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Sex Offender Assessment: Clinical Utility and Predictive Validity

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Abstract

The research addressing sex offender assessment and treatment is an ever-evolving science. However, very little research has addressed psychological typologies associated with various types of sex offenders and treatment engagement. The current study examined assessment data of four sex offender groups, defined by victim type, to determine if a typological difference exists between groups of (N = 583) rapists (n = 129), statutory offenders (n = 140), intrafamilial/ incest perpetrators (n = 152), and extrafamilial (n = 162). Secondly, the study determined if a specific battery of psychological measures can predict treatment completion (n = 377). We also hypothesized there will be a negative relationship between psychopathy, as measured by the Hare Psychopathy Checklist-Screening Version, antisociality, aggression, and treatment rejection, as measured by the Personality Assessment Inventory, and treatment completion. As hypothesized, there were several significant differences seen between the sex offender groups. Rapists were significantly different from the other three sex offender groups and Extrafamilial Child Molester and Statutory Offender groups were similar to one another. The primary discriminating factors appeared to be the level of antisocial beliefs, attitudes and behaviors. Static-99 scores were highest for the Rapist group and post hoc analyses indicated that Extrafamilial Child Molesters with male or both sex victims had similar Static-99 scores to rapists. As hypothesized, psychopathy and PAI Antisocial and Aggression scales scores distinguished between treatment completers and non-completers, however, these variables were not predictive of treatment completion.

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Sex Offender Assessment: Clinical Utility and Predictive Ability

During the last two decades, public concern about dangerous sexual offenders has become increasingly salient. Sex offenses, (e.g., child molestation and rape), are frequently considered among the most heinous of all crimes. Child molestation alone is a great strain on society, with 20% of girls and 10% of boys being victims of abuse (Hanson & Bussiere, 1998). In 1994, the distribution of state prisoners showed that 9.7% of 906,000 prisoners were incarcerated for a violent sex offense (APA, 1999). In addition, community concern at the damage caused by these atrocious acts, there are also laws in several states that emphasize the need for sex offenders to seek psychological and medical treatment while in prison and the community. In the case of *Kansas vs. Hendricks* in 1997, the United States Supreme Court upheld the lawful commitment of violent sexual predators to treatment in psychiatric institutions until their release (Bradford, 2000). The civilly committed offenders are selected through a rigorous process of assessment and court proceedings. The assessment entails the use of actuarial risk and personality measures and clinical interpretation to determine the offender's risk to reoffend sexually. Once committed these individuals are treated with pharmacological and psychological treatment, most commonly a variant of Cognitive Behavioral Therapy (CBT).

The current study has two aims: (1) determine the utility of several commonly used psychological measures to distinguish between different categories of sex offenders; (2) determine if the same assessment battery can predict treatment completion.

Categories of Sex Offenders

The current study will classify the offenders based on the offense committed, more specifically; we will classify the offenders into four different groups: (1) rapists, (2) statutory offenders, (3) extrafamilial child molesters, and (4) intrafamilial child molesters and incest perpetrators. Rapists have a victim, at least 14 years of age, in which the act occurred above and against the objections of the individual or the individual was not of sound mind to consent to sexual contact. Statutory offenders have had consensual sexual contact with an unrelated victim between the age of 13 and 17. Intrafamilial child molesters and incest perpetrators are classified together because they only have related victims. Extrafamilial child molesters have at least one unrelated victim under the age of 13; however, these offenders may have related victims as well.

The recidivism literature has indicated significant differences in recidivism rates for type of offender based on victim choice. Not only have reoffense rate differences been seen between groups; differential levels of motivation and resistance to treatment are evident between rapists and child molesters (Beyko & Wong, 2005; Marques, Day, Nelsen, & West, 1994). Langevin and colleagues (2004), using a sample of released sex offenders with a follow-up period of at least 25 years, found similar results to previous recidivism literature. The average age for the incest perpetrators was the highest and exhibitionists were youngest while rapist and extrafamilial child molesters tended to be the best-educated (Langevin et al., 2004). When considering the age of criminal onset, the average for the group was 22.6 years old, with rapists being significantly younger at first offense (15.4 years of age.) According to the data, sexual aggressives spent a significant more time in prison (10.5 years) than any other group (Langevin et al., 2004).

Langevin et al. (2004) found over a twenty-five year follow-up that the overall average was 3.6 convictions and 1.2 charges dismissed for sexual crimes and 5.3 convictions and 2.0 dismissed non-sex offenses. Extrafamilial child molesters with male and both sex victims had the highest number of sexual reoffense. Sexual aggressives or rapists, polymorphous, and non-sexual violent offenders had the highest number amount of non-sexual criminal activity. Through further analysis, 80.4% of the sample criminally reoffended with 61.1% of those being sexual recidivists (Langevin et al., 2004). Extrafamilial child molesters and exhibitionists showed the highest sexual recidivism with 71.0%- 74.1% and 68.6%, respectively. This study did not address if the offenders were treated prior to release or if they had received community-based treatment, but considering the recidivism rates, treatment was probably not provided. These apparent differences in recidivism and treatment resistance suggest that measures, which identify differences between the groups, may assist clinicians with services and resource distribution. Meaning that at high-risk offenders with high treatment motivation would receive the greatest amount of existing treatments because these offenders and society would benefit the most from their treatment. In addition, clinicians and researchers might develop and evaluate new interventions aimed at offenders who were not interested in receiving existing treatment.

Unfortunately, other systems of classifying offenders combine multiple dimensions, including victim selection, presumed etiology, offender type, or offender characteristics. For example, the American Psychiatric Association classifies sex offenders into four mental health categories (APA, 1999). The first group has an absence of any mental or physical abnormality. The second category contains individuals who

have the presence of a mental disorder or physical injury that limits cognitive functioning, such as Mental Retardation or traumatic brain injury. Individuals who have a diagnosable sexual paraphilia, exhibitionism or pedophilia, comprise the third group. The final category includes individuals who have another mental health condition that indirectly affects specific sexual behavior. These offenders would typically be diagnosed with a personality, psychotic or impulse control disorder (APA, 1999).

The use of these categories requires diagnoses based solely on the DSM-IV (APA, 1994) which has serious flaws when pertaining to sex offenders. Doren (2002), as well as Campbell (1999), cite issues associated with using the DSM-IV (1994) diagnostic criteria with sex offenders. Sex offenders have characteristics not addressed by the DSM-IV (1994) or, at the most, covered ambiguously (Doren, 2002). When completing sex offender evaluations, Doren suggests that literal interpretation, not conceptual, is needed to defend diagnostic decision-making. However, the DSM-IV (p.xxiii, 1994) itself states clinical judgment is needed to interpret and apply the diagnostic criteria to the client, but also warns that excessive interpretation may reduce the global utility of the diagnosis.

Two DSM-IV (1994) psychiatric diagnoses have been linked to sexual offenses. Sexual paraphilias and Antisocial Personality Disorder are frequently cited in the research literature as the primary disorders associated with sexual offending. According to the DSM-IV (1994), paraphilias are recurrent and intense sexually arousing fantasies, sexual urges, or behaviors that occur over a period of at least six weeks and generally involve 1) non-human objects, 2) the suffering or humiliation of self or one's partner, or 3) children or other non-consenting persons that cause clinically significant distress or

impairment. The DSM-IV includes eight primary paraphilias including pedophilia, exhibitionism, frotteurism, voyeurism, sadism, masochism, fetishism and transvestic fetishism (APA, 1994).

The current DSM-IV diagnoses that address sexual behaviors have problems specific to the diagnostic criteria themselves. The following is a discussion asserted by Doren (2002) which elucidates these problems by addressing aspects of each diagnostic criterion individually. The phrase “*Recurrent, intense, sexually arousing fantasies, sexual urges, or behaviors*” will be discussed first. This phrase is rather ambiguous and may leave the clinician contemplating which of the fantasies, urges or behaviors is modified by recurrent, intense sexually arousing. Through personal communications between Donald Hands and the DSM-IV (1994) Sexual Disorders Work Group, Chester Schmidt and Thomas Wise in 1997 (as cited by Doren, 2002) it was determined that recurrent, intense and sexually arousing only describes the fantasies and not the sexual urges or behaviors. This assertion then means behaviors are neither modified nor defined in any manner denoting it could refer to any type of behavior, sexual or non-sexual (Doren, 2002). Thus, Doren recommends using sexual to clarify behaviors despite the writing in the manual.

Secondly, Doren (2002) addresses the phrase “. . . *Generally involving 1) nonhuman objects, 2) the suffering or humiliation of oneself or one’s partner, or 3) children or other non-consenting persons.*” The nonhuman aspect of the phrase will not be discussed because these acts would not typically be sexual offenses. The suffering or humiliation of oneself or one’s partner is typically interpreted as masochistic or sadistic interests (Doren, 2002). However, what does the statement mean for sex offenders?

Should the phrase be considered from the victim or perpetrator's viewpoint? Rapists frequently cause pain and humiliation for their victims; however, if that were not the perpetrator's intention he would not meet diagnostic criteria for a paraphilia.

Doren (2002) next addresses "*Children or other non-consenting persons.*" The inherent problems with this statement are the definition of children (e.g. legal, biological, or social definition) and non-consenting persons. State and local laws are typically consulted for age delineation, despite the differences seen across jurisdictions. The use of puberty as the defining point would typically define persons under the age of 13 as children and rule out a diagnosis for offenders with victims between the ages of 13 and 17, despite legal definitions (Doren, 2002). The social definition would consider anyone still under the legal guardianship of an adult a child. The *non-consenting persons* aspect of this statement is explicitly addressed in the criteria for exhibitionism and voyeurism, but would also closely define the victim of a rape despite the lack of a rape type paraphilia (Doren, 2002).

Lastly, Doren (2002) discusses the "*Over a period of at least 6 months.*" When evaluating sex offenders, the observable behavior may be the only information the evaluator has for diagnosis, however, the offender's behaviors may not explicitly satisfy the six-month requirement (Doren, 2002). For instance, an offender's molestation of two children occurs for 5 ½ months; or he has one sexual contact in February and one in December of the same year; or the offender has sexual contact for 2 months and is arrested, incarcerated, released then reoffends for another 2 months. All three of these examples, have occurred in practice and in my opinion would meet diagnostic criteria for a paraphilia. In summary, it appears more useful, at this point in time, to simply classify

offenders based on sexual offense itself instead of using the DSM-IV criteria.

Researchers can then use theory and past research to identify potential predictor variables, which might be able to discriminate between different types of sex offenders.

Multidimensional classification systems are not adequately developed to be useful at this stage in the research process on sexual offenders.

Assessment of Sex Offenders

The assessment of sexual offenders serves two primary purposes, to assess risk for future criminal behavior and to assist in treatment planning. When assessing individuals for the purposes of risk prediction and treatment compliance, several issues must be considered, including utility of the assessment battery. Hayes, Nelson and Jarrett (1987) defined treatment utility as the degree to which the assessment has contributed to a beneficial treatment outcome. Historically, treatment and assessment were considered separately because of the tendency for therapists to devalue assessment information for the purposes of treatment planning (Meehl, 1960). However, this approach may be flawed in that, proper therapeutic intervention should include periodic assessment of therapeutic factors, which can be used for diagnosis, prediction, description of current functioning or for treatment planning and evaluation (Barrios & Hartmann, 1986).

Research has suggested three connections between assessment and treatment: a functional analysis, response class identification and the use of diagnosis to suggest an empirically validated treatment (Nelson, 1988). A functional analysis consists of identifying the root of a specific behavior and treating the root, while response class identifies the individual's problematic response style and attempts to treat the behavioral response.

There are limits and disadvantages associated with assessment guided treatment

and the studies attempting to validate this approach (Nelson-Gray, 2003). Assessment can be time consuming and expensive and may not add any significant benefits beyond a clinician-based decisions for treatment planning. Much of the current research establishing empirically validated treatments tends to be restricted, sterile and has questionable generalizability to clients with Axis II or co-morbid diagnoses (Nelson-Gray, 2003). The generalizability of the present utility research has limitations due to methodological issues associated with measure choice, reliability and validity of the measures, treatment strength and sample used.

The use of interviews, self-report measures, physiological measures and external sources are extremely important when assessing sex offenders (Marshall, 1999). Extra sources and corroborating information allow the evaluator the ability to challenge the offender's report. Each measure has limitations in its ability to determine the primary problem for each sex offender; however, a combination of all procedures increases the evaluator's accuracy. However, in many cases, the information needed to complete the required full assessment battery may be very difficult to obtain, thus many studies have had to alter procedures or eliminate sections of measures due to lack of corroborating information. Specifically, when working with an institutionalized offender population, assessment requires multiple agencies to supply specific data for the procedure to run smoothly. As previously mentioned, all these sources of information are important to make an informed decision about future risk, motivation for change and treatment planning.

The current study assessed specific personality factors including violence potential, antisocial nature, aggression and psychopathy, as well as, sexual deviance,

treatment motivation and recidivism risk issues.

Personality Assessment

The primary purpose for personality assessment of sex offenders is to determine relevant mental health issues that may hinder progress through treatment and success while under community supervision. Mental health issues may also be applied to the adjustment of actuarial prediction, such as, considering the offender's current psychological well-being or his beliefs and values may increase or decrease his risk of reoffense. When assessing correctional populations, there is always the concern about biased responding. In many cases, the offender may have much to gain from presenting himself in a specific light, depending on context. If he is seeking mental health services and psychotropic medications, he may fake bad or malingering to appear in greater need of help. However, if the offender is being assessed to determine a release date or eligibility, he may present himself in a positive light to enhance his chances.

Aggressive Behaviors

Some research has described a relationship between the presence of aggression and hostility with sexual offending (Firestone, Nunes, Moulden, Broom, & Bradford, 2005; Marshall & Barbaree, 1990). Marshall and Barbaree (1990) cited that the presence of hostility due to inappropriate socialization has influenced the individual's ability to control over sex and aggression. Kalichman (1991) found that child molesters reported greater levels of hostility than did non-sex offenders; rapists have also had higher reported levels of hostility when compared to other groups of sexual offenders (Hudson & Ward, 1997). Research has also demonstrated differences between rapists and child molesters in the level of violence during their current sex offense and criminal histories.

Child molesters have been found to have shorter and less violent criminal histories than rapists; yet, they are more likely to have previous sexual offenses than rapists are (Rice & Harris, 1997). Firestone and colleagues (2005) reported that hostility, as measured by the Buss-Durkee Hostility Inventory (BDHI), was significantly related to a violent offense history and to the level of violence in the index sexual offense. This study also found that hostility was related to sexual recidivism and violent recidivism and added to the prediction above and beyond Rapid Risk Assessment for Sexual Offense Recidivism (RRASOR); however, this relationship was only seen for the intrafamilial (sexual $r = .18$, violent $r = .26$) and extrafamilial (sexual $r = .16$, violent $r = .25$) child molesters when compared to rapists.

Purely by definition, the crime of rape requires either the threat or use of force that is not inherent in the definition of molestation. The previous research has generally assumed that the victims of child molestation are not consenting but are typically compliant due to the apparent power differential. One recent study determined that rapists used verbal threats or coercion to obtain victim compliance and were more likely to be assaultive during the crime (Craissati & Beech, 2004). Craissati & Beech (2004) found that a significantly larger number of child molesters use bribery than rapists during their crimes. Aside from the cited studies, there has been little work in the area of validating measures of aggression as a personality trait with sexual offenders.

Antisocial personality

Antisociality and criminal behaviors are quite important when assessing sex offender groups. The research has shown that different types of sex offenders have varying histories of antisocial behaviors, with rapists having the greatest level (Craissati

& Beech, 2004). Rice and Harris (1997) report that there are higher levels of personality disorders in rapists and it is likely antisocial types (Hanson & Bussiere, 1998). Motiuk and Porporino (1992) found that at least 40% of their incarcerated sexual abuser population met diagnostic criteria for APD. Hanson and Bussiere (1998) found a small correlation between Antisocial Personality Disorder and sexual recidivism ($r = .17$) and this finding was replicated by Hanson and Morton-Bourgon (2005) in which a diagnosis of APD had a correlation of ($r = .21$) with sexual recidivism. The Hanson and Morton-Bourgon study also reported that antisocial orientation (i.e. antisocial personality, antisocial traits, and history of rule violations) was the strongest predictor of violent nonsexual recidivism ($d = .51$), violent (including sexual) recidivism ($d = .54$) and general recidivism ($d = .52$). Hanson and Morton-Bourgon (2005) also reported that there was promise for the possibility of treatment of APD and antisocial traits (i.e. general self-regulation problems, employment problems, and hostility). Bogaerts and colleagues (2005) reported, through a factor analysis, that the presence of Antisocial, Narcissistic and Passive-Aggressive Personality Disorders discriminated extrafamilial child molesters from intrafamilial child molesters.

Recent literature has used the Personality Assessment Inventory (PAI; Morey, 1991) to predict a sex offender's risk to violate institutional rules and have compared specific PAI scales to PCL-R scores (Edens, Buffington-Vollum, Colwell, Johnson, & Johnson, 2002). In this study, offenders with high antisocial scores, as measured by Antisocial scale (ANT) on the PAI, were more likely than low scorers to commit violations of institutional rules (Edens, Buffington-Vollum, Colwell, Johnson, & Johnson, 2002). In the current study, the commission of certain institutional rule

violations would result in termination from the sex offender treatment program. Very few studies have dealt specifically with the diagnosis and prevalence of antisocial personality disorder in sexual offenders, thus very little is known about the influence APD has on treatment compliance and sexual recidivism. The current research has chosen to use psychopathy as the indicator of an antisocial lifestyle.

