume loss, a decrease in posterior hippocampal volume, an exaggerated structural hippocampal asymmetry, and most notably, abnormalities in prefrontal and temporal lobe grey matter, and in the white matter fibers of the corpus callosum. Weber et al. suggested that these findings are indicative of brain abnormalities in regions that are involved in emotional and learning processes. The brain abnormalities found in psychopaths include damage to areas involved in learning and memory (hippocampal formation and the region of the limbic cortex that surrounds it) and emotions

(amygdale; Carlson, 2010). Weber et al. added that data from studies on structural brain abnormalities in psychopaths indicate that psychopathic individuals cannot be seen as a homogeneous group and that brain abnormalities are not sufficient to explain the etiology of psychopathy. However, Kiehl (2006) argues that although the brain regions implemented in psychopathy seem heterogeneous, he states that neuroanatomists and cytoarchitectologists have group these region as the paralimbic system, collectively involved in langue, attention orienting processes, and affect and emotion. Specifically, these regions included the orbital frontal cortex, insula, anterior and posterior cingulated, amygdala, parahippocampal gyrus, and anterior superior temporal gyrus. Although more research is needed on the cognitive processes of psychopaths, some authors have suggested that the brain abnormalities in psychopaths may have a stronger association to Factor 1 than Factor 2 of the PCL-R (Harpur et al., 1989; Patrick et al., 1997). Further, Kiehl suggests that the brain regions demonstrated to be involved in psychopathy may indicate that psychopathy is a result of neurodevelopment.

Along with neurobiological factors, both genetic and environmental factors have been related to psychopathy (for a review see MacDonald and Iacono, 2006). For example, Taylor, Loney, Bobadilla, and Iacono (2003) examined genetic and environmental influences on psychopathic characteristics in 142 monozygotic and 70 dizygotic adolescent and adult twin pairs from the Minnesota Twin Family Study. Taylor et al. used the Minnesota Temperament Inventory (Loney, Taylor, Butler, Iacono, 2002), a 19-item self-report measure created by the Minnesota Twin Family Study, to assess for two features of psychopathy, impulsive/antisocial behavior and callous/unemotional interpersonal style, as defined by Cleckley (1941). The results of their study indicated that a common set of genetic factors and nonshared environmental factors contribute to the expression of the different features of psychopathy, providing evidence

of the importance of genetic influences on the development of psychopathy over the environment. However, these results should be taken with caution because the authors used a measure that has not been validated to assess psychopathic traits at a clinical level. Further, no behavioral genetic studies exist on genetic and environmental contributions of psychopathy as assessed by the PCL-R or on genetic and environmental contributions to the variants of psychopathy. Further, Skeem et al. (2007) note that studies consistently report that punitive environmental factors (e.g., parental rejection, neglect, and abuse) are related to both antisocial behavior (e.g., Margolin & Gordis, 2000) and psychopathy (e.g., Marshall & Cooke, 1996) later in life.

One recent theoretical paper based on the examination of several reliable and validated measures of psychopathy (including the PCL-R) was conducted by Patrick et al. (2009) on a triachic conceptualization of psychopathy and their etiological pathways. Patrick et al. have associated both genetic and environment etiological pathways with phenotypes relating to both primary and secondary psychopathy. They noted that the etiological pathways to each phenotypic construct involves several layers of complex interactions and suggested that these developmental pathways be taken as risk factors, rather than causal factors for the development of the suggested phenotypes of psychopathy.

Patrick et al. (2009) suggested that hyperactivity and difficult temperament, failure of secure attachment with a primary caregiver, and family interactions that reinforce coercive exchanges lead to the later onset of psychopathy, in particular the phenotypes of disinhibition and meanness. They suggested that a difficult temperament involving impulsivity and negative affectivity combined with adversarial interactions with caregivers, peers, and teachers encourages high levels of anger, hostility, fights, drug and alcohol problems, and high levels of

anxiety and neuroticism. Further, they added that the experience of coercive interactions likely leads to callous and exploitive attitudes toward others. This etiological distinction speaks to secondary and primary psychopathy respectively.

Patrick et al. (2009) postulate a second genetic component of low fear that contributes to the phenotypes of meanness and boldness. Specifically, the authors stated that low fear leads to a failure to develop a conscience paired with the absence of a mutually positive relationship between the child and the parent when combined with other risk factors, such as low genotypic ability to affiliate, may push genotypic fearlessness into phenotypic meanness. In sum, the authors suggest that there are both genetic and environmental etiological pathways with phenotypes relating to both primary and secondary psychopathy. Patrick et al. also suggested that the phenotype associated with secondary psychopathy (disinhibition) is related to a paired interaction of temperament and adversarial environmental factors and that the phenotypes associated with primary psychopathy (boldness and meanness) are related to genotypic constellations and the absence of a mutually positive parent-child relationship.

**Early Abuse and the Subtypes of Psychopathy**

Although no behavioral genetic studies exist on genetic and environmental contributions of psychopathy as assessed by the PCL-R or on genetic and environmental contributions in the variants of psychopathy, Patrick et al. (2009) suggested that there are differential etiological pathways to phenotypes related to primary and secondary psychopathy. Further, studies consistently report that punitive environmental factors are related to antisocial behavior and psychopathy later in life. For example, Weiler and Widom (1996) found that inmates who experienced childhood abuse and/or neglect received significantly higher mean PCL-R scores ($M$ = 9.2, $SD$ = 6.9) than those in the control group ($M$ = 6.8, $SD$ = 5.9).

In addition to evidence supporting a correlation between punitive environmental factors and later antisocial behavior and psychopathy, Jaffee, Caspi, Moffitt, & Taylor (2004) suggested that abuse plays a causal role for antisocial behavior. Jaffee et al. examined 1,167 child twin pairs born in England and Wales to assess for the environment role of child physical abuse on later antisocial behavior. The authors assessed children's experience of physical maltreatment up until age 5 based on mothers' reports from a standard clinical interview and children's antisocial behavior based on reports from mothers and teachers from a standard clinical interview at ages 5 and 7. The authors found support for six conditions of causality that suggested physical maltreatment is causally linked to children's antisocial behavior. Physical maltreatment predicted antisocial outcome at age 5 and at age 7, (2) there was a dose-response for physical maltreatment and antisocial outcome, (3) antisocial behavior emerged following physical maltreatment, (4) children's physical maltreatment victimization was not influenced by genetic factors, (5) the effects remained significant after controlling for parent's history of antisocial behavior, and (6) the effects remained significant after controlling for any genetic transmission of antisocial behavior. From their study, Jaffee et al. concluded that physical maltreatment plays a causal role in the development of antisocial behavior in children and adults, rather than a proxy for genetic influences that may have increased parental abuse and antisocial behavior in the children.

