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Sexual Offenders in Prison Psychiatric Treatment

A Biopsychosocial Description

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In this study, 120 males (60 sexual offenders and 60 non–sexual offenders) in psychiatric treatment while in prison were evaluated using neuropsychological, psychological, and sociological/demographic measures. All sexual offenders ($N = 60$) would be evaluated for potential civil commitment as sexually violent predators before prison release. Non–sexual offenders ($N = 60$) had not been convicted of a sexual offense. Sexual offenders demonstrated significantly more overall neuropsychological impairment suggesting diffuse brain differences, with dysfunction primarily associated with temporal and frontal brain cortexes; higher Psychopathy Checklist–Revised Factor 1 (Interpersonal/Affective) ratings and Rorschach responses indicated disordered attachment, disordered self-perception, and impulsive emotionality. Sexual offenders also were more likely to be younger and unmarried. Stepwise logistic regression analysis resulted in 80.20% accuracy of prediction of sexual offenders. Potential application of this empirically derived multidimensional description to treatment of sexual offenders is discussed. Potential limitations to generalization of this information are also discussed.

Keywords: *sexual offenders; sexually violent predator; biopsychosocial; neuropsychology; Rorschach; psychopathy*

Since the early 1990s, there has been increasing concern about sexual offending, and a number of states within the United States of America have passed legislation establishing civil commitment of some offenders identified as sexually violent predators (SVPs) after they have served their prison sentence (LaFond, 1998, 2003). Although there are some differences in definition, most states have defined SVP as a person who has been convicted of a violent sexual offense against two or more victims, who has a diagnosed mental disorder, and who has been determined to be a danger to the health and safety of others in that it is likely he will engage in future violent behavior (Washington State Institute for Public Policy, 2005). The first states

to enact SVP legislation include Washington (1990), New Jersey (1994), Minnesota (1994), Kansas (1994), and California (1996). As of December 2004, a total of 17 states had implemented SVP legislation, resulting in 3,493 persons who were civilly committed and retained in custody beyond their original prison sentence. As of that same date, only 427 persons who were classified as SVP had been released from institutional confinement, emphasizing the magnitude of the need for sexual offender treatment programs for offenders whose incarceration has been continued. Although there is variation among state SVP statutes, all SVP statutes identify societal protection as the primary goal, and all incorporate the assessment of risk for reoffending as an inherent criterion in SVP commitments. Once a person has been classified as an SVP, most states require initial placement in a secure facility, and most require some level of community aftercare following release (Washington State Institute for Public Policy, 2005). One example of the impact of SVP legislation is that in one state alone, as of 2007, California had committed 582 persons to treatment in a secure forensic facility (California Department of Mental Health, 2007).

Considering the gravity of involuntarily confining an individual beyond his or her original criminal sentence, there has been increasing concern for understanding who the sexual offender is, how the sexual offender may differ from other, non–sexual offenders, and what treatment or treatments may be the most effective in reducing the risk of sexual reoffending once the offender has been released from prison. The first purpose of this study, therefore, was to provide a multimethod description of brain functioning, psychological functioning, and social and demographic characteristics of men who had been convicted of sexual offending and would be evaluated for possible civil commitment, and if designated to be SVPs, would continue incarceration in some type of sexual offender treatment until it was determined that they were no longer of danger to society. Although research studies have identified brain functioning and psychological or sociological and demographic characteristics of sexual offenders (Langevin, 1985; Mohr, Turner, & Jerry, 1964; Ward & Beech, 2005), to our knowledge, no studies have provided an empirically based multitrait (biopsychosocial) description of sexual offenders in prison psychiatric treatment using empirically based psychometric (neuropsychological, Rorschach, and psychopathy) measures.

Differences in brain functioning of sexual offenders have been described by several investigators. Using computed tomography (CT) scans, regional blood flow, and neuropsychological testing, Graber, Hartman, Coffman, Huey, and Golden (1982) reported that 50% of sexual offenders showed brain dysfunction. Using the Luria-Nebraska Neuropsychological Battery, Galski, Thornton, and Shumsky (1990) concluded that there was a significant relationship between sexual offending and brain impairment, reporting that 49% of sexual offenders in their research showed neuropsychological impairment. These investigators further reported neuropsychological impairment for both "violent" (sexual offenses involving bodily assault) and "nonviolent" (sexual offenses not involving bodily assault) sexual offenders. More recently, using neuropsychological testing Joyal, Black, and Dassylva (2007) also