Psychopathy

Outside the typical DSM-IV (1994) diagnoses, the concept of psychopathy describes an individual who possesses two primary characteristics: aggressive narcissism (Meloy, 1992) and chronic antisocial behavior (Hare et al., 1990). The former has become increasingly important when assessing forensic populations because of the over-reliance on previous criminal behavior for the diagnosis of Antisocial Personality Disorder (Hare, 1991). According to Cleckley (1976) and Hare (1991), psychopathy can be distinguished from other personality disorders through interpersonal, affective and behavioral distinctions. The psychopathy designation is an overarching construct, which includes the diagnostic and conceptual characteristics of APD, however, requires several other interpersonal and affective characteristics not addressed by APD. Psychopaths can be described as manipulative, grandiose, dominant and unempathetic. They may have difficulty forming meaningful relationships and lack future goals (Hare, 1993). These individuals will likely be impulsive, irresponsible, and inclined to violate social rules and laws. Hare (2003) noted that 50-80% of prisoners meet diagnostic criteria for APD while only 15% would be considered psychopaths. Hildebrand and de Ruiter (2004) found the correlation between APD and PCL-R scores was much higher for Factor 2 (social/behavioral deviance) ($r=0.65$) than for Factor 1 (interpersonal/affective) ($r=0.39$).

As described by Cleckley (1976), the typical psychopath will have the characteristics of Antisocial Personality Disorder with additional interpersonal, affective and behavioral components, not required for the diagnosis of APD. In most cases, a psychopathy designation could also result in a diagnosis of APD, but not necessarily the reverse. A psychopath will have superficial charm, pathological egocentricity and grandiosity, and an inability to form significant intimate relationships. He will typically be intelligent and lack irrational thinking and psychological neuroses (Cleckley, 1976). His sex life may be impersonal, promiscuous and loosely related to other aspects of his life. The psychopath will tend to be overly irresponsible including a lack of connection and support for family, poor occupational performance, failure to honor financial obligations, participating in behaviors that put others at risk, and a parasitic lifestyle (Cleckley, 1976). The antisocial behaviors of the psychopath also must be varied, frequent and persistent which APD only requires frequency.

Hare devised the Psychopathy Checklist (PCL) in 1980 and revised edition PCL-R in 1991 to assess the characteristics of psychopathy. The PAI Antisocial scales also provide information regarding the subject's level of antisocial thinking, attitudes and beliefs that are typical of a psychopathic personality. Edens and colleagues (2000) found moderate correlations between the ANT scale and the Hare PCL-SV and PCL-R in a study with forensic psychiatric patients and sex offenders. However, further analysis revealed that after the variance for the PCL behavioral factor was removed, the interpersonal factor did not correlate with any ANT scales, indicating that the Psychopathy Checklist measures more than antisocial behavior.

Psychopathy and Sexual Offenders

The association between psychopathy and sexual deviance is strong despite the lack of obvious similarity between the two concepts as they are commonly measured. Sexual deviance refers to the presence of persistent attraction to illegal sexual acts (i.e. child molestation and rape) or the presence of a paraphilia (Hanson & Morton-Bourgon, 2005). Previous studies (Brown & Forth, 1997; Serin, Malcolm, Khanna, & Barbaree, 1994) have shown differing rates of psychopathy in sexual offenders ranging from 10% to 35% depending primarily on the heterogeneity of the sample. Rapists and mixed victim offenders (i.e. victims both above and below the age of 14) have greater rates, 35.9% and 64%, respectively (Porter, Fairweather, Drugge, Herve, Birt & Boer, 2000). Through a meta-analysis including 29,450 sexual offenders, Hanson and Morton-Bourgon, (2005) determined that the factors most associated with sexual recidivism were sexually deviant interests ($r = .30$) and antisocial attitudes ($r = .23$). Hildebrand, de Ruiter and Vogel (2004) found a significant relationship between psychopathy and sexual recidivism, with rates of .34, .47, .55, and .73 for sexual recidivism nonsexual violent recidivism, all violent recidivism and general recidivism, respectively. For individuals with high psychopathic characteristics ($PCL-R \geq 26$), the reconviction rates were significantly higher than individuals with lower scores were. A meta-analysis (Hanson & Morton-Bourgon, 2005) found an overall effect between the presence of psychopathy and sexual recidivism ($d=.29$) nonsexual violent recidivism ($d=.57$) and any violent recidivism ($d=.58$). Despite the assertion of these several studies, psychopathy has been shown to be stronger predictor of future general and violent recidivism than it is for the prediction of sexual recidivism.

Meloy (2002) proposes nine explanations for the co-occurrence of psychopathy and deviant sexual behavior: 1) search polygny, 2) callousness and lack of empathy, 3) lack of bonding, 4) sensation seeking, 5) grandiosity, 6) entitlement, 7) part-object relations, 8) predatory versus affective violence, and 9) leaving by sex partners (Meloy, 2002). Search polygny describes the male behavior of hunting for females and attempting to impregnate as many as possible. As evolutionary theory would suggest, the most successful males copulate with more females of reproductive stature and thus increase the likelihood that their genes will survive. Because of this behavior, the number and possibility of non-consenting post-pubescent female victims increases (Meloy, 2002).

Psychopaths are typically callous and unempathetic (Hare, 1991). Their lack of empathy decreases their attachment to others and may increase the chance of sadistic behavior (Meloy, 2002). Due to the lack of empathy, psychopaths typically have difficulty forming secure bonds with steady mates, increasing the likelihood that they experience frequent separations from partners and sexually deviant behavior. The pursuit and risk of engaging in external sexual opportunities may also satisfy the psychopath's need for stimulation and sensation seeking. Criminal sexual behaviors, such as rape, peeping and exposure, and taboo or unwilling sexual partners are also risky and may provide excitement (Meloy, 2002). Two studies (Harris, Rice, Quinsey, Lalumiere, Boer & Lang, 2003; Rice & Harris, 1997) determined that rapists and child molesters with higher levels of psychopathic traits and sexually deviant interests have higher recidivism when calculated through a survival analysis over a greater than 10 year period.

Grandiosity and entitlement are large aspects of the psychopath's inherent

narcissism (Hare, 1993). The psychopath will typically attempt to control and deceive others to assure himself the position of power in the relationship (Meloy, 2002). He may believe he is entitled to whatever he wants despite the harm that others may suffer as a result. “The psychopathic individual wants what he wants when he wants it” (Meloy, 2002). As the level of entitlement and grandiosity increase, the need for self-rationalization decreases because the individual is less likely to consider his behavior offensive.

Some theories have proposed that psychopaths have difficulty processing the world in a real and meaningful manner (Kernberg, 1984, Gacono & Meloy, 1994). This unrealistic view of the world may result in a part-object outlook in which people and things are viewed distinctly as polar, good-bad, or where only part of an individual is valued (Kernberg, 1975). To explicate, a psychopath may only view a woman as her separate sexual organs, breast, nipple, vagina, instead of a whole being who is composed of separate parts. Oliver and Wong (2006), in a study with 156 male federal sex offenders with an average follow-up of 9.9 years, found an interaction between sexual deviance and psychopathy, suggesting that psychopathy may potentiate sexual recidivism. As explained by the authors, this relationship may occur because as psychopathic traits increase there is a higher likelihood that the victim is seen as an object for self-gratification.

Psychopaths appear to be more likely to commit violent offenses than non-psychopathic individuals are (Hare, 1998, Meloy, 1992). Current models of violence propose a bimodal separation of violence into predatory and affective. Predatory violence is premeditated and lacking emotion, while affective violence is reactive and

typically involves a great deal of anger or fear (Meloy, 2002). Both are present more frequently in psychopathic criminals than in non-psychopathic criminals and may contribute to the successfulness of repeated predatory sexual behavior (Serin et al., 2001).

A psychopath designation can provide the therapist or evaluator with a great deal of information about the individual's criminal prowess and interpersonal attitudes. As previously addressed, psychopaths are more likely to commit criminal acts than non-psychopaths; when combined with deviant sexual interests (e.g., rape fantasies and attraction to children) psychopathy may increase the likelihood that sexual offenses will be perpetrated.

Recent literature has supported Hart and Hare's assertion (1997) that psychopaths in group and insight therapies may learn to manipulate and deceive others through treatment. In a follow-up to the Seto and Barbaree study (1999), Barbaree (2005) reported, that over an average follow-up period of 62 months, there were differences in recidivism due to psychopathy. Offenders who scored a 15 or higher on the PCL-R and had good treatment behavior were more likely to recidivate than offenders with similar PCL-R scores and poor treatment behavior and all individuals with low PCL-R scores were. Looman and colleagues (2005) reported offenders with high psychopathy scores (greater than 25) who had poor treatment behavior actually recidivated at a same level as low-psychopathic offenders. This data indicates that a psychopath who performs well in treatment may actually learn new tricks and have a greater advantage over future victims.

Demographics and Criminal History

Risk prediction is an essential part of the assessment process (Laws, Hudson, & Ward, 2000). Doren (2002) defines risk assessment as evaluation of an offender's

likelihood that he will behave in a specific manner in the future. Beginning in 1954 with the work of Meehl, actuarial risk prediction has proven to be far more effective than clinical prediction. Multiple studies since 1954 have continued to support the use of actuarial procedures to predict risk and suggest that reliance on clinical prediction alone would be considered unethical professional practice (Grove & Meehl, 1996, Hanson & Bussiere, 1998, Mossman, 1994). Actuarial risk prediction entails the combination of objective measures (e.g., Static-99, PCL-SV, as well as, others) to predict the risk of reoffense. The current method for predicting sexual recidivism involves the rating of specific factors associated with recidivism including offender's age, criminal and violent offense history, sexual deviance and victim characteristics such as gender, age, and relationship to the offender.

Currently, most of the predictive power has come from aforementioned static factors (e.g., age of offender, criminal history, relationship history, and victim type) because these are least likely to be influenced by individual situational occurrences (Bonta, Law & Hanson, 1998). These factors have shown valuable in making prediction of long-term recidivism. For the purposes of recidivism studies, Hanson and Bussiere defined r - values of $>.30$ as large correlations, $.20 - .30$ moderate, $.10 - .20$ small correlations. Hanson and Bussiere (1998) found a negative relationship between age and sexual recidivism ($r = -.13$); this same correlation was reported for a meta-analysis of 4,673 sexual offenders completed by Hanson (2002). However, this relationship was different for rapists, extrafamilial and intrafamilial child molesters with rapists' recidivism rates decreasing linearly with age while extrafamilial child molesters' recidivism rates showed very little decline until the age of 50 (Hanson, 2002).

Intrafamilial child molesters had the lowest recidivism rates with a peak of 30.7% between the ages of 18-24; however, extrafamilial child molesters highest risk age range being between 25 and 35.

A meta-analysis reported that offenders who have never had a long-term intimate relationship have a greater likelihood to re-offend sexually ($r = .11$) than offenders who can form long-term intimate partnerships (Hanson & Bussiere, 1998). Intimacy deficits were also found to have a small significant relationship ($d = .15$) with sexual recidivism (Hanson & Morton-Bourgon, 2005). Amongst the subcomponents of intimacy problems, *Emotional Identification with Children* had a greater relationship with sexual recidivism ($d = .42$; 3 studies; Hanson and Morton-Bourgon, 2003). Craissati and Beech (2004) found that child molesters were typically older than rapists were at time of offense and were more likely to have had a long-term relationship.

Criminal history variables have also been determined to be predictive of sexual recidivism (Andrews & Bonta, 2003; Hanson & Bussiere, 1998). The general idea is that past criminal behavior is one of the strongest predictors of future criminal behavior (Andrews & Bonta, 2003). Hanson and Morton-Bourgon reported that any prior criminal history is related to sexual recidivism ($r = .32$). Hanson and Thornton (Unpublished data, as reported by Harris et al., 2003) found a small positive relationship between convictions for nonsexual violent offenses and sexual recidivism. Thornton and Travers (1991, as cited by Harris et al., 2003) found that prior convictions of nonsexual violence were predictive of rapes and other research (Hanson & Thornton, 2002) has found that a history of violent crimes is predictive of sexual recidivism. The presence of prior sex offenses has also shown to be positively related the future sexual recidivism ($r = .19$;

Hanson & Bussiere, 1998).

Previous literature on static factors associated with sexual offending has addressed issues within the offender and about the victim and social norms and adjustment (Hanson, 1998, Hanson & Bussiere, 1998, Harris, Rice & Quinsey, 1998). Hanson (1998) suggests that a pattern of sexual deviance ($r = .20$; Hanson & Bussiere, 1998) including exhibitionism, voyeurism, a broad victim choice and the presence of a male, stranger or unrelated victim have all been associated with increased risk to reoffend sexually. Harris and Hanson (Unpublished manuscript, as cited by Harris et al., 2003) indicates that having unrelated victims is empirically related to an increase in sexual recidivism risk. Offenders who have a stranger victim also have an increased risk for sexual recidivism ($r = .22$), considering that these offenders are less discriminant about victim choice and have a larger potential victim pool (Hanson & Bussiere, 1998). As with the other victim choice indicators, the presence of a male child or adult victim is indicative of increased sexual deviance and recidivism ($r = .10$; Hanson & Bussiere, 1998).

The current study will use the Static-99 as the actuarial risk assessment due to its inclusion of the aforementioned static factors and ease of scoring (Hanson & Thornton, 1999). There are four risk levels that are arranged according to the distinct raw score on the Static-99, with scores of 0-1 being low risk, 2-3 being medium-low risk, 4-5 medium-high risk and scores of 6 and above rated as high risk. The reported 15-year sexual recidivism rates for the Static-99 risk levels are 7% - 13% for low risk, 16% -19% for medium-low risk, 36% -40% for medium-high risk, 52% for high-risk offenders (Harris et al., 2003). Craissati and Beech (2004) determined that rapists were typically rated as

having higher risk by the Static-99; however, they did not have statistically higher recidivism than child molesters over a three-year follow-up.

The current literature has attempted to determine the recidivism rates of sex offenders to better inform treatment providers and community supervisors about the risk levels associated with different types of sex offenders. As previously stated, extrafamilial child molesters with male victims, tend to have the highest rates of recidivism due to the chronic nature of their pathology and increased victim pool. Rapists tend to have the next highest reoffense rate likely due to higher antisocial attitudes and beliefs and increased risk for violent offenses. Incest perpetrators and intrafamilial child molesters have the lowest levels of recidivism. When considering the fact that any reoffense is harmful to both the offender and his victim, there has been a public outcry for effective treatment programs for sex offenders.

Treatment of Sexual Offenders

Existing treatments for sexually deviant behavior rely heavily upon cognitive-behavioral based group treatment (Bradford, 2000; Marshall & Eccles, 1996). Research has suggested that individualized treatment enveloped in the framework of the group can greatly enhance the offender's evolution and motivation (Marshall & Eccles, 1996). As sex offender research progresses, the therapeutic community (TC) adapted treatment programs will likely bolster effectiveness and reduce recidivism. The treatment program used for the current study involves a nine to twelve month cognitive-behavioral based group therapy. The program has four 60-man therapeutic communities that allow for 24-hour treatment supported by the TC members and supervised by the unit team consisting of three therapists.

Currently, the methodology for evaluating treatment programs is limited by several factors. The primary method uses recidivism rate comparisons between sex offenders who completed treatment and offenders released without treatment are conducted to determine if treatment has had an effect on the offender. The inherent flaws associated with this type of inference lie in the problems associated with sex crime reporting (Wood, Grossman, & Fichter, 2000). Many sex crimes go unreported and a large proportion of the reported crimes ultimately are unprocessed and not prosecuted. Due to these instances, the reported recidivism rates are significantly lower than the actual rates of sex crime recidivism (Wood, Grossman, & Fichter, 2000). In the community, treatment effectiveness for non-offender populations is judged quite differently; the therapist can reasonably trust if the client reports significant reduction of symptoms, that treatment was effective. However, with the degree of deception in the offending population, some offenders who complete treatment may not have changed at all, others may change only slightly. Thus, it may be very difficult to determine positive treatment outcome (Wood, Grossman, & Fichter, 2000). Nevertheless, a meta-analysis (Hall, 1995) determined that cognitive behavioral treatment reduced recidivism by approximately 30% (from 27% to 19%) over an average follow-up period of 6.85 years (SD = 5.95). Cognitive-behavioral and hormonal treatments (Medroxyprogesterone acetate or castration) were found to be more effective than strictly behavioral treatments (Hall, 1995). Hormonal treatment was found to be similarly effective with considerably higher rates of refusal and dropout than cognitive-behavioral therapy. This meta-analysis also indicated that in the studies with random assignment to treatment and control groups, the participant's motivation for treatment did not influence treatment effect size.

Treatment Completion

Contemporary research predicting treatment attrition has demonstrated that several internal and external issues can enhance and hinder an offender's completion (Andrews & Bonta, 1998, 2003; Craissati & Beech, 2001). Some mental health variables have also been related to treatment completion. In several studies, the diagnosis of Antisocial Personality Disorder has been associated with treatment dropout (Abel, Mittelman, Becker, Rathner, & Rouleau, 1988). However, Shaw and colleagues (1995) did not find any significant relationship between APD and treatment attrition. Marques and colleagues (1994) determined that rapists tend to be resistant to treatment and less likely than incest perpetrators and pedophiles to accept responsibility for their behavior.