Although there is substantial evidence that there is a relationship between abuse and antisocial behavior and, to some extent, psychopathy, it is unclear how abuse is related to the subtypes of psychopathy. One study conducted by Poythress et al. (2006) addressed the association between abuse and the subtypes of psychopathy; specifically their study directly assessed the associations between abuse history, dissociation, and psychopathy. The authors hypothesized that dissociation would be a mediating factor between abuse history and

psychopathy, given the high concordance between abuse history and dissociation. Poythress et al. assessed personality traits (including the PCL-R), history of child abuse, and dissociation in 615 prison inmates and substance abuse treatment residents. On constellations of psychopathic traits, abuse was unrelated to both interpersonal and affective traits of psychopathy. Abuse was, however, related to impulsivity and irresponsible lifestyle features of psychopathy. They added that dissociative experiences did not mediate this relationship. These results suggested that abuse may be linked to the variants of psychopathy. Specifically, these results indicated that abuse had a direct effect on traits that define factor 2 of the PCL-R, which has been linked to secondary psychopathy. Poythress et al. suggested that primary psychopaths may be unlikely to experience a dissociative reaction in response to abuse (indirect effect) when compared with secondary psychopaths, and that primary psychopaths may be relatively likely to obtain high psychopathy scores even in the absence of abuse. The authors suggested that several alternative interpretations to their findings are viable, namely that externalization could lead to abuse, rather than abuse leading to externalization and that some individuals may over report histories for abuse or abandonment as excuses of bad behavior due to features of antisocial personality disorder (e.g., externalization of blame, hostile attribution bias).

In line with this study, Cima, Smeets, and Jelicic (2008) found that traumatic childhood experiences can be related to certain subtypes of psychopathy. These authors examined self-reported trauma, cortisol levels, and aggression in 47 psychopathic and 27 non-psychopathic inmates, as determined by the PPI. In regards to the variants of psychopathy and traumatic childhood experiences, Cima et al. found that traumatic childhood experiences are relatively related to traits that comprise secondary psychopathy in both non-psychopaths and psychopaths, namely, PPI-2 factor score of antisocial impulsivity (for non-psychopaths $r = .45$, $p = \leq .05$),

impulsive nonplannfulness (for non-psychopaths $r = .41$, $p = \leq .05$; for psychopaths $r = .36$, $p = \leq .05$), external blame attribution (for non-psychopaths $r = .52$, $p = \leq .05$), and low stress immunity (for non-psychopaths $r = .40$, $p = \leq .05$).

Similar to Cima et al. (2008), the association between abuse and variants of psychopathy was directly assessed by Blackburn et al. (2008) in their previously mentioned study on identifying psychopathic subtypes. Child abuse was assessed with a question during the International Personality Disorder Examination (IPDE; World Health Organization, 1995) regarding whether the participant had been abused, physically, emotionally, or sexually as a young person. In specific reference to abuse and subtypes of psychopathy, Blackburn et al. found that the four variants of psychopathy in the study, primary psychopath, secondary psychopath, controlled, and inhibited, differed in the amount they reported experiencing childhood abuse. Reports of experience of any type of abuse were 29% for the primary psychopaths, 52% for the controlled subtype, 75% for the secondary subtype, and 50% for the inhibited subtype. These differences were significant, however, when compared with type of abuse significant difference only existed for sexual abuse. These results indicated that secondary psychopaths had a higher self-reported experience of childhood abuse, in particularly sexual abuse, than primary psychopaths. Blackburn et al. argued that although abuse has been linked to secondary psychopathy over primary psychopathy further exploratory empirical studies are needed to examine the role of dissociation in the subtypes of psychopathy.

**The Current Study**

Altogether, these three studies added to our understanding of the link between experience of childhood abuse and the subtypes of psychopathy. Together these findings support theories of the subtypes of psychopathy that suggest that secondary psychopathy is etiologically

characterized by punitive environmental factors, whereas primary psychopathy is likely not (e.g., Porter, 1996). Although these findings are informative, they are the only studies to date that have examined experience of childhood abuse in relation to the subtypes of psychopathy as assessed by the PCL-R. It appears that although abuse has been related to secondary psychopathy there may be differences in significance of type of abuse. Poythress et al. (2006) and Blackburn et al. (2008) call for additional investigation into the role of dissociation in the variants of psychopathy. These studies are limited in several ways. First, Blackburn et al.'s results were based on only 6% of their sample (n=10) meeting the clinical cut-off of ≥30 total PCL-R for diagnosing psychopathy. These findings may not have been found in individuals who display higher levels of psychopathic traits, reaching the traditional clinical cut-off of ≥30 total PCL-R score. Additionally, the above studies cannot speak to the causality of abuse on the externalizing traits of secondary psychopathy. It may be the case that individuals who externalize are more likely to be abused. However, as noted earlier, Jaffee et al.'s (2004) study indicated that physical maltreatment plays a causal role in antisocial behavior in both children and adults. This may be similar in specific reference to psychopathy. Both studies also relied on self-report measures of experience of abuse. As Poythress et al. noted this may distort actual levels of abuse, in particular because of characteristics of antisocial personality disorder that may promote reporting abuse as an excuse for their bad behavior.