described brain dysfunction among sexual offenders. Patrick, Bradley, and Lang (1993) identified abnormal startle response in sexual offenders, suggesting dysfunction of integration of brain structures underlying senses and memory and brain structures underlying arousal processes in emotion and executive functioning (Kolb & Wishaw, 2003). Blummer (1970) and Langevin (1990) both identified temporal lobe dysfunction among sexual offenders. Using positron emission tomography (PET) scans, Mendez, Chow, Ringman, Twitchell, and Hinkin (2000) identified temporal lobe disturbances among pedophiles. Kafka (1991, 1994) reported improvement in paraphilias when treated with antidepressant (fluoxetine, imipramine) and mood stabilizer (lithium) medications, suggesting a probable link of neurotransmitter abnormality among sexual offenders. Using neuroimaging procedures and neuropsychological testing, several other investigators have reported similar results. Umile, Rosette, Plotkin, and Sandel (1998) reported relationships between impaired neuropsychological abilities and abnormal single proton emission computed tomography (SPECT) scans among sexual offenders. Aigner et al. (2000) reported magnetic resonance imaging (MRI) abnormalities in 59.4% of violent sexual offenders and in 22.2% of low violent sexual offenders. Gillespie and McKenzie (2000) identified a high incidence of left frontotemporal dysfunction among sexual offenders. Fago (2003) reported the prevalence of comorbid neurodevelopmental deficits among child and adolescent sexual offenders (6 to 17 years of age). Spinella, White, Frank, and Schiraldi (2006) reported prefrontal, particularly orbitofrontal, dysfunction among sexual offenders.

Psychological characteristics of sexual offenders have also been described by several independent investigators. Although some researchers have reported lower incidence of psychiatric disorder among sexual offenders and although clearly not all sexual offenders experience psychiatric disorder, Raymond, Coleman, Ohlerking, Christenson, and Miner (1999) reported that as many as 93% of sexual offenders suffered a mental disorder that met criteria for an Axis I mental disorder other than paraphilia, primarily depression or psychosis. Kafka and Hennen (2002) reported 72% incidence of mood disorder, 38% incidence of anxiety disorder, 41% incidence of drug abuse, and 36% incidence of attention deficit hyperactivity disorder among sexual offenders. Using a secondary offense related to drugs as the measure of drug use, Jonson-Reid and Way (2001) identified high incidence of alcohol and drug abuse among sexual offenders.

Also evaluating psychiatric characteristics of sexual offenders, Fisher, Beech, and Browne (1999) and Lyn and Burton (2004) identified emotional characteristics of lower self-perception, increased loneliness, increased personal distress, decreased empathy, and disordered emotional attachment as characteristics of sexual offenders. Bridges, Wilson, and Gacono (1998) identified emotional defensiveness, negative self-perception, and narcissistic self-focus as characteristics of sexual offenders. Gacono, Meloy, and Bridges (2000) identified limited interest in interpersonal connections and marked emotional dependency as characteristics of sexual offenders as

compared to violent non–sexual offenders. Similarly, Huprich, Gacono, Schneider, and Bridges (2004) identified interpersonal interest and marked emotional dependency as characteristics of sexual offenders. High incidence of psychopathy among sexual offenders has also been identified by several investigators (Gacono, 2000; Porter et al., 2000; Serin, Mailloux, & Malcolm, 2001).

In addition to biological and psychological characteristics, demographic and social characteristics of sexual offenders have also been described in independent investigations. Young age and single relationship were identified as describing sexual offenders (Hanson & Bussiere, 1998; Prentky, Knight, & Lee, 1997; Rice & Harris, 1995). Jonson-Reid and Way (2001) reported that Caucasians were at least 3 times more prevalent than Hispanics among adolescent sexual offenders. Several investigators have reported childhood victimization (physical and/or sexual) as an identifying characteristic of sexual offenders (Aylwin, Studer, Reddon, & Clelland, 2003; Ford & Linney, 1995; Jonson-Reid & Way, 2001; Widom, 1995; Worling, 1995).

With the exception of research investigations specifically evaluating psychological and psychiatric characteristics of sexual offenders (Jonson-Reid & Way, 2001; Kafka & Hennen, 2002; Raymond et al., 1999), to our knowledge, other studies cited here evaluated sexual offenders who did not have known psychiatric disorders other than disorders specifically associated with sexual offending. Although these studies provide information about biological and psychological characteristics of sexual offenders, to our knowledge, similar information has not been reported using empirical psychometric measures describing characteristics of sexual offenders who were receiving psychiatric treatment while in prison, who would be evaluated as potentially violent sexual predators, and who—if identified as SVPs—would continue incarceration in an inpatient sexual offender treatment program.