Treatment motivation and resistance have a demonstrated relationship to sex offender treatment completion, and in some studies have been shown to be significantly different for sex offender groups. Beyko and Wong (2005) determined that treatment completers had greater motivation and insight than non-completers. Marques and colleagues (1994) determined that incest perpetrators and pedophiles tend to be less resistant to treatment and more likely than rapists to accept responsibility for their behavior. Craissati and Beech (2004) found that rapists were less likely to participate in treatment and 57% of them were rated by therapist as being treatment non-compliant.

In research with the PAI, Caperton, Edens and Johnson (2004), using an incarcerated sex offender population, determined that a T score of >43 on the Treatment Rejection scale (RXR; Morey, 1991) indicated little motivation for treatment. Using this cut score, Caperton, Edens and Johnson (2004) found that offenders with higher scores were "highly likely" to be treatment non-compliant in the first year of treatment.

Andrews and Bonta (2003) have suggested three principles that are necessary for effective correctional treatment programs. The risk, needs and responsivity principle refers to the consideration of each individual offender's characteristics when assigning, planning, and conducting treatment. The Risk Principle addresses the use of the offender's recidivism risk to match an offender with the level of treatment; high-risk offenders should be placed in high-intensity treatment. The Needs principle refers to the treatment addressing the offender's criminogenic needs and lastly, the Responsivity Principle suggests that treatment should be adjusted based on the offender's insight, cognitive ability, and culture (Andrews and Bonta, 2003). Through a discriminant function analysis of treatment completers and non-completers, Beyko and Wong (2005) determined that risk level, measured by the Static-99, did not differ for the completers and non-completers; however, this may be a function of the strictly high-risk treatment program. Despite there being no difference on level of risk, the level of antisociality was significantly different, with non-completers having greater antisociality and being more disruptive on the unit. Two Responsivity measures also discriminated between completers and non-completers; treatment motivation and insight were both higher in treatment completers (Beyko & Wong, 2005).

Some literature has suggested that high and low risk offenders should not be receiving the same level of treatment and have even asserted that intense treatment may be detrimental to low risk offenders (Andrews & Bonta, 1998). The present study may provide a window into the triage process for sex offender treatment and ultimately allow valuable and limited resources to be allocated to treat and supervise high-risk offenders to reduce recidivism. The completion of treatment has shown to be a relatively effective

method to reduce recidivism (Hall, 1995). However, aside from a few studies, the literature lacks a sufficient exploration of the ability of the Static-99 risk score, Personality Assessment Inventory (PAI) and the Hare Psychopathy Checklist-Screening Version (PCL-SV) to predict successful completion of a sex offender treatment program. One study with the PAI, found that individuals with low treatment motivation were “highly likely” to be treatment non-compliant in the first year of treatment (Caperton et al., 2004). Having this information about each offender may allow for better treatment planning that could help reduce the risk of noncompliance. Of interest to correctional departments may also be the predictive ability of these scales to predict which offenders may be appropriate for community treatment.

As the research has shown, the most effective way to reduce recidivism is through a comprehensive treatment program that addresses each offender’s individual risk and needs (Andrews & Bonta, 1998; Hall, 1995). The present study attempted to determine if the current assessment battery could assist in identifying offenders who are more likely to complete an institutional-based treatment program. The current treatment program consisted of a therapeutic community where all offenders received similar treatment including the level and intensity of psychotherapeutic interventions and psycho-educational classes.

Summary of Key Conceptual and Methodological Issues

Existing research with sex offenders is limited with respect to treatment program assessment and compliance. The research has also failed thoroughly to address the use of self-report measures with criminal populations because there appears to be a resounding assumption that the results cannot be trusted. However, a battery of measures may

provide a clearer picture of the offender's background, current mental state, motivation for treatment, and level of sexual deviance.

Several of the relatively well-established assessment measures (e.g. PCL-SV and PAI) have little methodologically sound research supporting their utility with incarcerated sex offenders involved in a treatment program. The present study attempted to address the utility of the aforementioned assessment battery to determine differences between types of sex offenders and predict treatment completion.

The modern sex offender assessment protocols have great limitations that can typically be attributed to the measures themselves. There are a few measures, including the Static-99 and PCL-R, which have multiple studies addressing their use with sex offenders; however, very few studies have combined these and other measures to increase predictive strength. Only one study (Caperton et al., 2004) has used the PAI Treatment rejection scale with sex offenders to predict institutional treatment response. The recent literature has addressed the assessment of sexual offenders in the community and institution and has found limited support for each of the aforementioned measure's utility.

The Current Study-Hypotheses

Previous research with sex offenders has typically addressed either assessment or treatment. Very little research has attempted to use psychological measures to predict treatment completion. The current assessment literature has also typically excluded offenders who have strictly statutory sexual offenses when conducting typology comparisons. The current study has extended the research assessment parameters to

include statutory offenders and attempted to predict treatment completion. The following summary proposition statement and hypothesis were proposed:

1. The psychological typologies, as determined by the assessment battery consisting of the Personality Assessment Inventory, Psychopathy Checklist-Screening Version, and Static-99 scores will differ for rapists, statutory offenders, intrafamilial and extrafamilial child molesters. This study proposed that statutory offenders will be more similar to rapists with respect to psychopathy total score than extrafamilial child molesters and intrafamilial offenders. It is expected that (a) rapists and statutory offenders will have greater antisociality and violence as shown by higher psychopathy total scores and Personality Assessment Inventory Antisocial and Aggression scale scores than extrafamilial child molesters and intrafamilial offenders. Consistent with previous recidivism statistics, (b) the Static-99 recidivism risk score should be highest for extrafamilial child molesters, lower for rapists and statutory offenders, with intrafamilial offenders having the lowest scores.
2. Sex offender group membership and these psychological measures will predict successful completion of sex offender treatment. Specifically, I anticipate a negative relationship between psychopathy, Static-99 risk score, and the PAI scales, Antisocial, Aggression, and Treatment Rejection, and the completion of treatment. According to prior research, child molesters have been shown to be more open and motivated for treatment; thus, we believe child molesters will be more likely than rapists to complete treatment.

Method

Participants

All of the 583 male sex offenders whose data were eligible to be included in this sample were convicted of at least one sex or sex-related offense and were incarcerated by the Missouri Department of Corrections. Each offender was referred by the court or parole board to participate in the nine-month Missouri Sex Offender Program between November 2004 and July 2006. Each offender gave informed consent to participate in the treatment program and willingly completed the assessment process.

The offenders were separated into four groups depending upon the specifics of the sex or sex-related offense perpetrated by the offender. The four possible categories are rapists, statutory sexual offenders, intrafamilial child molesters or incest perpetrators and extrafamilial child molesters. Due to the intricacies of the criminal justice system, offenders may have convictions for crimes that do not indicate the explicit actions perpetrated against the victim. For the purposes of the current study, each category was defined by the specific sexual acts and not necessarily by the offender's conviction. Rapists (n = 129) are individuals who have committed a non-consenting sexual act against a non-related victim, over the age of 13, that may involve the use or threat of force or the victim's inability to consent, such as being intoxication or mentally disabled. A related victim was determined by the definition provided by the Static-99, which considers any victim that has a relation too close to marry or has lived with the offender for longer than two years (Harris et al., 2003). This would include legally married spouses, live-in girlfriend/boyfriend and their children after living in the same residence for two years. Statutory sexual offenders (n = 140) committed a sexual act against a

consenting non-related victim, between the ages of 13-17, who is not of legal age to consent to sexual contact. Intrafamilial child molesters and incest perpetrators (n = 152) offended against a related victim, typically under the age of 14 and five years younger than the offender; however, incest may involve an older victim. Extrafamilial child molesters (n = 162) have offended against at least one unrelated child, age 13 and below. Extrafamilial offenders may have also offended against a related victim, but are classified as extrafamilial, because having any victims outside the family has been shown to increase recidivism.

Four offenders with multiple crime types and victim age groups were excluded from the study because they did not clearly fall into one of the categories. Five offenders with only non-contact offenses (e.g. voyeurism, exhibitionism, and possession of pornography) were also excluded because they could not be classified in any of the offender categories.

To test the first hypothesis, assessment results for offenders who were evaluated between 11-1-04 and 7-31-06 (N=583) were used. However, for hypothesis 2, only a portion of the total sample was included in the analysis due to needing a full 9-12 months to complete the sex offender treatment program. This (Treatment Eligible) sample included 377 offenders assessed between 11-1-04 and 11-30-05.

Procedures

Each offender was assigned to the Missouri Sex Offender Program according to his earliest release date from incarceration; thus, most participants had a release date falling between June 2005 and February 2008. According to the current policy, offenders were scheduled to attend Phase I of the treatment program between 14-18 months from

their earliest release. However, some offenders fell outside of that range due to short sentences and extenuating circumstances associated with correctional institution policies. Upon assignment to the program, they participated in a one-day orientation in which an overview of the program was presented and the PAI was administered. After the offender consented to treatment, each offender's institutional file was reviewed for the purposes of scoring the PCL-SV and Static-99. The institutional file contains information from probation and parole reports, court reports, police reports, previous psychological reports, family background information, criminal history, educational and occupational history, intimate relationships and children, and substance use. The primary researcher, through a file review and sometimes including an interview to clarify and expound upon information contained in the file, scored the PCL-SV and Static-99 for every offender.

Measures

Personality Assessment Inventory (Morey, 1991). The Personality Assessment Inventory (PAI) (Morey, 1996) is a relatively new self-report measure being used in correctional settings to assess an offender's personality and risk for institutional misbehavior and community recidivism. Benefits of the PAI over conventional personality testing are the significantly lower number of items (344), the reduced time needed to complete (approximately 60-90 minutes) and a fourth grade reading level. The PAI items are scored on a Likert scale from one (false) to four (very true). The PAI software aides in scoring and provides an interpretation that considers the subject's level of response style, motivation, and defensiveness. Aside from the former, the PAI also gives information about malingering, aggressivity, psychopathy and antisociality, and

treatment amenability (Morey, 1991).

The measure consists of four validity scales, eleven clinical scales, four treatment related scales and two interpersonal scales. Ten of these scales are further broken down into three or four subscales. The current study primarily focused on the Antisocial, Aggression and Treatment Rejection scales; however, the other clinical scales were also examined to determine if a relationship with the offender categories existed. Morey (1991) reported sound reliability for the measure, citing full-scale median alphas of .81, .82, .86 for the normative, college and clinical samples, as well as strong reliability across multiple demographic variables including race, age and sex. The research also listed four-week test-retest reliability at .86 (Morey, 1991).

PAI Validity Scales (Morey, 1991). There are four validity scales assessed by the PAI; Inconsistency (ICN), Infrequency (INF), Negative Impression Management (NIM), and Positive Impression Management (PIM). Both the ICN and INF scales are used to determine an invalid response style possibly due to careless, inconsistent, or random responding or reading difficulties. ICN measures the participant's level of consistency across correlated items. INF determines if a client is responding carelessly through endorsement of neutral items with high or low endorsement rates (Morey, 1991). NIM and PIM measure the client's level of impression management, either negative or positive. If either ICN or INF is two standard deviations above the mean for the clinical sample, the measure is determined to be invalid. Interpretive results are provided despite elevations on NIM and PIM; however, the results should be interpreted cautiously. Thus, for the current study the validity scales were examined to determine whether to use the clinical scales.

Treatment Rejection (RXR; Morey, 1991). The Treatment Rejection scale measures the offender's willingness and motivation to participate in psychological treatment. Very little research has been conducted on this scale, however, some preliminary studies have suggested that RXR has significant negative correlations with the Wiggins' Poor Morale MMPI scale ($r = -.78$) and moderately with the Beck Depression Inventory ($r = -.3$ to $-.4$) (Morey, 1991).

Aggression (AGG; Morey, 1991). The Aggression scale provides information relevant to the assessment of aggression, anger and hostility. This scale consists of three subscales: Aggressive Attitude (AGG-A), Physical Aggression (AGG-P), and Verbal Aggression (AGG-V). Walters, Duncan and Geyer (2003) determined that AGG was predictive of disciplinary reports and aggressive reports (threats, fighting and assaults) with Area Under the Curve of .651 and .632, respectively. For the program the study obtained data from, when offenders received institutional rule violations, they were placed in a disciplinary segregation unit and were terminated because of the severity of the rule violation, itself, or his inability to participate. Thus far, no study has addressed the use of Aggression scales to predict recidivism among sex offenders.

Antisocial personality (ANT; Morey, 1991). The Antisocial Scale (ANT) is composed of three subscales: Antisocial Behaviors (ANT-A), Stimulus Seeking (ANT-S), and Egocentricity (ANT-E). These scales provide the evaluator with information regarding the subject's level of antisocial thinking, attitudes and beliefs that are typical of a psychopathic personality. Edens and colleagues (2000) found moderate correlations between the ANT scale and the Hare Psychopathy Checklist - Screening Version and PCL-R in a study with forensic psychiatric patients and sex offenders. The correlations

between the ANT-A, behavioral aspects of psychopathy, and the PCL-R and Psychopathy Checklist - Screening Version total scores were highest ($r = .49$, $r = .56$, respectively) (Edens, Hart, Johnson, Johnson, & Oliver, 2000).

Psychopathy Checklist-Screening Version (Hart, Cox, & Hare, 1995). The Psychopathy Checklist- Screening Version (PCL-SV) is a brief clinician-rated measure used to assess psychopathy (Hart, Cox, & Hare, 1995). Similar to the PCL-Revised, the Hare Psychopathy Checklist - Screening Version is two-faceted and yields dimensional and categorical indexes of psychopathy. The revised 20-item scale was reduced to the current screening version of 12 items. This was possible due to the high internal consistency of the Psychopathy Checklist Revised (Hart et al., 1995). PCL-SV consists of two scales. One assesses the interpersonal and affective characteristics of psychopathy; the other scale measures the behavioral component of psychopathy (Hart et al., 1995). Each scale consists of six items which are rated from 0 to 2, defined as 0 = item does not apply to subject, 1 = item is partially consistent with individual, and 2 = item applies to the individual and his or her behavior is consistent with the description. The measure can yield a score between 0 and 24 with scores under 12 being indicative of a non-psychopath and scores 18 and above indicating psychopathy (Hart et al., 1995).

Research with the PCL-SV has shown that the measure is reliable and valid for determining the presence of psychopathy in already sentenced offenders (Hart et al., 1995). The initial studies reported internal consistency reliability estimates ranging from .50 to .79; each item was also correlated with the total score ranging from .41 to .64 (Hart et al., 1995). The Cronbach's Alphas for Part one and Part two in a population of offenders were .78-.89, .76-.80, respectively. For the initial samples, the two factors were

correlated ranging from .14 to .73 with a weighted mean correlation of .53 (Hart et al., 1995). The items for part one had slightly higher correlations with the total scores than part two had. Reliability was also high with inter-rater reliability at .84 and averaged ratings across raters at .92. Across five samples, the PCL-SV has total score correlations with the Psychopathy Checklist Revised ranging from .55 to .84 (Hart et al., 1995). The PCL-R total scores correlated higher with Hare Psychopathy Checklist - Screening Version factor 2 (.47- .88) as expected because of the greater weight given to factor two in the PCL-R total score. Due to the high correlation between factors, and the use of the total score to determine psychopathy in the research literature, this study used the total score in the analyses.

Static-99 (Hanson & Thornton, 1999, 2000) The Static-99 is a clinician-rated measure consisting of ten static factors that could be used to predict the risk of sexual recidivism. The items were chosen because of their correlation with sexual reoffending and ease at which they can be answered with file information. The ten-item measure includes demographic variables, victim characteristics and criminal history of the offender (Harris, Phenix, Hanson, & Thornton, 2003). After scoring by a rater, the offender is assigned to either the low risk (0-1), medium-low risk (2-3), medium-high risk (4-5), or high-risk (6-12) category (Hanson and Thornton, 1999). The initial study has provided recidivism rates for a five-year follow-up period for each level of risk on the Static-99 (Hanson and Thornton, 1999). The Static-99 has been found to be so robust in its predictive ability that a slightly modified Static-99 rendered similar results (Nunes, Firestone, Bradford, Greenberg and Broom, 2002). The altered measure consisted of the allowance of the “Any Convictions for a Non-Contact Sex Offenses” to be omitted from

the protocol if the information was not available. The Nunes et al. (2002) sample had similar linear increases in recidivism, over an average 7.3-year follow-up, in accordance with categorical increases in risk level.

Three studies (Barbaree et al., 2001; Hanson, 2001; Harris et al., 2002) have reported inter-rater reliabilities for the Static-99 ranging from .80-.96 for item and total score agreement. The Nunes et al. (2002) study also compared the predictive value of the Static-99 to the Sexual Offender Risk Appraisal Guide (SORAG) and phallometric assessment. Both actuarial measures performed at a better than chance rate when predicting sexual recidivism with Area Under the Curve (AUC) statistics of .70 and .65, respectively for the Static-99 and SORAG. The Static-99 performed similarly to the SORAG for sexual and violent recidivism, despite the increased amount of information obtained for the SORAG (violent recidivism AUCs of .69 for both measures). After an analysis using sequential logistic regression entering the Static-99 first, only the addition of the phallometric index for pedophilia added significant predictive power to the sexual risk equation (Nunes et al., 2002).