The heterogeneity of this group is particularly important to study because the identification and characteristics of different subtypes of psychopathy have implications for violence risk assessment, management and treatment (Skeem et al., 2007). Importantly, psychopathy continues to be used by practitioners to inform decision-making about each individual's treatability and violence risk. As Skeem et al. (2003) pointed out further research on

the subtypes of psychopathy could potentially impact legal and clinical standards of practice. Further, they suggested that knowledge of the variants could aid in our ability to understand psychopathy in terms of more specific constructs that will improve our ability to manage and treat individuals with this personality disorder. This study is going to add to the previous findings by examining and comparing the presence of childhood physical and sexual abuse in subtypes of psychopathic first-time male offenders at a correctional facility. It is hypothesized that there will be two groups of psychopathic offenders that similarly represent those found previously in the literature, namely primary and secondary psychopaths. It is also hypothesized there will be a significantly larger presence of childhood physical and sexual abuse in groups that represent secondary psychopaths than those that represent primary psychopaths in the study.

## Method

### Participants

Potential study participants consisted of first-time male prison inmates recruited from a state prison intake facility in Oregon ($N$ =93). Offenders who were convicted of both violent and non-violent crimes were included in the sample. Participants were recruited as part of a larger study on personality and adjustment to prison within the prison system. This larger study included four groups: first-time female prison inmates, general population female inmates, and general population male inmates, and the group in the current study, first-time male prison inmates. The first-time male prison inmates we selected based on valid Personality Assessment Inventory (PAI, Morey, 1991) protocols, first-time in prison (whether in Oregon or another state or country) and a minimum sentence length of 18-months (to include for follow-ups on adjustment in the large study). Importantly, two groups were not represented in the sample: inmates who were immediately moved to the mental infirmary upon arrival at the intake facility

and inmates housed in segregation. Inmates in the mental health infirmary were excluded because it was located in another area of the state at which data collection has not yet begun. Inmates in segregation were excluded because there was a 100% refusal rate to the study of inmates in segregation ($n$ = 4).

Of the first-time male prison inmates recruited ($N$= 93), there were 34 participants who scored ≥ 20 PCL-R Total Score, representing 36.6% of the sample. Two participants with ≥ 20 PCL-R Total Score were missing PAI or Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988) scores and were removed from the sample. The final sample of participants with ≥ 20 PCL-R Total Score and scores on all measures administered were include in the current study ($N$=32), represented 34.4% of the first-time male prison inmates recruited. This subsample will be called the psychopathic sample for the remainder of the paper.

The mean age of the psychopathic group was 32.5 years ($SD$ = 13.0, range = 18-66 years). In the total sample, the mean age was 31.0 years (SD = 12.4, range 18-77 years). There was not a significant difference in age between the psychopathic group and the total sample. Participants in the psychopathic sample included 90.6% White ($n$ = 29), 6.3% African-American ($n$ = *2)*, 3.1 % Hispanic/Latino ($n$ = 1), 0.0% Asian-Americans ($n$ = 0), and 0.0% Bi/Multi-racial ($n$ = 0) inmates. The total sample included 76.3% White ($n$ = 71), 8.6 % African-American ($n$ = 8), 8.6% Hispanic/Latino ($n$= 8), 3.3% Asian-Americans ($n$ = 3), and 2.2% ($n$ = 2) Bi/Multi-racial inmates. Although the psychopathic and the larger sample were primarily White, both samples are generally representative of the prison population in that state (73.3% White, 9.5% Black, 13.3% Hispanic/Latino, and 1.3% Asian-Americans; Oregon Department of Corrections, 2010, May), with the exception of Whites being overrepresented in the psychopathic sample. In

addition, Blacks and Hispanics were slightly underrepresented in both samples and Asian-Americans were not represented in the psychopathic sample.

## Measures

### Revised Psychopathy Check-List (PCL-R; Hare, 2003).

The PCL-R (Hare, 2003) is considered by some to be the current "gold standard" for measuring psychopathy. The PCL-R consists of 20 items, rated on a 3-point scale (0=absent to 2 = present) by trained raters based on semi-structured interview and file review. The total score is further broken down into two factors: Interpersonal/Affective and Impulsive/Antisocial Lifestyle. The PCL-R has demonstrated adequate reliability and validity. The item-total correlations for all 20 items are all acceptable or better then acceptable. Further, Cronbach's alpha coefficient for item total scores and the two factor scores are .73 or higher. For the total, Factor 1, and Factor 2 scores content-related, concurrent, convergent, and discriminate validity are well supported (see Walters, Knight, Grann, & Dahle, 2008).

Raters in this study were two master's graduate students, two doctoral graduate students, and one master's level Oregon Department of Corrections employee. All raters completed a PCL-R workshop and post-workshop training that consisted of rating 7 standardized videotaped cases. In the current study, when items were omitted in scoring, occurring only in items 18 (Juvenile Delinquency), 19 (Revocation of conditional release), and 20 (Criminal versatility), averages for the sample were used. This method was used for omitted items rather than prorating the items according to the PCL-R manual because the sample in the current study is not representative of the sample used in standardization of the PCL-R manual, specifically the current study evidenced lower PCL-R scores. In the current study, the PCL-R Total score cut-off used was $\geq 20$. The Factor 1 and Factor 2 scores were used in the cluster derivation. Although

recent studies have used the Facet scores (Cooke & Michie, 2001) rather than the Factor scores to derive clusters in efforts exclude antisocial behavior, which has been suggested to be unrelated to the construct of psychopathy (e.g. Skeem et al., 2007), the Factor scores were used in the current study to lower the number of clustering variables due to the low number (N = 32) of participants analyzed in the cluster analysis.

**Psychopathic Personality Inventory-Revised (PPI-R; Lilienfeld & Widows, 2005).**

The PPI-R (Lilienfeld & Widows, 2005) was also used to provide external validation to the PCL-R scores. The PPI-R is a self-report measure of psychopathy that measures global psychopathy (total score) and the component traits of psychopathy (scale scores). The PPI-R primarily assesses the interpersonal and affective components of psychopathy and focuses less on the antisocial lifestyle behaviors that the PCL-R assesses. The PPI-R consist of 154 items on a four point scale (1 = not true to 4 = very true). The PPI-R has demonstrated adequate reliability and validity. Reliability coefficients range from .86 to .93 for inmate offenders and college and community samples. Further, there are multiple studies that support construct, convergent, and discriminate validity of the PPI-R. When items were missing averages for the sample were used.