Using psychometric, social, and demographic information, the purposes of this study were (a) to provide a comprehensive empirical description of sexual offenders in psychiatric treatment who, before their release from prison, would be evaluated for possible civil commitment under legislation on sexually violent predators; (b) to describe ways in which these sexual offenders differed from offenders who had not been convicted of a sexual offense; (c) to evaluate the effectiveness of this multitrait description to identify sexual offenders who were receiving psychiatric treatment while in prison; and (d) to discuss ways in which this empirically derived information could be useful in treatment of sexual offenders identified as SVPs.

Hypotheses were established based on information gained from the previously described independent research studies. It was hypothesized that on neuropsychological measures, sexual offenders who were receiving psychiatric treatment while in prison would have greater incidence of overall brain difference, with impairment predominantly affecting the temporal and frontal cortexes. Secondly, it was hypothesized that these sexual offenders would have greater incidence of psychological

dysfunction characterized by Rorschach indexes of depression or psychosis (Rorschach Depression and Schizophrenia Indexes). Thirdly, it was hypothesized that these sexual offenders would have greater indication of emotional characteristics suggesting disordered attachment, disordered self-perception, emotional distress, impulsivity, and characteristics of psychopathy. Lastly, it was hypothesized that these sexual offenders would be younger, predominantly Caucasian, and unmarried and would more frequently report histories of childhood victimization (physical and/or sexual).

Method

Participants

Participants were 120 male offenders drawn from a larger sample of male offenders ($N = 246$) in a larger research study describing offenders who had been referred for psychiatric treatment while in prison. The original sample ($N = 246$) represented randomly selected male offenders with all types of felony offenses, sexual and nonsexual. From this larger sample, all sexual offenders ($N = 60$) were compared to an equal number ($N = 60$) of offenders who were randomly selected from the larger group of offenders who had been convicted of a felony offense but had never been convicted of a sexual offense (non–sexual offenders). Sexual offenses included rape, spousal rape, lewd or lascivious acts with a child younger than 14 years, and continuous abuse of a child. Nonsexual offenses included any other offense ranging in severity of violence from robbery to murder. Only offenses for which the participant had been convicted were considered. It is reasonable to conclude, therefore, that by taking this conservative approach, some offenders may have been misclassified as non–sexual offenders. The project was approved and reviewed annually by the Statewide Committee for the Protection of Human Subjects and by the Department of Corrections Office of Research.

The treatment program from which participants were selected was a psychiatric treatment program located within a prison. The goals of this program were clinical evaluation, brief treatment, and return to the general prison population with recommendations for further treatment—or no further treatment—depending on the offender's psychiatric needs. Any male offender throughout the state correctional system was eligible for referral to this program. The continuum of psychiatric symptoms varied, ranging from no mental disorder to severe psychiatric symptoms. With the exception of some offenders who were admitted for treatment because they were considered "vulnerable," no further requirements for admission were in place. Although sexual offenders were treated in the program, the program was not specifically a sexual offender treatment program, and offenders were not admitted for treatment based on any specific characteristics other than psychiatric need. Evaluation and treatment were carried out by interdisciplinary treatment teams (psychiatrists, psychologists, clinical social workers, rehabilitation therapists, and nursing personnel). The

treatment program was primarily based on a cognitive–behavioral model, emphasizing psychoeducational and skill-building groups to develop and refine coping abilities.

Materials

Demographic and social information were obtained through semistructured interview with the offender and comprehensive review of his criminal, medical, and psychiatric records. Brain functioning was evaluated using neuropsychological measures[1] that included the Test of Non-Verbal Intelligence (TONI III; Brown, Sherbenou, & Johnsen, 1997), tests from the Halstead-Reitan Neuropsychological Battery (Reitan & Wolfson, 1985), and the Wisconsin Card Sorting Test (Heaton, Chelune, Talley, Kay, & Curtis, 1993). To allow common communication among professionals, neuropsychological test scores were converted to age- and education-adjusted standardized *T*-scores (Heaton, Grant, & Matthews, 1991). Emotional functioning was evaluated using measures from the Rorschach Test,[2] scored using the Comprehensive System (Exner, 1995). Psychopathy was evaluated using the Psychopathy Checklist–Revised (PCL-R), addressing PCL-R factors (Factor I-Interpersonal/Affective and Factor II-Lifestyle/Antisocial) as well as facets within these factors (Interpersonal, Affective, Lifestyle, Antisocial; Hare, 2003).