Results

Data Screening

Of the five hundred and eighty-three offenders whose data were considered for this study, data from eight participants were removed due to missing scores, leading to a $N = 575$. This data set was then screened for univariate and multivariate outliers, using a standardized cut score of ± 3.29 , 22 participant's data were eliminated from the study for univariate outliers. Further screening for multivariate outliers resulted in the elimination of 14 more subjects' data. The subjects were eliminated due to having Mahalanobis'

distances larger than a calculated critical chi-square value of 35.718. The choice to eliminate these cases was based on consideration of the overall database. These individuals presented with extreme scores on one or more variables reducing the likelihood that these individuals were appropriate members of the chosen population.

Following the initial screening, the data for the remaining 539 participants were screened for invalid PAI protocols. Using the cut scores proposed by Morey (1996) for valid profiles Positive Impression Management (PIM) ≥ 65 , Negative Impression Management (NIM) ≥ 92 , thirteen subjects were excluded from the sample for positive impression management. One hundred and thirty participants were excluded from the analysis due to an invalid response style possibly resulting from random or careless responding, confusion or reading difficulties, Inconsistency (ICN) ≥ 65 , Infrequency (INF) ≥ 65 (Morey, 1996). For clinical purposes, these protocols would have been determined uninterpretable due to the invalid response style. However, for this study these protocols were included in the data for the "Total" sample because there were a significant number of individuals. These 130 participants were different from the remaining sample of 396 on several scales of the PAI. Table 1 indicates these 130 offenders had significantly higher scores on the Negative and Positive Impression Management scales and had higher levels of anxious, paranoid, and schizophrenic characteristics.

This process reduced the final "Valid" PAI sample to 396 individuals consisting of 107 Intrafamilial Child Molesters, 109 Extrafamilial , 98 Statutory Offenders, and 82 Rapists. During the data analysis, it was determined that the PAI Somatic Complaints and Suicidality scales had to be excluded from the analysis because the distribution was

Table 1

Means and Standard Deviations of Predictor Variables as a Function of PAI Response Style

Predictor Variable	<u>Invalid Response</u> <u>Style</u> n = 130		<u>Valid Response</u> <u>Style</u> n = 396	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Hare Score	10.38	3.25	9.73	3.85
PAI Negative Impression Mgmt.	55.91 _a	12.25	52.45 _a	9.47
PAI Positive Impression Mgmt.	49.98 _b	9.55	47.06 _b	9.86
PAI Anxiety	56.58 _c	9.98	53.18 _c	10.89
PAI Anxiety Related Dis.	57.12	10.26	54.96	11.33
PAI Depression	56.98	9.46	54.44	10.39
PAI Manic	52.02	10.50	51.18	10.39
PAI Paranoid	59.67 _d	9.04	56.18 _d	9.88
PAI Schizophrenia	55.72 _e	11.23	52.60 _e	11.37
PAI Borderline	57.42	9.19	57.22	10.60
PAI Antisocial	59.02	8.61	60.08	9.94
PAI Alcohol Use	58.82	13.55	58.91	17.82
PAI Drug Use	63.82	13.19	61.60	18.47
PAI Aggressivity	52.28	10.79	51.14	11.34

Note. Means with the same subscript differ significantly at $p < .01$.

not normal due to significant skew. The Alcohol use scale also appeared to be skewed, however, this was expected due to the relatively high level of substance abuse in sex offending populations. From this sample of 396, there were 237 “Treatment Eligible” offenders used in the logistical regression to determine predictive strength of the measures.

Due to the large number of offenders and significant differences between the groups, a separate discriminant function analysis, including these 130 participants, was completed. This sample will be referred to as the “Total” sample from here forward and consisted of 140 Intrafamilial Child Molesters, 143 Extrafamilial Child Molesters, 129 Statutory Offenders and 114 Rapists. Table 2 and 3 provide the intercorrelations for predictors for the “Total” and “Valid” samples.

Hypothesis One/ Summary Proposition Statement

Hypothesis 1 predicted the psychological typologies, as determined by the assessment battery consisting of the PAI, PCL-SV, and Static-99 scores, will differ for rapists, statutory offenders, intrafamilial and extrafamilial child molesters. This study proposed that statutory offenders would be more similar to rapists with respect to psychopathy total score than extrafamilial child molesters and intrafamilial offenders. It was expected that (a) statutory offenders and rapists would have greater antisociality and violence as shown by higher psychopathy total scores, PAI Antisocial (ANT), and Aggressivity (AGG) scale scores than extrafamilial child molesters and intrafamilial offenders. Consistent with previous recidivism statistics, (b) the Static-99 recidivism risk

score was expected to be highest for extrafamilial child molesters, lower for rapists and statutory offenders, with intrafamilial offenders having the lowest scores.

Rationale for Analysis

To answer the questions posited by this hypothesis, the data were analyzed using a multiple discriminant function analysis to determine which independent variables distinguish the four naturally occurring sex offender groups. Both overlapping samples, the “Total” sample of 526 offenders and the “Valid” sample of 396 offenders were evaluated with discriminant function analysis. The predictor variables evaluated were the Psychopathy Checklist Screening Version (PCL-SV) and the following subscales of the Personality Assessment Inventory; Anxiety (ANX), Anxiety Related Disorders (ARD, including phobias and obsessive traits), Depression (DEP), Mania (MAN), Paranoia (PAR), Schizophrenia (SCZ), Borderline Personality Disorder (BOR), Antisocial Personality (ANT), Alcohol Use (ALC), Drug Use (DRG), and Aggression (AGG). Initially, sexual recidivism risk was considered, however, due to the overlap between the measure (Static-99) and the group separation criteria, the measure was eliminated from this analysis. In the initial analysis including the Static-99, the Static-99 accounted for more than 91% of the variance and appeared to overshadow all other variables.

Multiple Discriminant Function Analysis (MDA) was used for this analysis of this type because the number of groups had already established and according to theory, these groups should differ on the variables chosen (Marketing BYU, 2006, StatSoft, 2003). For this analysis, an F test or Wilks’ Lambda was computed for the entire model and because the model was significant ($p < .001$), each predictor variable was assessed to

determine which predictor variables separated the groups. In the current analyses, there were three computed discriminant functions used to separate the groups.

The multiple discriminant function analysis results discussed herein addressed both overlapping samples. According to the Box's M tests for both samples, the tests were not significant so we concluded the groups do not differ in their covariance matrices, which is an assumption of Discriminant Analysis. This indicated that homogeneity of variance exists across the variables in the analysis.

Intercorrelations between Predictors

Tables 2 and 3 present the correlations between the predictor variables for the "Total" and "Valid" samples. For both samples, there were many significant correlations between the predictor variables. The Hare and Static-99 scores were significantly related to each other and to PAI scales ANT and AGG in both samples. Both samples also revealed several scales of the PAI to be highly correlated with one another including, ANX, ARD, DEP, SCZ, and BOR with correlations ranging from .61 to .81. ANT, AGG, ALC and DRG were also moderately related in both samples with correlations ranging from .23 to .65. In the "Total" sample, the validity scales were moderately related to several clinical scales. NIM was correlated with all PAI clinical scales with correlations ranging from .1 to .67; the lowest correlations were with ANT, AGG, ALC and DRG. PIM also had moderate negative relationships with all clinical scales ranging from -.23 to -.71. The inclusion of moderately to highly correlated predictor variables raises issues of multicollinearity, which can reduce the interpretability of the resulting multivariate analyses. In discriminant function analyses, high multicollinearity makes it difficult to understand which predictor variables are distinguishing between the groups.

Table 2

Intercorrelations for Predictor Variables for “Total” Sample (N = 526)

Measure	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>	<u>13</u>	<u>14</u>	<u>15</u>	<u>16</u>	<u>17</u>
1. Static99	---																
2. Hare	.41**	---															
3. PAI Inconsist	.06	.11*	---														
4. PAI Infreq	.17**	.15**	.36**	---													
5. PAI Neg Impress	.06	.04	.33**	.17**	---												
6. PAI Pos Impress	-.05	-.02	-.09*	.19**	-.4**	---											
7. PAI Anxiety	-.02	-.02	.32**	.13**	.62**	-.54**	---										
8. PAI Anxiety Related D	-.043	-.02	.19**	.04	.54**	-.52**	.71**	---									
9. PAI Depress	.01	-.03	.31**	.15**	.62**	-.44**	.80**	.59**	---								
10. PAI Mania	.12**	.17**	.09*	.07	.37**	-.43**	.27**	.46**	.14**	---							
11. PAI Paranoid	.18**	.20**	.32**	.20**	.52**	-.42**	.52**	.46**	.53**	.46**	---						
12. PAI Schizo	.02	.00	.3**	.13**	.67**	-.51**	.74**	.61**	.73**	.37**	.64**	---					
13. PAI Borderlin	.09*	.07	.21**	.02	.53**	-.71**	.69**	.61**	.63**	.42**	.63**	.67**	---				
14. PAI Antisocial	.23**	.27**	.11*	.01	.32**	-.53**	.32**	.34**	.26**	.49**	.47**	.43**	.60**	---			
15. PAI Alcohol	-.01	.12**	.11*	-.05	.16**	-.27**	.21**	.2**	.16**	.09*	.09*	.17**	.31**	.32**	---		
16. PAI Drug	.04	.2**	.2**	.08	.10*	-.23**	.18**	.17**	.16**	.17**	.22**	.18**	.33**	.47**	.56**	---	
17. PAI Aggress	.21**	.25**	.18**	.12**	.27**	-.48**	.32**	.25**	.28**	.41**	.49**	.38**	.58**	.62**	.23**	.34**	---

*p < .05. **p < .01.

Table 3

Intercorrelations for Predictor Variables for “Valid” Sample (n =396)

Measure	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Static-99 Score	---												
2. Hare Score	.39**	---											
3. PAI Anxiety	-.06	-.07	---										
4. PAI Anxiety Related Disorders	-.04	-.03	.74**	---									
5. PAI Depression	-.03	-.09	.81**	.74**	---								
6. PAI Mania	.11*	.16**	.24**	.81**	.12*	---							
7. PAI Paranoid	.18**	.18**	.49**	.24**	.5**	.44**	---						
8. PAI Schizoph	-.02	-.04	.74**	.49**	.72**	.34**	.61**	---					
9. PAI Borderline	.06	.05	.72**	.74**	.66**	.39**	.64**	.7**	---				
10. PAI Antisocial	.22**	.3**	.32**	.72**	.25**	.49**	.5**	.43**	.6**	---			
11. PAI Alcohol Use	-.02	.15**	.23**	.32**	.18**	.1	.12*	.19**	.31**	.32**	---		
12. PAI Drug Use	.04	.22**	.19**	.23**	.14**	.18**	.24**	.19**	.33**	.51**	.56**	---	
13. PAI Aggression	.19**	.25**	.32**	.19**	.27**	.38**	.50**	.39**	.57**	.65**	.24**	.35**	---

*p < .05. **p < .01.

The presence of high multicollinearity also reduces the ability to reject the null hypothesis. Tabachnik and Fidell (2001) recommend careful consideration for including variables with correlations above .70 due to variable redundancy. However, statistical problems are typically of concern when correlations are at .90 and above indicating one or more of the variables should be removed from the analysis. No variables were removed from the analysis because all correlations were below .90.

Group Differences

Table 4 shows the means and standard deviations of the predictor variables across sex offender groups for the “Total” sample. Two validity indicators had significant differences across groups with Rapists scoring higher than Statutory Offenders on Inconsistency and Negative Impression Management. The Statutory Offenders also scored significantly lower than Intrafamilial Child Molesters on the Negative Impression Management scale. For the other eight predictor variables with significantly different means, the Rapist group means were higher than the other three groups on all but Anxiety Related Disorders. Intrafamilial Child Molesters group had significantly higher scores than Statutory Offenders on this variable. Univariate analyses indicate that the Rapists had significantly higher Hare PCL-SV, Static-99 scores, Antisocial, Mania, and Aggressivity scores than the Intrafamilial Child Molesters group. As for the other two groups, both the Extrafamilial Child Molesters and Statutory Offender groups had significantly lower Hare PCL-SV, Static-99 scores, aggressivity and Alcohol and Drug use scores. Due to the failure to meet the expectation that the Extrafamilial Child Molesters would score higher than the other groups on the Static-99, the Extrafamilial Child Molesters group was divided into separate two separate groups. The two groups

Table 4

Means and Standard Deviations of Predictor Variables as a Function of Sex Offender Group (Total Sample)
(N = 526)

Predictor Variable	<u>Intrafamilial CM</u> n = 140		<u>Extrafamilial CM</u> n = 143		<u>Statutory Offenders</u> n = 129		<u>Rapists</u> n = 114	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Hare Score	8.76 _a	3.61	9.48 _b	3.59	9.71 _c	3.0	12.0 _{a,b,c}	3.94
PAI Inconsistency	54.04	10.05	52.78	9.45	52.02 _d	9.89	55.68 _d	10.48
PAI Infrequency	54.52	11.10	55.78	10.11	56.93	10.94	57.50	10.39
PAI Negative Impression Mgmt.	54.23 _e	10.69	53.24	10.35	50.91 _{e,f}	8.47	54.98 _f	11.33
PAI Positive Impression Mgmt.	47.60	9.12	47.27	10.86	49.45	9.33	46.74	9.83
PAI Anxiety	55.28	11.13	54.50	10.78	52.83	11.32	53.24	9.71
PAI Anxiety Related Dis.	57.31 _g	11.82	55.92	11.07	53.06 _g	10.41	55.46	10.64
PAI Depression	56.41	10.73	55.06	10.1	53.88	10.26	54.76	9.65
PAI Manic	50.05 _h	11.01	51.48	10.14	50.84	9.98	53.55 _h	10.23
PAI Paranoid	56.24	9.27	57.52	9.13	55.63	10.46	59.04	10.15
PAI Schizophrenia	54.49	11.37	53.67	10.92	51.18	11.89	54.09	11.24
PAI Borderline	57.24	9.97	57.54	10.45	56.28	10.59	58.11	10.09
PAI Antisocial	57.91 _i	8.9	59.73	9.72	60.09	9.83	61.95 _i	9.77
PAI Alcohol Use	59.94	17.87	56.64 _j	16.01	56.53 _k	15.77	63.05 _{j,k}	17.07
PAI Drug Use	62.84	16.96	59.72 _l	17.1	60.42 _m	16.92	66.30 _{l,m}	17.87
PAI Aggressivity	50.35 _n	10.05	50.76 _o	10.96	50.02 _p	11.66	55.17 _{n,o,p}	11.61
Static-99	.93 _{q,r,s}	1.03	2.43 _{q,t}	1.2	2.36 _{r,u}	1.33	3.18 _{s,t,u}	1.64

Note. Means with the same subscript differ significantly at $p < .01$.

Table 5

Means and Standard Deviations of Predictor Variables as a Function of Sex Offender Group (Valid Sample) (n = 396)

Predictor Variable	<u>Intrafamilial</u> n = 107		<u>Extrafamilial</u> n = 109		<u>Statutory Offenders</u> n = 98		<u>Rapists</u> n = 82	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Hare Score	8.48 _a	3.71	9.44 _b	3.78	9.61 _c	3.02	11.89 _{a, b, c}	4.1
PAI Anxiety	54.32	11.2	54.08	11.0	52.05	11.64	52.13	9.93
PAI Anxiety Related Dis.	56.3	12.66	55.87	11.19	52.96	11.12	54.88	10.8
PAI Depression	55.7	11.14	54.78	10.27	53.53	10.48	54.01	9.99
PAI Manic	49.21	9.91	51.56	10.47	51.08	10.18	53.15	10.97
PAI Paranoid	54.71 _d	8.57	56.79	9.34	54.95	10.55	58.93 _d	10.4
PAI Schizo.	53.15	10.87	53.37	10.97	50.38	11.98	53.78	11.57
PAI Borderline	56.71	10.24	57.82	11.1	56.5	10.93	57.95	10.26
PAI Antisocial	58.1 _e	8.84	60.17	10.14	60.24	10.37	62.20 _e	10.16
PAI Alcohol Use	59.37	18.65	56.07 _f	16.66	56.72	16.83	63.2 _f	17.94
PAI Drug Use	61.27	18.2	60.17	19.19	60.49	18.32	65.54	18.46
PAI Aggressivity	50.05 _g	9.67	51.04	11.25	49.66 _h	12.18	54.38 _{g,h}	11.33
Static-99	.89 _{i,j,k,l}	1.02	2.37 _{i,l}	1.17	2.31 _{j,m}	1.34	3.09 _{k,l,m}	1.64

Note. Means with the same subscript differ significantly at $p < .01$.

were determined by victim sex with offenders with male or both sex victims separated from offenders with only female victims. Post hoc univariate analyses indicated the Extrafamilial Child Molesters-male group was similar to rapists (3.28 and 3.18, respectively); the difference was not significant ($p = .735$).