**Personality Assessment Inventory (PAI; Morey, 1991).**

The PAI (Morey, 1991) is routinely administered to all inmates upon intake at the facility used in the current study. The PAI is a self-report measure that assesses adult personality and psychopathology, specifically, dimensional symptomatic clusters of major DSM-III-R mental disorders. It consists of 344 items that comprise 22 non-overlapping scales (4 validity scales, 11 clinical scales, 5 treatment consideration scales, and 2 interpersonal scales). The PAI has demonstrated adequate reliability and validity. Reliability studies report internal consistency

coefficients ranging from .70-.80. Test re-test reliability studies have a mean correlation of .76. Validity has been demonstrated with construct, convergent, and discriminate validation. For the current study, the Borderline Features (BOR) scale will be used in the cluster analysis to assess for borderline traits. The Anxiety (ANX) scale was used in the cluster analysis to assess for trait anxiety.

**Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988).**

The NPI (Raskin & Terry, 1988) is a self-report measure of overt narcissism originally created to measure narcissism in non-clinical populations. The NPI consists of 40 forced choice dyad items (e.g. I have a natural talent of influencing people or I am not good at influencing people). The NPI is one of the most common measures used in social science research to assess for narcissism (Twenge, Konrath, Foster, Campbell, & Bushman, 2008). It has demonstrated adequate reliability and validity. For instance, the NPI has demonstrated construct validity and high internal consistency ranging from .82 to .84. The NPI total score was used in the cluster analysis to assess for overt narcissism.

**Hypersensitivity Narcissism Scale (HSNS; Hendin & Cheek, 1997).**

The HSNS (Hendin & Cheek, 1997) is a self-report measure of covert narcissism. The HSNS consists of 10 items on a five point scale (1= very uncharacteristic or untrue, strongly disagree to 5= very characteristic or true, strongly agree). The HSNS has also demonstrated adequate reliability and validity with reliability coefficients ranging from .62 to .75. The HSNS was used in the cluster analysis to assess for covert narcissism.

**Initial Trauma Review- Revised (ITR-R; Briere, 2004).**

The ITR-R (Briere, 2004) is a behaviorally-anchored semi-structured interview to assess for most major forms of trauma exposure, including childhood and adolescent physical and

sexual abuse. The ITR-R consists of 15 yes/no items with two to four follow-up questions on details and response to the traumatic event. For the current study, participants who endorsed the childhood physical abuse question were classified as having a history of physical childhood abuse. Participants who endorsed the childhood sexual abuse or childhood peer sexual assault questions were classified as having a history of childhood sexual abuse. Participants who endorsed any of the three items were classified as having a history of any childhood abuse.

**Procedure**

Both Institutional Review Board (IRB) and institutional approval was granted and research assistants were trained in PCL-R administration and scoring before the protocol began. Assessment took place within one to four weeks after first-time offenders arrived at the intake facility. Participants were approached and informed that the purpose of the assessment was to examine personality and how it relates to adjustment to prison. Research assistants were present to address any questions that arose during participants' completion of the self-report measures. Assessments occurred at two times ranging from same-day to one week following the initial meeting. During the first meeting the self-report measures of the current study were administered. During the second meeting both PCL-R and ITR-R interviews were administered along with two self-report measures included in the larger study. Assessments took approximately a total of 3 hours to complete.

**Statistical analysis.**

A model-based cluster analysis was used to assess the subtypes of psychopathy in the study (Banfield & Raftery, 1993), using the R computer program and Mclust software package (Fraley & Raftery, 2002). This model-based cluster analysis has been used in past studies (Hicks et al., 2004; Skeem et al., 2007) to examine the subtypes of psychopathy. This method has been

used because it reduces uncertainties inherent in common clustering methods by assessing the relative fit of six models that vary in their assumptions about the structure of the data (see Skeem et al., 2007 for a full review). This method maximizes the likelihood of finding underlying data structure(s) by generating and testing a default of 54 cluster solutions based on fit of each of the six types of models based on several assumptions (e.g. spherical, with equal volume and shape) with the possibility of one to nine different clusters within each model. The assumptions about the clusters include the distribution of the clusters (spherical, diagonal, or ellipsoidal) and whether the clusters have equal or variable size, shape, and orientation in space. Each solution is generated by a applying a fit criterion to estimate the number of clusters, assignment of each participant to a cluster, and average vector and covariance matrix of the clustering variable for each cluster. The Bayesian Information Criterion (BIC) was used to evaluate the fit of each model. This BIC selects a model that maximizes the fit of the model while minimizing the number of parameters included. Using this analysis, the lower the BIC value, the better the model fit. Using Raftery's (1995) criteria to assess model fit, the difference in BIC of 0 to 2 was considered weak support, 2 to 6 was considered positive support, 6 to 10 as strong support, 10 or greater as very strong support.

In the current study, the default setting for the Mclust program in the R statistical package was used. Inmates who obtained PCL-R score ≥20 were used in the cluster analysis ($n$ = 32). This cut-off has been used in the past in similar studies with small sample sizes (see Blackburn et al., 2008) to maximize group size. This cut-off was also used because the current sample evidenced lower PCL-R total scores than typically seen in inmate populations; only 5.4% ($n$= 5) of inmate in the current sample scored ≥ 30, whereas typically 15-20% of incarcerated populations score ≥ 30 on the PCL-R (Hart & Hare, 1997).

## Results

### Cluster Derivation

The first analysis was a model-based cluster analysis to assess if there were subgroups of PCL-R psychopaths with differing trait patterns as theorized and evidenced in the literature. The psychopathic sample's average PCL-R score was 25.17 (SD = 3.97, range = 20.00-35.00.). The total sample's average PCL-R score was 16.36 (SD = 8.06, range = 3.00-35.00). The models tested on the psychopathic sample used the following variables in the cluster analysis: PCL-R Factor 1 score, PCL-R Factor 2 score, PAI-BOR T Score, PAI-ANX T Score, NPI Total Score, and HSNS Total Score. Psychopaths with similar PCL-R factor score and personality traits were assigned to the same cluster. The three best BIC model results of the model-based cluster analysis are shown in Table 2.