Neuropsychological testing was supervised and/or administered by a board-certified neuropsychologist (American Board of Professional Psychology). Rorschach was administered and scored using the Comprehensive System (Exner, 1995). Two raters coded 15 randomly selected Rorschach protocols to establish intercoder agreement. Agreement (Cohen, 1960) ranged from moderate (0.75) to high (1.00; Landis & Koch, 1977). The PCL-R was administered by two investigators who were certified (Darkstone Research Group Certification Program) in administration of this measure. PCL-R was administered using interview and record reviews but without knowledge of psychological and/or neuropsychological testing results and without knowledge of grouping (sexual offender or non–sexual offender) of participants in this study. Using the criteria of agreement within 2 total points, there was 70% interrater agreement in total PCL-R ratings. Using the criteria of agreement within 3 total points, there was 100% interrater agreement in total PCL-R rating. Significant correlations between raters were demonstrated for Factor 1 rating ($r = .91$, $p = .03$) and for the total score ($r = .95$, $p = .01$). Although still an acceptable level of agreement, significant correlation between raters was not demonstrated for Factor 2 rating ($r = .72$, $p = .09$). All measures were administered without knowledge of which participants would or would not be selected for inclusion in this study.

Procedures

All participants (sexual offenders and non–sexual offenders) had been randomly selected for participation in the original research project. From this sample, all participants who had committed a sexual offense and met criteria for evaluation for civil

commitment as SVPs before their release from prison were included in the sexual offender group. All non–sexual offenders had not been convicted of a current or prior sexual offense and composed the control group. Informed consent was obtained; criminal, medical, and psychological treatment records were reviewed; the participant was interviewed; and the previously described procedures were completed.

Results

Data were analyzed using independent *t* tests and/or chi-square tests. Measures that were independently significant were entered into a stepwise logistic regression. To accommodate for possible unequal distributions, all measures were also analyzed using Mann-Whitney. To accommodate for possible Type I error, Bonferroni corrected alpha of $p = .01$ was used.

Description of Sexual Offenders in Prison Psychiatric Treatment

Sexual offenders in prison psychiatric treatment were generally young (mean = 32 years, *SD* = 6, mode = 30) but had a wide range of ages (22 to 59 years). Sexual offenders predominantly did not graduate from high school (mean = 10th grade, *SD* = 2, mode = 10th grade) but had a wide range of education (5 to 18 years). One quarter received a general education degree (GED) while in prison. Sexual offenders were predominantly Caucasian (Caucasian = 52%, Black = 32%, Latino = 12%, Other = 4%), predominantly from the lowest socioeconomic group (SES; highest = 0%, lowest = 63%; Hollingshead, 1965), and were predominantly unmarried (77%). Non–sexual offenders in this study were generally young (mean = 33 years, *SD* = 8.23, mode = 29, range = 18 to 65 years) and did not graduate from high school (mean = 10 years of school, *SD* = 2, mode = 10, range = 3 to 16 years, $p = .48$); 21% had a GED. Of non–sexual offenders, 34% were Caucasian, 37% were Black, 22% were Latino, and 7% were another ethnic group. Non–sexual offenders also were predominantly in the lowest SES (highest = 0%, lowest = 71%) and were predominantly unmarried (90%).

Drug abuse was defined as meeting criteria for any substance-related disorder as described in the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM-IV-TR;* American Psychiatric Association, 2000). Drug abuse (including alcohol abuse) among sexual offenders in prison psychiatric treatment was pervasive (88% drug abuse), and of those who abused drugs, most abused multiple drugs (78% polysubstance abuse). Although this percentage of drug abuse is high, 87% of non–sexual offenders also abused drugs, and the U.S. Department of Justice (1999) reported that 89% of offenders in the United States used illegal drugs, with 76% of those prisoners reporting regular use of illegal drugs (not including alcohol). Family support for sexual offenders while in prison was limited, with 70% of prisoners reporting that they did not have continued family support while in prison. Forty-six percent of sexual offenders reported childhood victimization; 37% of those reporting childhood

victimization reported childhood sexual abuse, 41% reported childhood physical abuse, and 20% reported both childhood sexual and physical abuse.