Table 5 shows the means and standard deviations of the predictor variables across sex offender groups for the “Valid” sample. For the six predictor variables with significantly different means, the Rapist group means were higher than the other three groups. Univariate analyses indicate that the Rapists have significantly higher Hare PCL-SV, Static-99 scores, Antisocial, Paranoia, and Aggressivity scores than the Intrafamilial Child Molesters group. As for the other two groups, the Extrafamilial Child Molesters group had significantly lower Hare PCL-SV, Static-99 scores, and Alcohol use scores while the Statutory Offenders had significantly lower Hare PCL-SV, Static-99 scores and aggressivity scores.

Discriminant Functions

For both analyses, the number of possible canonical discriminant functions (CDF) was computed using $g - 1$ (number of dependent groups minus 1). Since the dependent, sex offender group, had four groups, the number of discriminant functions possible was three. In both analyses, all independent variables were entered into the model in step one. For each analysis, the total model was significant; however, for the “Total” sample both the first and second functions were significant while for the “Valid” sample only the first function was significant.

The eigenvalues show how much of the variance between the offender groups, was accounted for by each of the functions. When considering the “Total” sample, the first two CDF were significant and together accounted for 94.8% of the total variance between groups. According to the results for the “Valid” sample, 66.6% of the variance was accounted for by the first CDF and 26.9 % by the

second CDF. Despite of the large amount of variance being accounted for by CDF 2, it was not considered a significant function in the model.

For the total sample, the first and second functions were significant, providing a Wilks' Lambda and Chi square of .773 and 133.17 and .894 and 57.67, respectively. Table 6 shows the correlations of each variable with each discriminant function. The correlations serve like factor loadings in factor analysis -- that is, by identifying the largest absolute correlations associated with each discriminant function, a name can be given to each function. Again, the Hare PCL-SV was the strongest discriminating variable and had a highest correlation (.792) with the first function. The variables with the highest absolute loading on the first CDF were Aggressivity, Antisocial and Mania with correlations of .454, .298 and .282, respectively. As with the first analysis, the strongest discriminating function was associated with antisocial attitudes, beliefs and behaviors. The variables correlated with the second function were Anxiety Related Disorders, Negative Impression Management, Depression, Anxiety and Infrequency with resulting correlations of -.421, -.350, -.279, -.250 and .257, respectively. This function appeared to be addressing issues relating to anxious and depressed thoughts and feelings. Due to the non-significance of the third function, the correlations will not be addressed. See Table 6 for the correlations and Figure 1 for the scatterplot of the discriminant functions.

Table 6

Correlation of Predictor Variables With Discriminant Functions (Function Structure Matrix) and Standardized Discriminant Function Coefficients (Total Sample) (N = 526)

Predictor Variable	<u>Correlation with Discriminant Functions</u>			<u>Standardized Discriminant Function Coefficients</u>		
	Function 1	Function 2	Function 3	Function 1	Function 2	Function 3
Hare Score	.792*	.319	-.011	.697	.203	-.033
PAI Inconsistency	.286*	-.227	.082	.209	-.217	.156
PAI Infrequency	.172	.257*	.081	.021	.404	-.042
PAI Negative Impression Mgmt.	.226	-.350*	-.285	.334	-.401	-.121
PAI Positive Impression Mgmt.	-.151	.188	.476*	-.225	.175	.651
PAI Anxiety	-.092	-.250*	-.233	-.597	.419	-.094
PAI Anxiety Related Dis.	.005	-.421*	-.349	.053	-.685	-.274
PAI Depression	-.037	-.279*	-.053	-.044	.104	.718
PAI Manic	.282*	.105	-.277	.043	.314	.273
PAI Paranoid	.284	-.040	-.539*	.072	.051	-.768
PAI Schizophrenia	.093	-.314	-.329*	.124	-.432	-.146
PAI Borderline	.113	-.091	-.273*	-.211	.375	.192
PAI Antisocial	.298*	.271	-.146	-.234	.808	-.022
PAI Alcohol Use	.329	-.240	.336*	.267	-.113	.225
PAI Drug Use	.316	-.172	.407*	.044	-.395	.416
PAI Aggressivity	.454*	-.020	-.107	.366	-.418	.147

Note: * Largest absolute correlation between each variable and any discriminant function.

Figure 1

Canonical Discriminant Functions

(Total Sample)

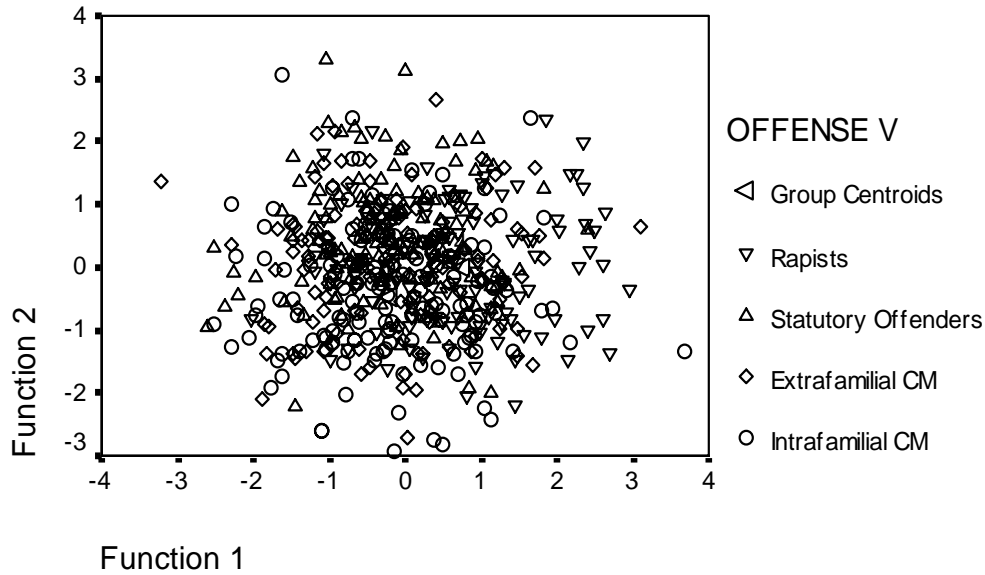


Figure 2

Canonical Discriminant Functions

(Valid Sample)

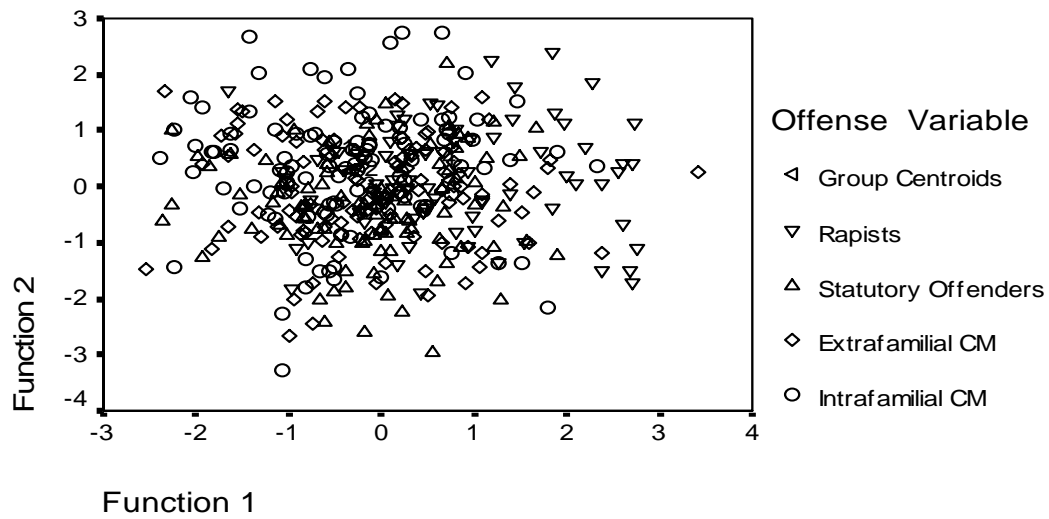


Table 7

Correlation of Predictor Variables With Discriminant Functions (Function Structure Matrix) and Standardized Discriminant Function Coefficients (Valid Sample) (n = 396)

Predictor Variable	<u>Correlation with Discriminant Functions</u>			<u>Standardized Discriminant Function Coefficients</u>		
	Function 1	Function 2	Function 3	Function 1	Function 2	Function 3
Hare Score	.836*	-.186	-.021	.745	-.128	.003
PAI Anxiety	-.156	.238	.385*	-.522	-.417	.444
PAI Anxiety Related Dis.	-.06	.394	.449*	-.08	.797	.371
PAI Depression	-.105	.269*	.131	-.025	-.093	-.945
PAI Manic	.307	-.187	.325*	.141	-.387	-.133
PAI Paranoid	.397	.068	.541*	.351	.025	.441
PAI Schizophrenia	.102	.378	.492*	.36	.76	.446
PAI Borderline	.103	.045	.360*	-.071	-.625	.109
PAI Antisocial	.338*	-.223	.178	-.198	-.751	-.014
PAI Alcohol Use	.289	.353	-.501*	.294	.392	-.597
PAI Drug Use	.253*	.161	-.238	-.05	.185	-.127
PAI Aggressivity	.386*	.17	.215	.183	.694	.02

Note: * Largest absolute correlation between each variable and any discriminant function.

For the “Valid” sample, the first CDF was significant, providing a Wilks’ Lambda and Chi square of .808 and 82.61. The other two CDF’s had Wilks’ Lambda and Chi squares of .929 and 28.45, and .985 and 5.67, respectively. Table 7 shows the correlations of each variable with each discriminant function. The Hare PCL-SV was the strongest discriminating variable and had a highest correlation (.836) with the first function. The first CDF had small to moderate correlations with other variables; however, the listed variables had the highest absolute loading on this function. PAI scales Paranoia, Aggressivity, Antisocial and Drug use with correlations of .397, .386, .338 and .253, respectively. Considering these loadings, the first function consisted primarily of measures of antisocial attitudes, beliefs and behaviors. Due to the non-significance of the other two functions, the correlations will not be addressed. See Table 7 for the correlations and Figure 2 for the scatterplot of the discriminant functions.

Classification Analysis

A classification analysis was also completed to determine if the model could be used to correctly classify the cases. A classification equation was calculated between each participant and group with the each case being assigned to the group with the highest classification score (Tabachnick & Fidell, 2001). The classification matrix (Table 8 and 9) provide the number of cases and the percentage of cases classified in each group.

Tabachnick and Fidell (2001) recommend several steps following the completion of a classification matrix to evaluate the fit of the classification model. The first step is to determine the percentage of cases that would be distributed by chance. In samples with even cases in each group, one could assume that by chance 50 percent would be classified into two groups; 33 percent in three groups; or 25 percent in four groups. The current sample did not have equal groups so the actual

percent of the total cases had to be calculated for each group. The calculated percentages for Rapists, Statutory Offenders Incest/ Intrafamilial Child Molesters, Extrafamilial Child Molesters were 20.71%, 24.75%, 27.02%, 27.52%, respectively. It could then be concluded that 20.71% of the Rapist group would be classified correctly by chance alone; meaning that if 82 cases were randomly assigned to rapist group then 16.98 cases would have been classified correctly by chance. The chance classifications for each group would then be Statutory Offenders= 24.26 cases, Intrafamilial Child Molesters = 28.91 cases, Extrafamilial Child Molesters = 30 cases. Adding these chance classifications provided the base rate of 100.15 cases or 25.29% for which the classification model needed to be compared. The percent correct needed to be substantially higher than the 25.29% for the model to be useful.

Using the same procedure with the “Total” sample, the chance classifications for each group would be Intrafamilial Child Molesters = 37.27, Extrafamilial Child Molesters = 38.88, SO = 31.63, and R = 24.7 resulting in a chance base rate of 132.48 cases or 25.19%. Table 8 shows the overall classification and predicted group membership for the “Total” sample. Although the correct classification rate of 42.8% was above the chance rate of 25.19%, it may have little utility in the field of sex offender assessment due to the fact that 57.2% of the offenders would be incorrectly classified. The classification rates were higher in the “Total” sample for the Intrafamilial Child Molesters, Statutory Offenders and Rapists, 47.9%, 45.7%, and 48.2% respectively. However, the Extrafamilial Child Molesters group was classified at a barely above chance rate of 31.9%. Post hoc classification analyses indicated that combining the Extrafamilial and Statutory Offenders groups resulted in a 56.7% correct classification rate. This classification rate is substantially higher than the chance classification of 38.52%.

Table 8

Classification Analysis for Sex Offender Group (Total Sample) (N = 526)

Actual Group Membership	N = 526	Predicted Group Membership							
		Intrafamilial		Extrafamilial		Statutory Off.		Rapists	
		n	%	n	%	n	%	n	%
Intrafamilial Child Molesters	140	68	48.6	26	18.6	24	17.1	22	15.7
Extrafamilial Child Molesters	143	37	25.9	44	30.8	34	23.8	28	19.6
Statutory Offenders	129	28	21.7	26	20.2	59	45.7	16	12.4
Rapists	114	23	20.2	18	15.8	19	16.7	54	47.4

Note. Overall percentage of correctly classified cases = 42.8%. Chance rate of classification = 25.19%

Table 9

Classification Analysis for Sex Offender Group (Valid Sample) (n = 396)

Actual Group Membership	N = 396	Predicted Group Membership							
		Intrafamilial C.M.		Extrafamilial C.M.		Statutory Offenders		Rapists	
		n	%	n	%	n	%	n	%
Intrafamilial Child Molesters	107	53	49.5	17	15.9	20	18.7	17	15.9
Extrafamilial Child Molesters	109	31	28.4	34	31.2	25	22.9	19	17.4
Statutory Offenders	98	23	23.5	22	22.4	37	37.8	16	16.3
Rapists	82	17	20.7	18	22	14	17.1	33	40.2

Note. Overall percentage of correctly classified cases = 39.6%. Chance rate of classification = 25.29%

Table 9 shows the overall classification and provides the predicted and actual group membership for the “Valid” sample. Similarly, the correct classification rate of 39.6% was above the chance rate of 25.29%, however, it was also too low to be useful in the clinical realm of sex offender assessment because of the 60.4% incorrect classification rate. The best classification rate occurred for the Intrafamilial Child Molesters and Rapists, 49.5% and 40.2% respectively, while only 31.2% of the Extrafamilial Child Molesters group was correctly classified. Post hoc classification analyses indicated that combining the Extrafamilial and Statutory Offenders groups resulted in a 56.1% correct classification rate. This classification rate is substantially higher than the chance classification of 38.91%.

Summary of Hypothesis 1

The present analyses have shown there to be significant differences between the four main groups of contact or “hands-on” sex offenders. Both samples displayed similar distinguishing characteristics with the psychopathy and antisocial traits being the strongest discriminating variables. Several mental health variables, including substance use, mania and paranoia, also discriminated between the groups, as well. In most cases, the Rapists were discriminated from the other three groups and Extrafamilial Child Molesters and Statutory Offenders had no significant differences between the groups. Post hoc discriminant function analyses using three groups, Intrafamilial Child Molesters, Rapists and Extrafamilial Child Molester/ Statutory Offenders resulted in a substantial increase in classification for both samples. For the “Total” sample the classification increased from 42.8% to 56.7% and for the “Valid” sample from 39.6% to 56.1%.

Very few significant differences in discriminating variables occurred between the two samples. However, when considering the canonical discriminant functions (CDF), the two groups were slightly

different, with the “Total” sample having two significant factors while the “Valid” sample only had one. For both samples, the first and strongest CDF was antisocial beliefs, attitudes and behaviors. The second canonical discriminant function in the “Total” sample appears to be primarily distinguishing the groups through depressed and anxious symptomatology. The difference observed between the analyses for the “Total” and “Valid” samples was likely due to differences between the two samples including size of the sample and inclusion of the 130 subjects with invalid PAI protocols. Despite the significance of one or two canonical discriminant functions, the classification analyses for both samples failed to reach a level of practical utility.

Hypothesis Two

For the second hypothesis, a stepwise logistic regression analysis was employed to predict the probability that an individual in the “Treatment Eligible” sample would complete the sex offender treatment program. The “Treatment Eligible” sample was composed of 63 Extrafamilial Child Molesters, 70 Intrafamilial Child Molesters, 55 Statutory Offenders and 49 Rapists. Logistic regression analysis was used because of the categorical dependent variable and six predictor variables (one categorical and five continuous). The predictor variables were Sex Offender Group Membership, Static-99 score, Psychopathy Checklist - Screening Version Score, and the PAI scales for Antisocial and Aggressive traits and Treatment Rejection. We proposed that the Static-99 score, Psychopathy Checklist- SV score and all PAI scales would be negatively related to treatment completion. According to prior research, child molesters have been shown to be more open and motivated for treatment; thus, we believed child molesters would be more likely than rapists to complete treatment. The analysis provided the predictive ability of these six variables to predict treatment success.

Data Analysis for Hypothesis 2

As shown in Table 10, a majority of offenders (64.6%) completed the treatment program. In step one of the analysis, the sex offender category was entered because this variable was expected to be the most important of the predictors (Tabachnick & Fidell, 2001). The reference category for this analysis was the Rapist group because these individuals were expected to have the lowest rate of treatment completion. A test of the step one model versus a model with constant only was not statistically significant, $\chi^2(3, N = 237) = .424, p = .935$. The Nagelkerke r^2 for the initial model was .002 indicating a very small effect size. The Nagelkerke r^2 is a pseudo r^2 which attempts to estimate the r^2 from multiple regression. The model assigned every participant to the completion group resulting in a 64.6% classification rate.