According to the criteria of lowest BIC values, the results indicated that the best fitting model is EVI, 2 (BIC = -1234.73). Using Raftery's (1995) criteria, there is positive support for this model to fit the data better than the next best model (the difference of BIC score between 2 and 6). This result indicated the psychopathic sample was comprised of two meaningful subgroups with different trait patterns. The two groups found were similar to primary and secondary subtypes of psychopathy found in prior studies. Cluster 1, characterized by lower PCL-R Factor 1, lower PCL-R Factor 2, higher covert narcissism, lower overt narcissism, higher borderline traits, and higher anxiety traits, was similar to secondary psychopathy evidenced in the literature and was labeled as the Secondary group in the current study. Cluster 2, characterized by higher PCL-R Factor 1, higher PCL-R Factor 2, lower covert narcissism, higher over narcissism, lower borderline traits, and lower anxiety traits, was similar to primary psychopathy evidenced in the literature and was labeled the Primary group in the current study.

In addition, an independent samples *t*-test was conducted to compare the two subtypes of psychopathy on PCL-R Total scores. The *t*- test was significant, $t(30) = -3.34$, $p < .05$, indicating that the Primary group ($M = 27.80$, $SD = 4.31$) on average had higher PCL-R Total scores than the Secondary group ($M = 23.59$, $SD = 2.8$).

Table 2

*Best Bayesian Information Criterion (BIC) Results for Three Best Models*

| | Models | | |
|---|---|---|---|
| | EV1,2 | EEI,2 | VEI,2 |
| BIC Value | **-1234.73** | -1236.98 | -1239.86 |

*Note.* Model letters symbolizes clusters size, shape, and orientation in space. Model numbers indicated number of clusters in the solution. Smaller BIC values indicate better fit. The best-fitting model is in bold.

**Cluster Validation**

Independent samples *t*-tests were conducted to compare the two subtypes of psychopathy on variables used to derive the clusters that have been theoretically shown to differentiate the variants in previous research. The results of the cluster validation are presented in Table 3, which shows the comparison of the two group's means on the measure scores across the six variables used in the cluster analysis.

Table 3

*Differences between Subtypes across Variables Used in the Cluster Analysis*

| | *Primary(n= 12)* | *Secondary (n = 20)* | |
|---|---|---|---|
| Variable | *M (SD)* | *M(SD)* | *t* |
| PCL-R Factor 1 | *10.83(2.21)* | *8.75(1.37)* | *-3.31** |
| PCL-R Factor 2 | *14.22 (3.13)* | *11.90 (2.45)* | *-2.34** |
| Covert Narcissism (HSNS) | *22.92 (3.42)* | *29.10 (4.47)* | *4.11*** |
| Overt Narcissism (NPI) | *16.08 (7.32)* | *13.45 (4.66)* | *-1.25* |
| Borderline Traits (PAI-BOR) | *47.83 (7.20)* | *69.85 (10.02)* | *6.64*** |
| Anxiety Traits (PAI-ANX) | *44.33 (5.10)* | *59.80 (13.43)* | *3.81*** |

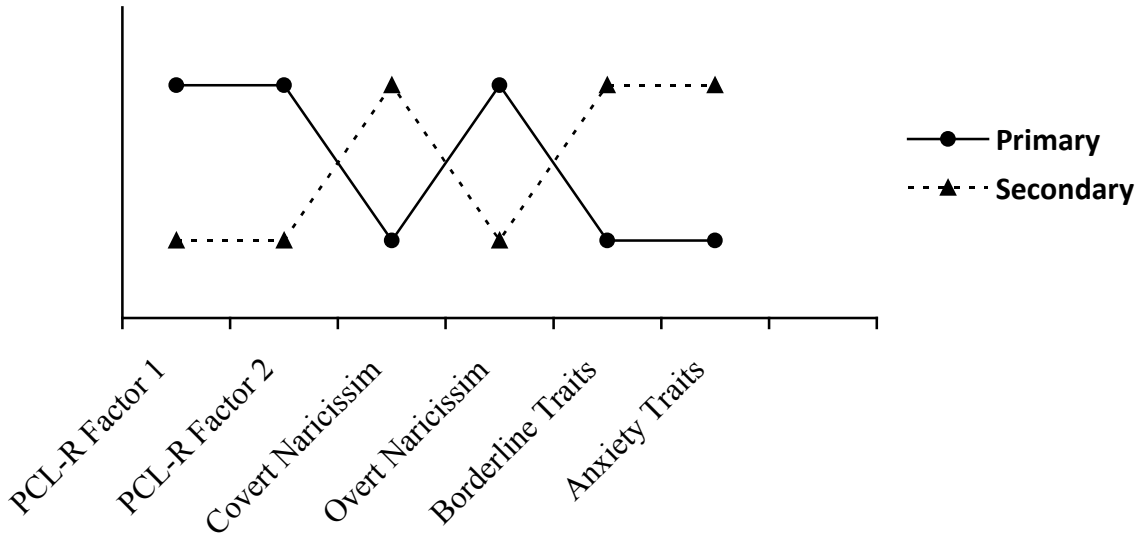
*Note.* Revised Psychopathy Checklist (PCL-R) Factors from Hare (2003) manual; HSNS = Hypersensitivity Narcissism Scale, NPI= Narcissism Personality Inventory, and PAI = Personality Assessment inventory.
*$p < .05$, **$p < .001$