The majority of these sexual offenders in prison psychiatric treatment were admitted for treatment because of threats of self harm (62%), but 27% were admitted for treatment because of reported psychiatric symptoms, primarily depression or psychosis. Eleven percent were admitted because they were considered to be "vulnerable" and in need of special housing and treatment while in prison. It is relevant to note that although 27% of sexual offenders were admitted for treatment because of psychiatric symptoms, 28% of all sexual offenders were discharged without an Axis I diagnosis other than sexual offense.

Although there was a wide range of intellectual functioning among sexual offenders in prison psychiatric treatment (exceptionally low IQ = 60 to superior IQ = 125), average intellectual functioning was in the low average range (mean IQ = 82.88, *SD* = 13.81, mode = 81), and the most frequent IQ was in the borderline range (mode = 75). Overall brain dysfunction was predominant (Impairment Index in impaired range = 73%), with impaired attention and concentration (Trail Making A = 66%, Seashore Rhythm = 52%), impaired episodic memory (Tactual Performance Test–Memory = 65% and Tactual Performance Test–Localization = 56%), and impaired executive functioning (Trail Making B = 60%, Category Test = 67%, Wisconsin Card Sorting Test Perseverative Errors $T \leq 40 = 41\%$), indicating diffuse brain dysfunction, with particular dysfunction of temporal and frontal brain cortex (Table 1). As indicated, neuropsychological tests were scored using age- and education-adjusted normative standards (Heaton et al., 1991). These percentages, therefore, may overestimate the severity of neuropsychological impairment among these offenders. (See Note 1 for further description of neuropsychological tests.)

Relevant Rorschach measures for sexual offenders and non–sexual offenders are described in Table 2. The Rorschach schizophrenia index was positive for 24% of sexual offenders, and 28% of sexual offenders were discharged with a psychotic diagnosis. The Rorschach depression index was positive for 17% of sexual offenders, but discharge diagnosis of mood disorder was substantially higher (28%). Reasons for this difference are not fully known, but it is speculated that this difference may be accounted for by the high number of sexual offenders who were admitted for self-reported threat of suicide (62%) but for whom threat of suicide was driven by a range of possible etiologies—sex offenders who experienced a typical stable depression disorder; those who experienced situational, temporary depressive symptoms secondary to incarceration; and/or sexual offenders threatening suicide for secondary gain (housing in a more desirable psychiatric program than in the general prison population). Although Rorschach measures provide a description of psychiatric functioning, Rorschach measures cannot and should not be used alone to establish psychiatric diagnoses. Rorschach measures are not used to establish psychiatric diagnoses in this study, and conclusions reported here, therefore, are not considered formal psychiatric diagnoses.

Table 1
Neuropsychological Description of Sexual Offenders and Non–Sexual Offenders in Prison Psychiatric Treatment

	Sex Offenders				Non–Sex Offenders			
Test	*n*	*M*	*SD*	% Impaired	*n*	*M*	*SD*	% Impaired
IQ	60	83.30	13.72		60	89.72	13.62	
Overall Impairment[a]	60	35.82	10.80	73	60	39.58	5.80	40
TPT–Memory	52	38.71	11.59	65	42	44.95	12.82	42
TPT–Location	52	39.33	8.44	56	42	46.05	14.98	35
Trail Making A	59	35.48	11.64	66	57	36.87	12.71	57
Trail Making B	58	37.45	12.28	60	57	37.16	14.15	50
Seashore Rhythm	56	39.91	13.90	52	54	43.33	13.04	42
Category Test	60	37.88	11.85	67	55	36.18	9.05	38
Wisconsin	40	41.35	11.70	41	53	46.87	18.49	30

Note: With the exception of IQ, scores are age- and education-adjusted *T*-scores. TPT = Tactual Performance Test; Wisconsin = Wisconsin Card Sorting Test Perseverative Errors *T*-score < 40.
a. Overall Impairment is *T*-score < 40 on Halstead-Reitan Impairment Index.

Disordered self-perception (Morbid responses ≥2 = 35%, Reflection responses >0 = 68%), disordered attachment (Texture <1 = 77%), Human responses (≤2 = 62%), and tendency toward unmodulated and impulsive emotional responding (Color Form and Color > Form Color = 78%) were predominant for sexual offenders in prison psychiatric treatment.

Using a total PCL-R score of ≥30, 28% of sexual offenders were psychopathic, with average PCL-R Factor 1 ratings of 9 (mode = 10.0) and average PCL-R Factor 2 ratings of 12 (mode = 15.0).