During the second step of the regression equation, the Static-99, Hare PCL-SV, Antisocial Scale (ANT), Aggressivity Scale (AGG) and the Treatment Rejection Scale were added to the model. A test of the addition of the second block versus a model with sex offender group only was statistically significant, $\chi^2(5, N = 237) = 15.07, p < .05$. According to Table 10, univariate analyses indicated that those who completed treatment had significantly lower scores on the Hare PCL-SV ($M = 9.67, SD = 3.58$) than those who did not ($M = 11.14, SD = 4.2$), $t(235) = 2.84, p = .005$. The individuals who completed treatment were also significantly less antisocial and aggressive ($M = 59.21, SD = 9.18; M = 50.18, SD = 10.85$) than those who did not ($M = 63.68, SD = 11.56; M = 54.40, SD = 12.47$), $t(235) = 3.26, p = .001; t(235) = 2.72, p = .007$ respectively.

Table 11 displays the correlations between treatment completion and the predictor variables. Of note, treatment completion was significantly correlated with the Hare score and the Antisocial and Aggression scales of the PAI, -.18, -.21, and -.17, respectively. There were also several significant

Table 10

Mean Values or Frequencies for Predictor variables as a Function of Sex Offender Treatment Completion (n = 237)

Predictor Variable	<u>Treatment Failure</u>	<u>Treatment Completion</u>	X ² or t
	N = 84	N = 153	
Intrafamilial Child Molesters (%)	35.7	64.3	.003
Extrafamilial Child Molesters (%)	34.9	65.1	.01
Statutory Offenders (%)	32.7	67.3	.231
Rapists (%)	38.8	61.2	.30
Hare Score	11.14	9.67	2.839*
Static-99 Score	2.24	2.07	.813
PAI Antisocial Scale	63.68	59.21	3.263*
PAI Aggression Scale	54.4	50.18	2.716*
PAI Treatment Rejection Scale	37.64	37.33	.255

Note. Chi-square test was used for all sex offender groups; t test used for all other variables.

*p < .05.

Table 11

Intercorrelations for Treatment Completion and Predictor Variables (n = 237)

Measure	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
1. Treatment Completion	---					
2. Hare Score	-.18**	---				
3. Static-99 Score	-.05	.39**	---			
4. PAI Antisocial Scale	-.21**	.32**	.25**	---		
5. PAI Aggression Scale	-.17**	.26**	.18**	.65**	---	
6. PAI Treatment Rejection Scale	-.02	.13*	-.02	-.21**	-.20**	---

Note. Treatment Completion coded as 0 = Treatment Failure and 1 = Treatment Completion.

*p < .05. **p < .01.

correlations between the predictor variables. The Hare score was moderately correlated with Static-99 score and both the Antisocial Scale and Aggression Scale with correlations of .30, .39, .32 and .26, respectively. Again, as previously indicated the Static-99 was significantly correlated, .42, with Sex Offender Group. Antisocial Scale and Aggression Scale were highly correlated with one another; however, unexpectedly negatively correlated with Treatment Rejection.

Table 12 shows the logistic regression coefficient, Wald test, and odds ratio for each of the predictors. Employing a .05 criterion of statistical significance, no predictor variables had significant partial effects. The inconsistency between the t-tests and the logistic regression results was likely due to the decrease in power associated with multivariate analyses involving several independent variables. Larger sample sizes may allow for further study and increased effect sizes. The Nagelkerke r^2 for the

Table 12

Summary of Logistic Regression Analysis Predicting Treatment Completion (n = 237)

Predictor Variable	<u>B</u>	<u>SE</u>	Odds ratio	Wald statistic	<u>p</u>
Rapists (Offense 0)				.392	.942
Intrafamilial Child Molesters (Offense 1)	-.247	.461	.781	.287	.592
Extrafamilial Child Molesters (Offense 2)	-.143	.426	.867	.113	.737
Statutory Offenders (Offense 3)	-.032	.445	.969	.005	.943
Hare Score	-.078	.043	.925	3.280	.070
Static-99 Score	.035	.111	1.036	.101	.751
PAI Antisocial Scale	-.030	.019	.970	2.657	.103
PAI Aggression Scale	-.011	.016	.989	.472	.492
PAI Treatment Rejection Scale	-.010	.017	.990	.356	.551

Note. The Sex Offense variable was entered as a categorical variable with four distinct groups. No parameters are significant in the model.

*p < .05. **p <

total model was .087 indicating a very small effect size. The model correctly classified 91.5% of the treatment successes and 23.8% of the treatment failures resulting in an overall classification rate of 67.5%. This classification resulted in only a 2.9% increase over the constant model that classified all offenders as completers. A post hoc logistic regression analysis excluding the sex offender group did not provide significant partial effects or improvement in classification.

Discussion

The present study has attempted to extend as well as unite previous sex offender assessment and treatment studies. As may be expected from a combined type study, some of the results were consistent with previous research, while other results did not support prior assertions and conclusions. The results are consistent with findings from several studies attempting to determine differences between sex offender groups (Craissati and Beech, 2004; Hanson & Bussiere, 1998; Porter, Fairweather, Drugge, Herve, Birt & Boer, 2000). However, the current study did not find a relationship between treatment completion and group membership and treatment rejection.

Hypothesis One/ Summary Proposition Statement

As hypothesized, the sex offender groups can be distinguished from one another by an assessment battery. The measures best distinguish the Rapists from the Intrafamilial Child Molesters, thus most of the scales used in the model these two groups had the more differential scores. For every scale with reported differences, either Rapists or Intrafamilial Child Molesters are distinguished from another group. In most cases, the Rapists were considerably different from the other three groups. They consistently had higher levels of antisocial attitudes, beliefs and behaviors and had a higher tendency to display aggression, as displayed by higher PCL-SV and Aggression scores. These current results appear to support previous conclusions that rapists tend to have longer criminal histories and greater levels of violence and aggression in the instant sexual offense (Craissati & Beech, 2004;

Hanson & Bussiere, 1998; Hudson & Ward, 1997; Rice & Harris, 1997). These results also corroborate two previous studies (Brown & Forth, 1997; Serin, Malcolm, Khanna, & Barbaree, 1994) which found significantly higher rates of psychopathy in rapists with 35.9% of these offenders being psychopaths (Porter, Fairweather, Drugge, Herve, Birt & Boer, 2000). Meloy (2002) also suggested several reasons why psychopathy may increase rapist like behavior, suggesting that rapists would likely have a higher presence of psychopathy in the sample. Three of Meloy's nine explanations for the co-occurrence of psychopathy and deviant sexual behavior best support increased levels in rapists specifically predatory versus affective violence and leaving by sex partners. Similarly as the psychopath fails to form intimate bonds with others, his partners have a tendency to leave the relationship, further increasing his need to pursue other mates. Rape is classified as a sex crime, however, there is a great deal of power and violence involved in this type of crime. Therefore, a psychopath's increased tendency for predatory violence may also increase the individual's probability of committing rape.

In the "Valid" sample, Rapists had higher levels of antisocial beliefs and behaviors and aggression. Rapists also had higher levels of alcohol use than the Extrafamilial Child Molesters and higher levels of paranoia than Intrafamilial Child Molesters. When considering the "Total" sample, there were more differences between the groups. The groups differed on nine distinct variables with Rapists being distinguished from the other groups on all but one variable. Intrafamilial Child Molesters had a higher incidence of symptoms of Anxiety Related Disorders (ARD) than Statutory Offenders. As seen in the "Valid" sample, Rapists had higher levels of antisocial beliefs and behaviors and aggression. Rapists also had higher drug and alcohol use than Extrafamilial Child Molesters and Statutory Offenders. Of interest, despite being non-significant, the Intrafamilial Child Molesters also had higher levels of substance use than Statutory Offenders and Extrafamilial Child Molesters.

Contrary to expectations, the Extrafamilial Child Molesters and Statutory Offenders were most similar and had no apparent differences between the groups. This issue could be interpreted in a number of ways, but the simplest explanation may be the type of crimes these individuals perpetrated. Each offender in these groups has a minor aged unrelated victim. The only primary difference in the current study is the ages of the victims used for classification purposes; under 13 for Extrafamilial Child Molesters and between the ages of 13 and 17 for Statutory Offenders. Apparently, the current group's offender characteristics are not very different from one another and likely resulting from the relative similarity in victim choice. Using this study's classification system for sex offenders in which aspects of the crime, victim characteristics, and force used during crime and offender's relationship to the victim, statutory offenders may be seen as a subset or type of extrafamilial child molesters. Post hoc analyses indicated that combining the Extrafamilial Child Molester and Statutory Offender groups resulted in a substantial increase in classification (39.6% to 56.1% for the "Valid" sample and 42.8% to 56.7% for the "Total" sample). The increase in classification provides further evidence for future research to include statutory offenders as a subcategory of extrafamilial child molesters.

The third expectation proposed by hypothesis one concerns the group scores on the Static-99. Contrary to expectations deemed from recidivism literature (Langevin et al., 2004), Extrafamilial Child Molesters did not score higher than the other groups. Due to the widespread use of the Static-99 for the purposes of future risk prediction, it was expected to be able to better predict the group with the highest overall recidivism rates. In both samples, the Rapists had significantly higher scores than all other groups, with Statutory Offenders and Extrafamilial Child Molesters having very similar scores.

There may be several reasons for the discrepancy between the literature and the current sample. Typically, the Extrafamilial Child Molesters group, with the highest recidivism rates, has either male only or male and female victims and the initial analyses did not separate the group according to victim

sex. However, a post hoc analysis comparing the Extrafamilial Child Molesters -male group to the Rapists indicated that this group does have a slightly higher score than Rapists, although, not significant. Another consideration would be the measure itself; the inclusion of the criminal history variables (i.e. non-violent prior convictions, non-violent index conviction, and number of sentencing dates) would be expected to increase scores of rapists more than the scores of child molesters. Moreover, as Langevin and colleagues (2004) demonstrated rapists have a lower mean age when compared to other groups, increasing the possibility of receiving points for *Under age 25* and *Not Living with Intimate Partner*. These issues as well as the added impact of the *Unrelated Victim* and *Stranger Victim* questions have a tendency to increase rapists' scores more than child molesters' scores. The following example is provided to explain how these differences can be seen between sex offender groups and recidivism risk level.

Consider a 24 year-old male who has been convicted of Rape and Giving a Noxious Substance to a Victim, in which he met a woman in a bar and bought her eight drinks. She became intoxicated and he took her to a hotel room and had intercourse with her while she was passed out. He has had a couple significant relationships but always lived with his parents because he was a full-time college student. He has had three convictions for Driving While Intoxicated and one for Assault.

On the Static-99, this individual would score a seven and be classified as high-risk to recidivate sexually. Compare the rapist to a married 40 year-old Extrafamilial Child Molesters with eight unrelated male victims, one prior sex conviction and no other criminal history who scores a three and be considered medium-low risk. One prior study found similar results; Craissati and Beech (2004) determined that rapists were typically rated higher risk on the Static-99; however, they did not have statistically higher recidivism than child molesters, over a three-year follow-up.

Further consideration also needs to be given to several limitations associated with using an index score measure like the Static-99 for classification and prediction purposes. As addressed above, due to the actual design of the measure ten distinct variables are used to determine a single index score. As with all index measures, two individuals could obtain the same score and be conceptually very different. These individuals may not be different by the level of risk, but when considering psychological and criminally related issues they could be vastly different. Due to the presence of several variables that overlapped with the defining characteristics of the groups, the Static-99 was removed from the discriminant analysis.

Thus, when considering all measures and scales used in the discriminant function analysis to distinguish the sex offender groups, the greatest differences occur between Rapists and Intrafamilial Child Molesters. These two groups had the highest number of significant differences, while the Statutory Offenders and Extrafamilial Child Molesters had no major differences between the groups.

Despite, having several significant differences between sex offender groups, the assessment battery failed to be clinically useful for classifying the groups correctly. This shortfall may be due to limitations of the sample and assessment battery. First, the study had a sizable sample; however, there were individuals with more severe and violent criminal offense histories and poorer institutional records who were unable to be included in the study. Indicating that a large number of individuals convicted of murder and individuals with continued antisocial behavior in prison were not assessed. The inclusion of these individuals could have greatly altered the results and possibly increased classification because the largest proportion of these individuals would likely have been rapists. Similarly, the inclusion of a non-offending population would also have increased classification. A non-offending population would have increased diversity in the personality, interpersonal and criminality variables. Bogaerts, Vervaeke and Goethals (2004) found that interpersonal trust and

intimacy and the presence of personality disorders distinguished child molesters from a group of normal males.

Despite the assessment battery's inability to successfully classify the groups, the results did provide valuable information about inclusion of Statutory Offenders in future research. The relatively low classification rate may be due to several limitations, but was likely due to insufficient data and measured characteristics. The Hare PCL-SV was significantly different for the groups; however, the restricted range of scores hindered the assessment battery's ability to classify the groups. The use of the Hare PCL-R would have provided a larger range of scores allowing for greater variability between groups. The addition of comprehensive sexual deviance measure, such as the Multiphasic Sexual Inventory I or II (MSI-I, MSI-II, Nichols & Molinder, 1984, 2003) would have likely increased variability as well. The measure consists of 40 scales and indices that provide the clinician with a more thorough assessment of sexual deviance and individual criminogenic needs, which are valuable for treatment planning and measuring treatment progress.

The current study was successful at revealing typological differences between the groups of sex offenders. The results demonstrated that rapists are more antisocial and aggressive than other sex offender groups. As previously addressed, this study included a group of sex offenders typically excluded from prior research and illustrated support for inclusion of offenders convicted of statutory crimes in future research. The results have also demonstrated support for previous research, which indicated that rapists tend to score higher on the Static-99 despite the tendency for these individuals to have lower rates of recidivism.

Hypothesis Two

The importance of sex offender treatment for reducing sexual recidivism has been established. Treatment effectiveness has typically been measured through a reduction in recidivism rates. Hall

(1995) found, through a meta-analysis, that cognitive behavioral treatment reduced reported recidivism rates by approximately 30%. However, these reported levels of recidivism are exactly that, reported, meaning no unreported sex crimes perpetrated by released sex offenders are included in these estimates (Wood, Grossman, & Fichter, 2000). Despite this inherently flawed mechanism for measuring recidivism, these issues are likely present for both treatment completers and failures. Taking into account this flaw provides an underestimate of the recidivism rate for both groups, the 30% decrease in recidivism is a valid indicator of treatment effectiveness.

The few studies that have attempted to predict sex offender treatment completion have shown several significant differences between treatment completers and failures. With that in mind, the current study has found similar results to some of the research and some contrary to previous findings. For the current study, treatment failure described any offender that entered programming and failed to complete which would include individuals who actively and passively refused to cooperate with programming and ones who were terminated by staff. In the current sample, the treatment failure group was not divided into refusals (dropouts) and terminated offenders, thus we were unable to determine if there were differences between these groups of offenders. These individuals are likely different from one another and may display significant differences from treatment completers. Future research should attempt to separate treatment failures into distinct groups to further explicate these differences. Despite this limitation, the ultimate issue is the same; neither group completed treatment. Thus, the differences between this whole group and treatment completers has provided information about the importance of addressing antisocial beliefs, attitudes and behaviors in treatment.

As expected, treatment completers have significantly lower scores on the Hare PCL-SV and PAI Antisocial and Aggressivity scales indicating lower levels of criminal beliefs, attitudes and behavior. Similar to the results found by Abel and colleagues (1988), individuals with Antisocial

Personality Disorder (APD) had higher treatment dropout. Contrary to these findings, Shaw and colleagues (1995) found no significant relationship between APD and treatment completion. Hanson and Morton-Bourgon (2005) suggested that there is promise in treating antisocial personality disorder, which could increase treatment compliance and greatly reduce one of the major factors contributing to recidivism. Thus, treatment suggestions to address individuals with greater antisocial beliefs and behaviors would be to increase therapeutic structure and focus greater attention on fostering victim empathy and reducing criminal thinking errors. However, as seen in studies with psychopaths, these individuals actually have increased recidivism rates when they are rated positively by treatment staff (Looman et al., 2005). Thus, altering treatment programs to decrease treatment attrition for psychopaths would likely fail to accomplish the goal of recidivism reduction.

The antisocial characteristics appear to be the only variables distinguishing between treatment completers and failures. Sex offender group, recidivism risk and treatment rejection have little relationship with completion of treatment for this sample. Surprisingly, the sex offender group did not predict treatment completion as demonstrated in the study by Craissati and Beech (2004). This discrepancy with previous research may be due to the small group sizes and additional predictor variables resulting in reduced power and smaller effect sizes. Another concern is that further coding of a categorical predictor variable and the choice of a reference category can alter the results. Craissati and Beech found that rapists were less likely to participate in treatment and when they did participate, 57% were rated as treatment non-compliant by staff. Marques and colleagues (1994) found similar results with incest perpetrators and pedophiles being less resistant to treatment than rapists are and have a greater tendency to accept responsibility for their offending behavior. One prior study (Caperton et al., 2004) has shown a relationship between the Treatment Rejection scale (RXR) and completion of a sex offender treatment program. Using a cut score of +43, they found that offenders

with higher scores were “highly likely” to be treatment non-compliant in the first year of treatment. In the current sample, the Treatment Rejection means were 37.64 and 37.33 for the Failure and Completer groups, respectively. Considering the previously recommended cut score, it is evident why there was no significant relationship between the variables. Post hoc analyses of the “Treatment Eligible” sample indicated that the cut score of 43 did not distinguish treatment completers from non-completers ($X^2 = .167, p = .759$).