The *t*- test was significant for PCL-R Factor 1 scores, $t(30) = -3.31$, $p < .05$, indicating that the Primary group ($M = 10.83$, $SD = 2.21$) on average had a greater number of interpersonal/affective psychopathic traits than the Secondary group ($M = 8.75$, $SD = 1.37$). The *t*- test was also significant for PCL-R Factor 2 scores, $t(30) = -2.34$, $p < .05$, but the results were counter to the research hypothesis indicating that the Primary group ($M = 14.22$, $SD = 3.13$) on average had a higher scores of impulsive/antisocial lifestyle psychopathic traits than the Secondary group ($M = 11.90$, $SD = 2.45$). The *t*- test was significant for HSNS scores $t(30) = 4.11$, $p < .001$, indicating that the Secondary group ($M = 29.10$, $SD = 4.47$) on average had

higher levels of covert narcissism than the Primary group ($M$ = 22.92, $SD$ = 3.42). The $t$- test was not significant for NPI scores $t(30) = -1.25$, $p = .22$, however, the trend was in the expected direction that the Primary group ($M$ = 16.08, $SD$ = 7.32) had higher levels of overt narcissism than the Secondary group ($M$ = 13.45, $SD$ = 4.66). The $t$- test was significant for PAI-BOR scores $t(30) = 6.64$, $p < .001$, indicating that the Secondary group ($M$ = 69.85, $SD$ = 10.02) on average had higher levels of borderline traits than the Primary group ($M$ = 44.33, $SD$ = 5.10). Lastly, the $t$- test was significant for PAI-ANX scores $t(30) = 3.81$, $p < .001$, indicating that the Secondary group ($M$ = 59.80, $SD$ = 13.43) on average had higher levels of anxiety traits than the Primary group ($M$ = 44.33, $SD$ = 5.10).

Figure 1

*Levels of Traits across Primary and Secondary Subgroups*




In sum, as displayed in Figure 1, these results indicate that the Primary group was characterized by high Factor 1 and Factor 2 scores, overt narcissism, and low levels of borderline and anxiety traits. The Secondary group was characterized by low Factor 1 and Factor 2 scores, covert narcissism, and high levels of borderline and anxiety traits.

**External Cluster Validation**

The two groups of psychopaths were also compared on external measures of the PPI-R used to differentiate primary and secondary psychopaths in prior research (e.g., Cima et al., 2008, Poythress et al., 2006). Independent samples *t*-tests were used to compare the two subtypes on subscales of the PPI-R. Specifically, the primary group is expected to scores higher on the subscale Stress Immunity (SOI) and the secondary group is expected to score higher than on Factor 2 of the PPI-R (i.e. impulsive antisociality, PPI-R-2), Blame Externalization (BE). The results of the comparisons are provided in Table 4.

Table 4

*Differences between Subtypes across External Cluster Validation Variables*

| | *Primary (n= 12)* | *Secondary (n = 20)* | |
|---|---|---|---|
| External Variable | *M (SD)* | *M (SD)* | *t* |
| Stress Immunity (PPI-R-STI) | *40.42 (5.78)* | *34.69 (7.40)* | *-2.29** |
| Impulsivity Antisociality (PPI-R-2) | *131.45 (24.14)* | *154.18 (17.49)* | *3.09** |
| Blame Externalization (PPI-R-BE) | *28.62 (7.26)* | *39.25(9.92)* | *3.22** |

*Note.* PPI = Psychopathic Personality Inventory. All variables are Factors of Subscales from the PPI manual.
*$p < .05$

The *t*-test was significant for PPI-STI, $t(30) = -2.29$, $p < .05$, indicating support in the expected direction of the Primary group ($M = 40.42$, $SD = 5.78$) scoring significantly higher than Secondary group ($M = 34.69$, $SD = 7.40$). These results indicated that the Primary group exhibited lower levels of anxiety than the Secondary group. Further, the *t*-test was significant for PPI-2, $t(30) = 3.09$, $p < .05$, in the expected direction of Secondary ($M = 154.18$, $SD = 17.49$)

greater than Primary ($M$ = 131.45, $SD$ = 24.14) . These results indicated that the Secondary group exhibited more impulsivity and aggression than the Primary group. The $t$-test was also significant for PPI-BE, $t(30) = -3.31$, $p < .05$, indicating support in the expected direction of the Secondary group ($M$ = 28.62, $SD$ = 7.26) scoring significantly higher than the Primary group ($M$ = 39.25, $SD$ = 9.92). These results indicate that the Secondary group blamed others and rationalized their own transgression more than the Primary group. In sum, the clusters analyzed have demonstrated external validation.

**Differences in Abuse History**

In the total sample, 52.7% of inmates endorsed a history of any childhood abuse, 43.0% endorsed a history of physical abuse, and 34.4% endorsed a history of sexual abuse. In the psychopathic sample, 65.6% of inmates endorsed a history of any childhood abuse, 56.3% endorsed a history of physical abuse, and 50.0% endorsed a history of sexual abuse. Notably, the rates for any and all types of abuse were higher in the psychopathic group than for all study participants.

A two-way contingency table analysis was conducted on the psychopathic sample to evaluate whether the Secondary group had a higher rate of any childhood abuse than the Primary group. The two variables were not found to be significantly related, Pearson $\chi^2$ (1, $N$ = 32) = .45, $p$ = .50, $\Phi$ = -.12. The effect size $\Phi$ of -.12 indicates a small effect. As represented in Table 5, the proportion of the Primary and Secondary groups who reported a history of childhood abuse were .58 and .70, respectively. The results indicated that there was no difference between the subtypes of psychopathy on history of childhood abuse. However, the trend of the Secondary group having higher levels of overall abuse is consistent with the hypothesis.

Table 5

*Percentages Reporting Experience of Childhood Abuse among Subtypes of Psychopathy*

| Type of Abuse | Primary ($n$ = 12) | Secondary ($n$ = 20) |
|---|---|---|
| Physical or Sexual Abuse | 58% | 70% |
| Physical Abuse | 50% | 60% |
| Sexual Abuse | 42% | 55% |

*Note.* Regardless of type of abuse, none of the differences in childhood abuse, between the two subtypes were significant.

In addition to examining history of abuse, two additional two-way contingency table analyses were conducted to determine if specifically a history of physical or sexual abuse occurred at a higher rate in the Secondary group when compared to the Primary group. For physical abuse, the two variables were not found to be significantly related, Pearson $\chi^2$ (1, $N$ = 32) = .31, $p$ = .58, $\Phi$ = -.10. The effect size $\Phi$ of -.10 indicates a small effect. The proportion of Primary and Secondary subtypes who reported a history of child physical abuse were .50 and .60, respectively. For sexual abuse, the two variables were also not found to be significantly related, Pearson $\chi^2$ (1, $N$ = 32) = .53, $p$ = .47, $\Phi$ = -.13. The effect size $\Phi$ of -.13 indicates a small effect. The proportion of Primary and Secondary subtypes who reported a history of childhood sexual abuse were .42 and .55, respectively. These results indicated that neither reported history of childhood physical abuse or sexual abuse was significantly associated with the Primary and Secondary groups found in this study. However, the trend of the Secondary group having higher levels of physical and sexual abuse is consistent with the hypothesis.

## Discussion

### Findings and Implications

There were two major findings in this study. First, first-time male prison inmates who demonstrate high levels of psychopathic traits can be meaningfully divided into two subgroups consistent with those theoretical and empirically evidenced in the literature. Second, these two groups do not demonstrate significant differences in history of childhood abuse. However a larger proportion of the secondary psychopaths endorsed a history of childhood abuse than the primary psychopaths.

Overall, the study participants evidenced low levels of psychopathic traits (5.4% of inmates scoring ≥ 30 PCL-R Total score) compared to levels typically seen in inmate populations (15-20%, Hart & Hare, 1997). It is hypothesized that first-time prison inmates evidence lower levels of psychopathic traits because they have not yet been given the opportunity to fully demonstrate their criminality which contributes to the PCL-R total score as they had just begun serving their only conviction with a prison sentence. Further, because inmates had only been at the institution for one to four weeks, the participant's files often did not contain notes or behavioral reports often helpful in determining both interpersonal (e.g. inmate displays 'gift of gab') and behavioral components (e.g. assaults on prison staff) of a PCL-R Total score. The low PCL-R Total may also have occurred because first-time male inmates who were immediately housed in the mental health infirmary or in segregation were not represented in the sample. The inmates in the mental health infirmary or in segregation may have displayed higher levels of psychopathic traits, for example, exhibiting poor behavioral control resulting in segregation. It can also be argued that the low level of psychopathy evidenced in the sample was related to the ability of psychopaths to manipulate the system. Porter, ten Brinke, and Wilson (2009) found

that psychopathic offenders were 2.5 times more likely to be granted conditional release than non-psychopathic offenders in Canada. Porter et al. suggest that this may be a result of the superior ability of psychopaths to successfully deceive parole boards to granting them early release. In the current study, individuals with higher levels of psychopathy may have successfully manipulated the system at sentencing. As a result, the current sample of inmates may have excluded individuals with high psychopathy scores because of the inclusion criteria of a minimum of 18 month sentence.

The participants in the current study represented two distinct subgroups similar to primary and secondary psychopathy subtypes found in prior studies. In comparison to the secondary psychopaths, the primary psychopaths were characterized by higher PCL-R Factor 1 scores, higher PCL-R Factor 2 scores, less covert narcissism, more overt narcissism, fewer borderline traits, and fewer anxiety traits. These subgroups were externally validated. In comparison to the secondary psychopaths, the primary psychopaths exhibited less anxiety, less impulsivity and antisociality, and blamed others and rationalized their own transgression less. These findings are consistent with prior findings, with the exception of higher PCL-R Factor 2 scores in the primary psychopaths. This result is inconsistent with the theories of the subtypes of psychopathy and studies that examine differences in PCL-R Factor scores among the subtypes. Specifically, two studies (Haapasalo & Pulkkinen, 1992; Vassileva, et al., 2005) evidenced higher PCL-R Factor 2 scores in the secondary subtype of psychopathy. However, the result is consistent with one study (Blackburn et al. 2008) that also used a PCL-R cut-off score of $\geq 20$. This evidence may suggest that samples characterized by lower levels of psychopathy as measured by the PCL-R exhibit different configurations of Factor scores than evidenced in studies using a higher cut-off. At this time, explanations for this discrepancy have not been

empirically tested. However, this result in the current study can also be explained by the significant difference between the two subtypes in PCL-R Total scores.

There was a significant difference in the PCL-R total scores between the two subtypes of psychopathy not typically seen in the literature (e.g. Hicks et al., 2004). The primary group had a significantly higher average PCL-R Total score than the secondary group, which would contribute to a higher Factor 2 score for the primary group. The difference in PCL-R Total scores likely was a result of the small sample size ($n$ = 32), which included a smaller proportion of primary psychopaths (37.5%, $n$ = 12) than secondary psychopaths. Further, 7 of the 8 highest PCL-R Total scores of the psychopathic sample consisted of primary psychopaths, which resulted in a significantly higher mean Total score. Notably, although the secondary group exhibited lower PCL-R Factor 2 scores than the primary group, Factor 2 scores were higher than Factor 1 scores within the secondary group.

The results of this study also evidenced a higher level of endorsement of childhood physical and sexual abuse in both the total (52.7%) and psychopathic samples (65.6%) when compared to amount of physical and sexual abuse endorsed by male offenders in prior studies. According to the Bureau of Justice Statistics (1999) and McClellan Farabee, & Crouch (1997), a history of childhood physical or sexual abuse was reported by 5-24% of male general population inmates. However, a recent study by Wolff, Shi, and Siegel (2009) reported that 56% of the 6,964 male general population inmates in their sample experienced childhood physical abuse. It is hypothesized that the difference in self-reported childhood abuse can be attributed to the method of data collection in the studies. When studies report lower numbers of inmates endorsing childhood abuse they were either data collected by an institution (Bureau of Justice Statistics) or by undergraduate students (McClellan, et al. 1997). In Wolff et al. (2009) data was

collected thru the computer administration of a standardized questionnaire, which may have increased participants feelings of anonymity and as a result, willingness to disclose. In the current study, there may have been increased rapport and willingness to disclose because participants were asked directly about childhood abuse following the PCL-R interview by a trained clinical graduate students or graduate level clinician who had undergone a minimum of 18 months of clinical training and experience in clinical skills.

In the current study, contrary to the researcher's hypothesis, the two groups of psychopaths did not significantly differ on history of childhood physical or sexual abuse. This difference was not present between the groups for any abuse, or specifically physical or sexual abuse. Although no statistical significance was evidenced in this study, the trend was in line with prior theories and research: a larger proportion of secondary psychopaths endorsed a history of childhood abuse than the primary psychopaths. Further, the variants found in the current study support the Skeem et al. (2003) model. To date, few to no studies have specifically tested this model, particularly with the inclusion of both overt and covert narcissism. By testing the key dimensions of the Skeem et al. (2003) model, the current study supports this theoretical model of psychopathic variants.