Despite the apparent differences between the treatment complete and failure groups, no predictors were successful at predicting treatment completion. The total model offered an increase in classification from 64.6% to 67.5%. Thus, due to the very small increase (2.9%) in classification, it appears as though it would be more economical to classify everyone as a treatment success (64.6% of sample) and forego the assessment battery. With that being said, the primary reasons for the treatment battery is not to predict treatment but to provide an assessment of the individual’s current and past mental health and cognitive functioning, risk of reoffense and level of antisocial beliefs and behaviors.

The current results may be restricted due to several limitations of the study. First, there were individuals that were scheduled to enter the program and did not due to refusing prior to being transferred to the appropriate correctional institution. These individuals were not assessed and were not tracked for the purposes of the current study. These offenders may have differed from the current sample and likely may have had significantly lower motivation for treatment and greater antisocial beliefs and behaviors. Similarly, all participants who initially completed the assessment battery upon entrance into the treatment program may have had an increased need to present self as motivated and willing to participate in treatment. Previous research has suggested that self-report measures are a valid assessment procedure to use with offenders, however, valid there is still an ability for the subject to minimize negative aspects of self and bolster the positive. Specifically, each subject could have

been honest about his mental health issues but minimized his antisocial nature and portrayed self as motivated for treatment. Of these two scales, neither would have rendered the measure invalid or suspicious.

As proposed by Andrews and Bonta (2003), the risk, needs and responsivity principle refers to the consideration of each individual offender's characteristics when assigning, planning, and conducting treatment. The current study completed the appropriate assessment, however, did not use the available information to tailor the program to each individual. All offenders had the same program requirements including process groups, support groups and psycho-educational groups. As previously addressed, the Risk aspect of this approach entails the use of the risk for future offense to determine the intensity of the treatment program. This appears logical; however, as the current and a previous study (Beyko and Wong, 2005) have determined this may not be necessary. Through a discriminant function analysis of treatment completers and non-completers, Beyko and Wong (2005) determined that risk level, as measured by the Static-99, did not differ for the completers and non-completers. Their research did, however, demonstrate a clear relationship between criminogenic needs (including psychopathic personality characteristics, interpersonal aggression, substance abuse, absence of community support, release to high-risk situations, impulsivity, and compliance with community supervision) and treatment completion with non-completers having more interpersonal aggression and disruptive behavior on the unit.

Given the paucity of the current results, future research would likely benefit from using a more extensive assessment battery. The current battery lacked an extensive measure of insight and motivation and did not provide a measure of the offender's sexual deviancy and criminogenic needs as recommended by Andrews and Bonta (2003). As suggested previously, the inclusion of the Static-99 may have been helpful for considering the relationship between risk level and treatment planning and

completion. However, several items from the measure would have provided further information about criminogenic needs including presence of prior or index non-sexual violence convictions, number of prior sex charges and convictions and the number of prior sentencing dates. The examination of these four items would likely discriminate between the sex offender groups and treatment completers and non-completers. The inclusion of sexual deviancy measures, such as the MSI-II (Nichols & Molinder, 2003), that address sexual fantasies, paraphilias, substance abuse, anger and violence potential would likely improve treatment planning and increase treatment completion. The MSI-II and other theory-based measures are attempting to assess these issues; however, despite years of research, no measure to date has been empirically based and supported. The inability to thoroughly assess the offender's criminogenic needs and motivation for sex offense specific treatment make it very difficult to successfully predict treatment completion.

Conclusion

This study represents an important first step to considering Statutory Offenders for future studies due to their significant similarities with Extrafamilial Child Molesters. Prior studies in the field have not included this group. Future studies should include this group in their analysis to increase the overall understanding of the incarcerated sex offending population. The inclusions of these as well as internet based sex criminals will likely increase the field's knowledge about the psychological functioning and antisocial nature of all sex offenders. The current actuarial measures are lacking enough detail to sufficiently predict recidivism. New measures need to incorporate dynamic measures such as scales of psychological well-being and mental health, motivation to change or level of social support and allow for appropriate clinical adjustment for issues relating to physical health, age and community supervision. Given the results of the current study and the apparent changes in the sex offending population, the field needs to continue to assess psychological well-being, motivation and

personality disorders to appropriately assess and treat this ever-evolving group.

References

- Abel, G., Mittelman, M., Becker, J., Rathner, J., & Rouleau, J. (1988). Predicting child molesters' response to treatment. *Annals of the New York Academy of Sciences*, 528, 223–234.
- Aldrich, J., & Nelson, F. (1984). *Linear probability, logit, and probit models*. Beverly Hills, CA: Sage.
- Allen, C. (1940). *The sexual perversions and abnormalities: A study of the paraphilias*. London: Oxford University Press.
- Alterman, A., Zaballero, A., Lin, M., Siddiqui, N., Brown, L. S., Rutherford, M., & McDermott, P. (1995). Personality Assessment Inventory (PAI) scores of lower-socioeconomic African-American and Latino methadone maintenance patients. *Assessment* 2, 91-100.
- American Psychiatric Association. (1987). General guidelines for providers of psychological services. *American Psychologist*, 42, 712-723.
- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders, 4th ed.*, Washington, DC: Author.
- American Psychiatric Association. (1999). *Dangerous sex offenders: A task force report of the American Psychiatric Association*, Washington, DC: Author.
- Andrews, D., & Bonta, J. (2003). *The psychology of criminal conduct* (3rd ed.). Cincinnati, OH: Anderson.
- Barbaree, H. (2005) Psychopathy, treatment behavior, and recidivism: An extended follow-up of Seto and Barbaree. *Journal of Interpersonal Violence*, 20, 1115-1131.
- Barbaree, H., & Marshall, W. (1988). Deviant sexual arousal, demographic features, and offense history variables as predictors of reoffense among untreated child molesters and incest offenders. *Behavioral Sciences and the Law*, 6, 257-280.

- Barbaree, H., & Marshall, W. (1998). Treatment of the sexual offender. In R. M. Wettstein (Ed.), *Treatment of offenders with mental disorders* (pp.265-328). New York: Guilford Press.
- Barbaree, H., Seto, M., Langton, C., & Peacock, E. (2001). Evaluating the predictive accuracy of six risk assessment instruments for adult sex offenders. *Criminal Justice and Behavior*, 28, 490-521.
- Barrios, B. & Hartmann, D. (1986). The contribution of traditional assessment: Concepts, issues, and methodologies. In R. O. Nelson & S. C. Hayes (Eds.), *Conceptual foundations of behavioral assessment* (pp. 81-110). New York: Guilford Press.
- Barefoot v. Estelle*, 463 U.S. 880, 103 S. Ct. 3383, 77L.Ed, 2d 1090 (1983).
- Beyko, M., & Wong, S. (2005). Predictors of treatment attrition as indicators for program improvement not offender shortcomings: A study of sex offender treatment attrition. *Sexual Abuse: A Journal of Research and Treatment*, 17, 375-389.
- Bogaerts, S., Declercq, F., Vanheule, S., & Palmans, V. (2005). Interpersonal factors and personality disorders as discriminator between intra-familial and extra-familial child molesters. *International Journal of Offender Therapy and Comparative Criminology*, 49, 48-62.
- Bogaerts, S, Vervaeke, G., & Goethals, J. (2004). A comparison of relational attitude and personality disorders in the explanation of child molestation. *Sexual Abuse: A Journal of Research and Treatment*, 16, 37-47.
- Bonta, J., Law, M., & Hanson, C. (1998). The prediction of criminal and violent offenders: A meta-analysis. *Psychological Bulletin*, 123, 123-142.
- Brown, G., Ebert, M., & Goyer, P. (1982). Aggression, suicide, and serotonin. *American Journal of Psychiatry*, 139, 741-746.

- Brown, S. L., & Forth, A. E. (1997). Psychopathy and sexual assault: Static risk factors, emotional precursors, and rapist subtypes. *Journal of Consulting and Clinical Psychology, 65*, 848–857.
- Bradford, J. M. W. (1999). The paraphilias, obsessive-compulsive spectrum disorder and the treatment of sexually deviant behavior. *Psychiatric Quarterly, 70*, 209-220.
- Bradford, J. M. W. (2000). The treatment of sexual deviation using a pharmacological approach. *Journal of Sex Research, 37*(3), 248-258.
- Broadhurst, R., & Loh, N. (1993). Sex and violent offenders: Probabilities of re-imprisonment, Australian Institute of Criminology, Policy and Practice in Correctional and Forensic Services, conference paper, Perth, October 1993.
- Broadhurst, R., & Loh, N. (2003). The probabilities of sex offender recidivism-arrest. *Criminal Behaviour and Mental Health, 13*, 121-139.
- Bumby, K. M. (1996). Assessing the cognitive distortions of child molesters and rapists: Development and validation of the MOLEST and RAPE scales. *Sexual Abuse: A Journal of Research and Treatment, 8*, 37-54.
- Campbell, T. (1999). Challenging the evidentiary reliability of the DSM-IV. *American Journal of Forensic Psychology, 17*, 47-68.
- Campbell, T. (2003). Sex offenders and actuarial risk assessments: Ethical considerations. *Behavioral Sciences and the Law, 21*, 269-279.
- Caperton, J., Edens, J., & Johnson, J. (2004). Predicting sex offender institutional adjustment and treatment compliance using the Personality Assessment Inventory. *Psychological Assessment, 16*, 187-191.
- Carnes, P. (1991). *Don't Call it Love*. Deerfield Park, FL: Health Communications, Inc.

- Cashel, M., Rogers, R., Sewell, K., & Martin-Cannici, C. (1995). The Personality Assessment Inventory (PAI) and the detection of defensiveness. *Assessment, 2*, 333-342.
- Chiswick, D. (1995). Dangerousness. In: D. Chiswick & R. Cope (Eds.), *Seminars in practical forensic psychiatry*. London: Royal College of Psychiatrists, Caskell.
- Cleckley, H. (1976). *The mask of sanity*, (5th ed.). St. Louis, MO: Mosby.
- Conroy, M. A. (2002). Assessment of sexual offenders. In: B. Van Dorsten (Ed.) *Forensic Psychology: From classroom to courtroom* (pp. 219-246). New York: Kluwer Academic Plenum Publishers.
- Craissati, J., & Beech, A. (2001). Attrition in a community treatment program for child sexual abusers. *Journal of Interpersonal Violence, 16*, 205–211.
- Craissati, J., & Beech, A. (2004). The characteristics of a geographical sample of convicted rapists. *Journal of Interpersonal Violence, 19*, 371-388.
- Davidson, S. (1997). Risk assessment and management: A busy practitioner's perspective. *International Review of Psychiatry, 9*(2), 201-207.
- Dawes, R., Faust, D., & Meehl, P. (1989). Clinical versus actuarial judgment. *Science, 243*, 1668-1674.
- DeLamater, J. (1981). The social control of sexuality. *Annual review of Sociology, 7*, 261-290.
- Deu, N., & Edelman, R. (1997). The role of criminal fantasy in predatory and opportunistic sex offending. *Journal of Interpersonal Violence, 12*, 18-29.
- Doren, D. (2002). *Evaluating sex offenders: A manual for civil commitments and beyond*. Thousand Oaks, CA: Sage.
- Doren, D. (2004). Stability of the interpretive risk percentages for the RRASOR and Static-99. *Sexual Abuse: A Journal of Research and Treatment, 16*, 25-36.

- Doren, D. & Roberts, C. (1998). *The proper use and interpretation of actuarial instruments*. Paper presented at the 19th annual Research and Treatment Conference of the Association for the Treatment of Sexual Abusers, San Diego, CA.
- Edens, J., Buffington-Vollum, J., Colwell, K., Johnson, D., & Johnson, J. (2002). Psychopathy and institutional misbehavior among incarcerated sex offenders: A comparison of the Psychopathy Checklist-Revised and the Personality Assessment Inventory. *International Journal of Forensic Mental Health, 1*, 49-58.
- Edens, J., Cruise, K., & Buffington-Vollum, J. (2001). Forensic and correctional applications of the Personality Assessment Inventory. *Behavioral Sciences and the Law 19*, 519-543.
- Edens, J., Hart, S., Johnson, J., & Oliver, M. (2000). Use of the PAI to assess psychopathy in offender populations. *Psychological Assessment, 12*, 132-139.
- Federal Government of Canada. (1994). *Sexual Offenses Against Children, Vol. 1*. Ottawa, Canada: Canadian Government Publishing Center.
- Firestone, P., Nunes, K., Moulden, H., Broom, I., & Bradford, J. (2005). Hostility and recidivism in sexual offenders. *Archives of Sexual Behavior, 34*, 277-283.
- Freund, K., & Blanchard, R. (1989). Phallometric diagnosis of pedophilia. *Journal of Consulting and Clinical Psychology, 57*, 100-105.
- Furby, L., Weinrott, M., & Blackshaw, L. (1989). Sex offender recidivism: A review. *Psychological Bulletin, 105*, 3-30.
- Gacono, C., & Meloy, J. (1994). *The Rorschach assessment of aggressive and psychopathic personalities*. Mahwah, NJ: Lawrence Erlbaum.

- Gardner, W., Lildz, C., Mulvey, E., & Shaw, E. (1996). Clinical versus actuarial predictions of violence by patients with mental illnesses. *Journal of Consulting and Clinical Psychology, 64*, 602-609.
- Gebhard, P. H., & Johnson, A. B. (1979). *The Kinsey data: Marginal tabulations of the 1938-1963 interviews conducted by the Institute for Sex Research*. Philadelphia: Saunders.
- Geer, J., Estupian, L., & Manguno-Mire, G. (2000) Empathy, social skills, and other relevant cognitive processes in rapists and child molesters. *Aggression and Violent Behavior, 5*, 99-126.
- Gijs, L., & Gooren, L. (1996). Hormonal and psychopharmacological interventions in the treatment of paraphilias: An update. *Journal of Sex Research, 33*, 273-291.
- Gilgun, J.F., (1995). We shared something special: The moral disclosure of incest perpetrators. *Journal of Marriage and the Family, 57*, 265-281.
- Gorenstein, E. (1982). Frontal lobe functions in psychopaths. *Journal of Abnormal Psychology, 91*, 368-379.
- Grove, W. M., & Meehl, P. E. (1996). Comparative efficiency of informal (subjective impressionistic) and formal (mechanical, algorithmic) prediction procedures: The clinical-statistical controversy. *Psychology, Public Policy, and Law, 2*, 293-323.
- Grubin, D. (1998). Sex offending against children: Understanding the risk. Police Research Series, Paper 99. London: Home Office.
- Gunn, J. (1993). Dangerousness. In: J. Gunn & P. Taylor (Eds.), *Forensic Psychiatry: Clinical, Legal and ethical issues*. London: Butterworth Heinemann.
- Hall, G. (1995). Sexual offender recidivism revisited: A meta-analysis of recent treatment studies. *Journal of Consulting and Clinical Psychology, 63*, 802-809.

- Hanson, R.K. (1997). *The development of a brief actuarial risk scale for sexual offense recidivism, RRASOR* Ottawa, Ontario: Department of the Solicitor General of Canada. Department of the Solicitor General of Canada Website, www.sgc.gc.ca.
- Hanson, R.K. (1998). What we know about sex offender risk assessment. *Psychology, Public Policy and the Law*, 4, 50-72.
- Hanson, R.K. (2000). *Risk assessment*. Beaverton, OR: Association for the treatment of Sexual Abusers.
- Hanson, R.K. (2001). *Age and sexual recidivism: A comparison of rapists and child molesters*. User Report 2001-01. Ottawa: Department of the Solicitor General of Canada. Department Solicitor General of Canada website, www.sgc.gc.ca.
- Hanson, R.K. (2001). Note on the reliability of the STATIC-99 as used by the California Department of Mental Health evaluators. Unpublished report. Sacramento, CA: California Department of Mental Health.
- Hanson, R.K. (2002). Age and recidivism: Follow-up data from 4,673 sexual offenders. *Journal of Interpersonal Violence*, 17, 1046-1062.
- Hanson, R.K., & Bussiere, M. T. (1998). Predicting relapse: A meta-analysis of sexual offender recidivism studies. *Journal of Consulting and Clinical Psychology*, 66, 348-362.
- Hanson, R.K., & Harris, A. (2000). Where should we intervene? Dynamic predictors of sexual offense recidivism. *Criminal Justice and Behavior*, 27, 6-35.
- Hanson, R.K., & Morton-Bourgon, K. (2005). The characteristics of persistent sexual offenders: A meta-analysis of recidivism studies. *Journal of Consulting and Clinical Psychology*, 73, 1154-1163.