Several factors may contribute to the finding of non-significant differences between the subtypes in the current study. One explanation is related to the characteristics of the sample. This sample was small ($n$ = 32) which may have prevented the researcher from finding a true effect. The current sample was also characterized by low levels of PCL-R Total scores. One study (Blackburn et al., 2008) with low levels of psychopathy, found similar results to the current study. Blackburn et al. (2008) only found a significant difference of childhood sexual abuse (and not childhood physical abuse or neglect) among the subgroups. It is possible that differences in

abuse histories may only significantly differ for those individuals with high PCL-R Total scores. However, it is alternatively suggested that the current findings are a result of the high PCL-R Factor 2 scores evidenced in the primary psychopaths.

Abuse history has been shown to have a direct effect on traits that comprise Factor 2 (Poythress et al., 2006). This effect likely contributed to the similar levels of endorsement of childhood abuse between the two subtypes. Further, although it is suggested in the literature (e.g. Karpman, 1941) that individuals with primary psychopathy develop psychopathic traits as a results of congenital affective deficit and secondary psychopaths develop psychopathic traits as a results of adverse childhood experiences, it is not necessarily the case that subtypes of psychopathy will display significant differences in childhood abuse. For instance, as suggested by Poythress et al. (2006), externalization may not only result from abuse, but may in fact increase an individual's risk of experiencing abuse due to the challenges parents face of managing a child with a difficult temperament. This may have increased the endorsement of childhood abuse by the primary psychopaths in the current study.

Overall, the current study provides support for the heterogeneity of psychopathy. This study increases our understanding of the construct of psychopathy, the presence of subtypes in an offender sample with low psychopathic traits, and provides limited support for the etiology of the subtypes of psychopathy. These results have important implications in helping us refine the construct of psychopathy that will in turn help improve our ability to manage and treat individuals with psychopathic traits. For instance, it has been suggested the secondary psychopaths may possess greater treatment amenability due to their behavior being acquired rather than innate (e.g. Karpman, 1941).

**Strengths, Limitations, and Future Directions**

The conclusions drawn in this study were possible due to a number of strengths. This study was conducted at a state intake facility, which created an equal opportunity of all first time offenders in the state to be included in the study. Consequently, the sample was representative of the age and race of inmates in the state and included both violent and non-violent offenders. This study also included several well validated measures, importantly including two widely used measures of psychopathy. Further, this study included measures that allowed the researcher to uniquely test the Skeem et al. (2003) model, importantly including measures of overt and covert narcissism, in a sub-clinical psychopathic group. Due to these strengths, the results not only support the division of the unitary construct of psychopathy into meaningful subtypes, but the results also suggest that the distinction of the subtypes remains stable throughout the dimension of psychopathy. While there are many factors that contribute to the strength of the current study, there are several important limitations. First, many self-report measures were used. This is primarily a concern in regards to the report of history of child abuse. Without any corroborative evidence it cannot be determined if the inmates reports of history of child abuse are accurate. Individuals with antisocial features, as suggest by Poythress et al. (2006), may over-report history of abuse as result of externalization of blame and a hostile attribution bias. Therefore, these results should be interpreted with caution. However, when official records or other information are not available to verify the offender's reports of abuse, as in the current study, self-report provides valuable information. Another limitation of the current study is the non-representative sample used. Specifically, results may have differed if inmates housed in the mental health infirmary or in segregation were represented in the sample. Further, the small sample size in this study may have affected the results. Importantly, because the sample size was

small the 2 Factor model, rather than the 3 Facet model was used in the model-based cluster analysis to decrease the number of variables used to derive the clusters. As a result, the clusters derived included the antisocial facet of psychopathy, which has been argued to be unrelated to the underlying construct of psychopathy (e.g. Skeem et al., 2007). The sample also exclude two participants with ≥ 20 PCL-R Total Scores (PCL-R Total Scores of 22 and 31) due to missing data. Given the small sample size, the inclusion of these participants may have impacted the results.

Lastly, although this study is informative, we can only draw limited conclusions about the etiology of the subtypes of psychopathy from the results. This study did not directly address genetic involvement, which is crucial in understanding the etiology causes of this, or any other disorder. Abuse may only be one of several complex interactions leading to the development of psychopathic traits. However, as Seto and Quinsey (2006) point out, it is not necessary to determine causes to treat psychopathy, especially given the limited etiological information currently available. While our knowledge of the causes of psychopathy continues to build, this study, and studies like it, can provide valuable information to guide both risk and treatment of individual's with this personality disorder.

Future research should continue to develop the construct of psychopathy, particularly examining the heterogeneity of the construct to identify what variables reliably distinguish the subtypes, or rather if the subtypes evidenced in the literature represent two distinct constructs instead of the proposed variations of psychopathy. The extension of this research should also included un- or under-represented populations (e.g. women, sub-clinical levels of psychopathy, races). The inclusion of these populations will help researchers refine the construct, and its potential subtypes, by clarifying the stability of the construct across different genders, races, and

across the dimension of psychopathy, regardless of the traditional PCL-R cut-off score used. Research on the subtypes should continue to include measures that allow for the examination of variables theoretically and empirically evidenced in the literature (see Skeem et al., 2003) and should continue to examine the construct in a variety of settings and regions (e.g. prisons, forensic psychiatric hospitals, community sample; in the U.S.A, Canada, Europe, etc.). It is also suggested that future researchers examining the variants among PCL-R psychopaths use the 3 Facet model of psychopathy rather than the 2 Factor model to replicate these results without the inclusion of antisocial facet of psychopathy to account for criterion contamination (see Skeem et al., 2007). Importantly, although studies assessing self-report history of childhood abuse are informative, future research on the etiology of the variants needs to include genetic and twin studies to better evaluate etiology, the primary theoretical distinction of the subtypes. Future research should also specifically address the difference between of subtypes on risk and treatment amenability. This work can potentially have a significant impact on practitioners who currently use psychopathy in assessments that inform important legal decisions.

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