- Hanson, R.K., & Thornton, D. (1999). *Static-99: Improving actuarial risk assessments of sex offenders*. User Report 99-02. Ottawa, Ontario: Department of the Solicitor General of Canada. Department of the Solicitor General of Canada Website, www.sgc.gc.ca.
- Hanson, R.K., & Thornton, D. (2000). Improving risk assessments for sex offenders: A comparison of three actuarial scales. *Law and Human Behavior*, 24, 119-136.
- Hanson, R.K., & Thornton, D. (2002). Notes on the development of the Static-2002. Unpublished manuscript.
- Hare, R. D. (1991). *The Hare Psychopathy Checklist-Revised*. Toronto, Ontario: Multi-Health Systems.
- Hare, R. D. (1993). *Without conscience: The disturbing world of the psychopaths among us*. New York: Pocket Books.
- Hare, R. D. (1998). Psychopaths and their nature: Implications for the mental health and criminal justice systems. In T. Million, E. Simonsen, M. Birket-Smith, & R. Davis (Eds.), *Psychopathy: antisocial, criminal, and violent behavior* (pp. 188-212). New York: Guilford Press.
- Hare, R. D., Harpur, T., Hakstian, A., Forth, A., Hart, S., & Newman, J. (1990). The Revised Psychopathy Checklist: Descriptive statistics, reliability, and factor structure. *Psychological Assessment*, 2, 338-341.
- Harris, A., Phenix, A., Hanson, K., & Thornton, D. (2003). *Static-99 Coding Rules Revised-2003*. Solicitor General Canada.
- Harris, G. T., Rice, M. E. & Quinsey, V. L. (1998). Appraisal and management of risk in sexual aggressors: Implications for criminal justice policy. *Psychology, Public Policy, and Law*, 4, 73-115.

- Harris, G. T., Rice, M. E. & Quinsey, V. L., Boer, D., Lang, C. (2002). A multi-site comparison of actuarial risk assessments of sex offenders. Manuscript submitted for publication.
- Harris, G. T., Rice, M. E., Quinsey, V. L., Lalumière, M. L., Boer, D., & Lang, C. (2003). A multisite comparison of actuarial risk instruments for sex offenders. *Psychological Assessment, 15*, 413–425.
- Hart, S., Cox, D., & Hare, R. (1995). *Hare Psychopathy Checklist Screening Version (PCL: SV)*. Toronto, Ontario: Multi-Health Systems.
- Hart, S. & Hare, R. (1989) Discriminant validity of the Psychopathy Checklist in a forensic psychiatric population. *Psychological Assessment: Journal of Consulting and Clinical Psychology, 1*, 211–218.
- Hart, S. D., & Hare, R. D. (1997). Psychopathy: Assessment and association with criminal conduct. In D. Stoff, J. Breiling, & J. D. Maser (Eds.), *Handbook of antisocial behavior* (pp. 22- 35). New York: John Wiley.
- Hayes, S., Nelson, R. & Jarrett, R. (1987). The treatment utility of assessment: A functional approach to evaluating assessment quality. *American Psychologist, 42*, 963-974.
- Hazelwood, R., & Warren, J. (2000). The sexually violent offender: Impulsive or ritualistic? *Aggression and Violent Behavior, 5*, 267-279.
- Heilbrun, K., Nezu, C., Keeney, M., Chung, S., & Wasserman, A. (1998). Sexual offending: Linking assessment, intervention, and decision making. *Psychology, Public Policy, and Law, 4*, 138-174.
- Hickey, E. (1997). *Serial murderers and their victims* (2nd Ed.). Belmont, CA: Wadsworth.

- Hildebrand, M. & de Ruiter C. (2004) PCL-R psychopathy and its relation to DSM-IV Axis I and II disorders in a sample of male forensic psychiatric patients in the Netherlands. *International Journal of Law and Psychiatry*, 27, 233–248.
- Hildebrand, M., de Ruiter, C., & de Vogel, V. (2004). Psychopathy and sexual deviance in treated rapists: Association with sexual and nonsexual recidivism. *Sexual Abuse: A Journal of Research and Treatment*, 16, 1–24.
- Kafka, M. (1991). Successful treatment of nonparaphilic sexual addictions and paraphilias in men. *Journal of Clinical Psychiatry*, 52, 60-65.
- Hudson, M. & Ward, T. (1997). Intimacy, loneliness, and attachment styles in sexual offenders. *Journal of Interpersonal Violence*, 12, 323-339.
- Kalichman, S. (1991). Psychopathology and personality characteristics of criminal sexual offenders as a function of victim age. *Archives of Sexual Behavior*, 20, 187-197.
- Kansas v. Hendricks, 65 U.S.L.W. 4564, (June 23, 1997).
- Kernberg, O. (1975). *Borderline conditions and pathological narcissism*. New York: Aronson.
- Kernberg, O. (1984). *Severe personality disorders*. New Haven: Yale University Press.
- Klassen, D., & O'Connor, W. (1988). A prospective study of predictors of violence in adult male mental health admissions. *Law and Human Behavior*, 12, 143-158.
- Lalumiere, M., & Harris, G. (1998). Common questions regarding the use of phallometric testing with sexual offenders. *Sexual Abuse: Journal of Research and Treatment*, 10, 227-237.
- Lang, R., Pugh, G., & Langevin, R. (1988). Treatment of incest and pedophilic offenders: A pilot study. *Behavioral Science and the Law*, 6, 239-255.

- Langevin, R., Curnoe, S., Fedoroff, P., Bennett, R., Langevin, M., Peever, C., Pettica, R., & Sandhu, S. (2004). Lifetime Sex Offender Recidivism: A 25-year follow-up study. *Canadian Journal of Criminology and Criminal Justice, Oct*, 531-552.
- Laws, D., Hudson, S., & Ward, T. (2000). Remaking relapse prevention with sex offenders: A sourcebook. Thousand Oaks, CA: Sage.
- Laws, J. & Schwartz, P. (1977). *Sexual Scripts: The social construction of female sexuality*. Hinsdale, IL: Dryden Press.
- Lee, K., Proeve, M., Lancaster, M., & Jackson, H. (1996). An evaluation and 1-year follow-up study of community based treatment program for sex offenders. *Australian Psychologist, 31*, 147-152.
- Levine, M. & Troiden, R. (1988). The myth of sexual compulsivity. *Journal of Sex Research, 25*, 347-363.
- Liljequist, L., Kinder, B., & Schinka, J. (1998). An investigation of malingering posttraumatic stress disorder on the Personality Assessment Inventory. *Journal of Personality Assessment, 71*, 322-336.
- Lipton, D. (1998). Therapeutic communities: History, effectiveness and prospects. *Corrections Today, 60*, 106-111.
- Litwack, T., Kirschner, S., & Wack, R. (1993). The assessment of dangerousness and predictions of violence: Recent research and future prospects. *Psychiatric Quarterly, 64*, 245-273.
- Looman, J., Abracen, J., Serin, R., & Marquis, P. (2005). Psychopathy, treatment change and recidivism in high risk high need sexual offenders. *Journal of Interpersonal Violence, 5*, 549-568.
- Lykken, D. (1995). *The Antisocial Personalities*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Marketing Department. BYU electronic media. *Stepwise Discriminant Analysis*. url:

<http://marketing.byu.edu/htmlpages/books/pcmds/DISCRIM.html>.

Marques, J. K., (1999). How to answer the question: "Does sex offender treatment work?" *Journal of Interpersonal Violence, 14*, 437-451.

Marques, J., Day, D., Nelsen, C., & West, M. (1994). Effects of cognitive-behavioral treatment on sex offender recidivism. *Criminal Justice and Behavior, 21*, 28-54.

Marshall, W.L. (1999). Current status of North American assessment and treatment programs for sexual offenders. *Journal of Interpersonal Violence, 14*(3), 221-239.

Marshall, W.L., & Barbaree, H. (1988). The long-term evaluation of a behavioral program for child molesters. *Behaviour Research and Therapy, 26*, 499-511.

Marshall, W.L., & Barbaree, H., & Fernandez, Y. (1995). Some aspects of social competence in sexual offenders. *Sexual Abuse: A Journal of Research and Treatment, 7*, 13-127.

Marshall, W.L., & Eccles, A. (1991). Issues in clinical practice with sex offenders. *Journal of Interpersonal Violence, 6*, 68-93.

Marshall, W.L., & Eccles, A. (1996). Cognitive-behavioral treatment of sex offenders. In V. B. Van Hasselt & M. Hersen (Ed) *Sourcebook of Psychological Treatment Manuals For Adult Disorders* (pp. 295-332). New York: Plenum Press.

Marshall, W., Fernandez, Y., Serran, G., Mulloy, R., Thornton, D. Mann, R., & Anderson, D. (2003). Process issues in the treatment of sex offenders: A review of relevant literature. *Aggression and Violent Behavior, 8*, 205-235.

Marshall, W. L., Hudson, S., & Jones, R. (1994). Sexual deviance. In P. H. Wilson (Ed.), *Principles and Practice of Relapse Prevention* (pp. 235-254). New York: Guilford Press.

- Marshall, W.L., Payne, K., Barbaree, H., & Eccles, A. (1991). Exhibitionists: Sexual preferences for exposing. *Behaviour Research and Therapy*, 29, 37-40.
- Meehl, P. (1954). *Clinical versus statistical prediction: A theoretical analysis and a review of the evidence*. Minneapolis, MN: University of Minnesota Press.
- Meehl, P. (1960). The cognitive activity of the clinician. *American Psychologist*, 15, 19-27.
- Meloy, J. R. (2002). The “polymorphously perverse” psychopath: Understanding a strong empirical relationship. *Bulletin of the Menninger Clinic*, 66, 273-289.
- Meloy, J. R. (1988). *The psychopathic mind: Origins, dynamics and treatment*. Northvale, NJ: Aronson.
- Meloy, J. R. (1992). *Violent attachments*. Northvale, NJ: Aronson.
- Menzies, R., & Webster, C. (1995). Construction and validation of risk assessments in a six-year follow-up of forensic patients: A tri-dimensional analysis. *Journal of Consulting and Clinical Psychology*, 63, 766-778.
- Monahan, J. (1981). *The clinical prediction of violent behavior*. Washington DC: Government Printing Office.
- Monahan, J. (1988). Risk assessment of violence among the mentally disordered: Generating useful knowledge. *International Journal of Law and Psychiatry*, 11, 249-257.
- Monahan, J., & Steadman, H. (1994). *Violence and mental disorder: Developments in risk assessment*. Chicago: Chicago University Press.
- Mortuik, L., & Porporino, F. (1992). *The prevalence, nature and severity of mental health problems among federal male inmates in Canadian penitentiaries* (Report No. 24). Ottawa, Canada: Correctional Services of Canada.

- Mossman, D. (1994). Assessing predictions of violence: Being accurate about accuracy. *Journal of Consulting and Clinical Psychology, 62*, 783-792.
- Morey, L.C. (1991). *Personality Assessment Inventory: Professional Manual*. Odessa, FL: PAR.
- Morey, L.C. (1996). *An Interpretive Guide to the Personality Assessment Inventory (PAI)*. Odessa, FL: PAR.
- Neidigh, L., & Krop, H. (1992). Cognitive distortions among child sexual offenders. *Journal of Sex Education & Therapy, 18*, 208-215.
- Nelson, R. O. (1988). Relationships between assessment and treatment within a behavioral perspective. *Journal of Psychopathology and Behavioral Assessment, 10*, 155-170.
- Nelson-Gray, R. O. (2003). Treatment Utility of Psychological Assessment. *Psychological Assessment, 15*, 521-531.
- Nichols H., & Molinder I. (1984) The Multiphasic Sex Inventory- I manual. Available from: Nichols and Molinder, 437 Bowes Drive, Tacoma, WA 98466, USA.
- Nichols H., & Molinder I. (2003) The Multiphasic Sex Inventory- II manual. Available from: Nichols and Molinder, 437 Bowes Drive, Tacoma, WA 98466, USA.
- Nunes, K., Firestone, P., Bradford, J., Greenberg, D., & Broom, I. (2002). A comparison of Modified versions of the Static-99 and the Sex Offender Risk Appraisal Guide. *Sexual Abuse: A Journal of Research and Treatment, 14*, 253-269.
- Oliver, M., & Wong, S. (2006). Psychopathy, sexual deviance, and recidivism among sex offenders. *Sexual Abuse: A Journal of Research and Treatment, 18*, 65-82.
- Parker, J., Daleiden, E., & Simpson, C. A. (1999). Personality Assessment Inventory substance-use scales: Convergent and discriminant relations with addiction severity index in a residential chemical dependence treatment setting. *Psychological Assessment 11*, 507-513.

- Pollock, N., & Hasmall, J. (1991). The excuses of child molesters. *Behavioral Sciences and the Law*, 9(1), 53-59.
- Porter, S., Fairweather, D., Drugge, J., Herv'e, H., Birt, A., & Boer, D. P. (2000). Profiles of psychopathy in incarcerated sexual offenders. *Criminal Justice and Behavior*, 27, 216-233.
- Quinsey, V. L., Harris, G. T., Rice, M. E., & Cormier, C. A. (1998). *Violent offenders: Appraising and managing risk*. Washington DC: American Psychological Association.
- Quinsey, V. L., Harris, G. T., Rice, M. E., & Lalumiere, M. L. (1993). Assessing treatment efficacy in outcome studies of sex offenders. *Journal of Interpersonal Violence*, 8, 512-523.
- Quinsey, V. L., & Lalumiere, M. L. (1995). Evolutionary perspectives on sexual offending. *Sexual Abuse*, 7, 301-315.
- Quinsey, V. L., Lalumiere, M. L., Rice, M. E., & Harris, G. T. (1995). Predicting sexual offenses. In J. C. Campbell (Ed.), *Assessing dangerousness: Violence by sexual offenders, batterers, and child abusers* (pp. 114-137). Thousand Oaks, CA: Sage.
- Raine, A. (1993). *The Psychopathology of Crime: Criminal Behavior as a Clinical Disorder*. San Diego, CA: Academic Press.
- Rice, M. E., & Harris, G. T. (1997). Cross-validation and extension of the Violence Risk Appraisal Guide for child molesters and rapists. *Law and Human Behavior*, 21, 231-241.
- Rice, M. E., & Harris, G. T. (1997). The treatment of adult offenders. In D. Stoff, J. Breiling, J. D. Maser (Eds.), *Handbook of antisocial behavior* (pp. 425-435). New York: John Wiley.
- Rogers, R., Flores, J., Ustad, K., & Sewell, K. (1995). Initial validation of the Personality Assessment Inventory-Spanish Version with clients from Mexican American communities. *Journal of Personality Assessment*, 64, 340-348.

- Savage, D. G. (2001). A matter of control. *ABA Journal*, 87 (11), 30-31.
- Schwartz, B. (1995). Theories of sex offenses. In B. Schwartz & H. Cellini (Ed) *The Sex Offender: Corrections, treatment, and legal practice* (pp. 1-1-1-13). Kingston: Civic Research Institute, Inc.
- Serin, R. C., Malcolm, P. B., Khanna, A., & Barbaree, H. E. (1994). Psychopathy and deviant sexual arousal in incarcerated sexual offenders. *Journal of Interpersonal Violence*, 9, 3–11.
- Serin, R., Mallioux, D., & Malcolm, P. (2001). Psychopathy, deviant sexual arousal and recidivism among sexual offenders. *Journal of Interpersonal Violence*, 16, 234-246.
- Seto, M. C. & Barbaree, H. E. (1999). Psychopathy, treatment behavior, and sex offender recidivism. *Journal of Interpersonal Violence*, 14, 1235-1248.
- Shaw, T., Herkov, M., & Greer, R. (1995). Examination of treatment completion and predicted outcome among incarcerated sex offenders. *Bulletin of the Academy of Psychiatry and Law*, 23, 35–41.
- Sjostedt, G., & Langstrom, N. (2001). Actuarial assessment of sex offender recidivism risk: A cross-validation of the RRASOR and Static-99 in Sweden. *Law and Human Behavior*, 25, 629-645.
- Stadtland, C., Hollweg, M., Kleindienst, N., Dietl, J., Reich, U., & Nedopil, N. (2005). Risk assessment and prediction of violent and sexual recidivism in sex offenders: Long-term predictive validity of four risk assessment instruments. *Journal of Forensic Psychiatry and Psychology*, 16, 92-108.
- StatSoft, Inc (1984-2003). *Discriminant Function Analysis*. url:
<http://www.statsoft.com/textbook/stdiscan.html>.

Steadman, H., Monahan, J., Robbins, P., Appelbaum, P., Grisso, T., Klassen, D., et al. (1993). From dangerousness to risk assessment: Implications for appropriate research strategies. In: S.

Hodgins (Ed), *Crime and Mental Disorder*. California: Sage.

Tabachnick, B., & Fidell, L. (2001). *Using Multivariate Statistics: Fourth Edition*. Needham Heights, MA: Allyn and Bacon.

Thornton, D. & Travers, R. (1991). A longitudinal study of the criminal behaviour of convicted sexual offenders. In Her Majesty's Prison Service Psychology Conference. Conference Proceedings, Hotel St. Nicholas, Scarborough, 16-18 Oct, 1991. London: Her Majesty's Prison Service.

Wang, E., & Diamond, P. (1999). Empirically identifying factors related to violence risk in corrections. *Behavioral Sciences and the Law*, 17, 377-389.

Wang, E., Rogers, R., Giles, C., Diamond, P., Herrington-Wang, L., & Taylor, E. (1997). A pilot study of the Personality Assessment Inventory (PAI) in corrections: Assessment of malingering, suicide risk, and aggression in male inmates. *Behavioral Sciences and the Law*, 15, 469-482.

Wood, R., Grossman, L., & Fichter, C. (2000). Psychological assessment, treatment, and outcome with sex offenders. *Behavioral Sciences and the Law*, 18, 23-41.