Although the percentage of sexual offenders in prison psychiatric treatment who were identified as psychopathic was high, this is not out of line with the percentage reported in the PCL-R standardization sample (22.9% psychopathic; Hare, 1991).

Biological factors. It was hypothesized that sexual offenders in prison psychiatric treatment would have greater indication of overall brain dysfunction (intellectual, neuropsychology Impairment Index) with particular dysfunction of functions associated with temporal (Tactual Performance Test–Memory and Tactual Performance Test–Location) and frontal (Trails A and B, Seashore Rhythm, Category, Wisconsin Card Sorting Perseveration Errors) brain cortexes. Consistent with hypotheses, sexual offenders demonstrated significantly lower overall intellectual functioning ($p = .01$), significantly greater incidence of overall brain dysfunction ($p = .01$), and significantly greater impairment on neuropsychological tests predominantly measuring temporal and frontal brain cortexes (Tactual Performance Test–Memory $p = .01$,

Tactual Performance Test–Location $p = .001$, Wisconsin Perseverative Errors $p = .05$). With the exception of Wisconsin Perseverative Errors, all measures met Bonferroni corrected alpha ($p = .01$). With the exception of Wisconsin Perseverative Errors ($z = -1.32$, $p = .18$), Mann-Whitney analyses for all measures remained significant. Of note, on Seashore Rhythm Test, although *t*-test statistic was not significant ($p = .18$), Mann-Whitney was statistically significant ($z = -1.90$, $p = .05$). Table 1 provides further description of neuropsychological functioning.

Psychological factor. It was hypothesized that sexual offenders in prison psychiatric treatment would have Rorschach responses indicating greater incidence of psychotic thinking (Schizophrenia Index) and depression (Depression Index) and would have higher psychopathy ratings (PCL-R Total, Factor 1, Factor 2 ratings). It was further hypothesized that sexual offenders would have Rorschach responses suggesting more disordered self-perception (Reflection, Morbid responses), emotional distress (D and Adjusted D), disordered attachment (Texture, Human, Personal), and impulsive emotionality (Color Form + Color > Form Color). Of these hypotheses, sexual offenders significantly differed from non–sexual offenders on measures of disordered attachment (Texture responses $p = .03$, Human responses $p = .01$), disordered self-perception (Reflection responses $p = .04$, Morbid responses $p = .001$), and greater indication of impulsive emotionality (Color Form + Color > Form Color $p = .01$). Mann-Whitney remained significant for all measures. With the exception of one measure of disordered attachment (Texture $p = .03$) and one measure of disordered self-perception (Reflection $p = .04$), all other measures met Bonferroni corrected alpha ($p = .01$). Table 2 provides further description of Rorschach responding for sexual offenders and non–sexual offenders.

It was hypothesized that sexual offenders in prison psychiatric treatment would have higher ratings of psychopathy (PCL-R total rating), with higher Factor 1 (Interpersonal/Affective) and Factor 2 (Antisocial Lifestyle) ratings. Significant difference in psychopathy (total score ≥30) was not found. Sexual offenders, however, had significantly higher PCL-R Factor 1 ratings ($p = .03$) but significantly lower PCL-R Factor 2 ratings ($p = .01$). With the exception of lower PCL-R Factor 2 ratings, all measures met Bonferroni corrected alpha ($p = .01$). Mann-Whitney remained significant for all measures.

Social and Demographic Factors

It was hypothesized that sexual offenders in prison psychiatric treatment would be younger, unmarried, and Caucasian and would report more childhood victimization. Of these hypotheses, young age ($p = .03$) and unmarried status ($p = .02$) significantly identified sexual offenders. Neither measure met Bonferroni corrected alpha ($p = .01$), but all measures remained significant for Mann-Whitney.

Table 2
Rorschach Description for Sexual Offenders and Non–Sexual Offenders in Prison Psychiatric Treatment

	Sex Offenders		Non–Sex Offenders	
Rorschach Measures[a]	*n*	%	*n*	%
Schizophrenic Index ≥ 5	14	24	16	27
Depression Index ≥ 5	10	17	12	20
Coping Deficit Index ≥ 4	24	40	28	47
Morbid ≥ 2	21	35	10	17
Reflection > 0	41	68	9	15
D Score < 0	19	32	19	38
Adjusted D Score < 0	13	22	10	17
CF + C > FC (by ≥ 2)	47	78	34	57
Texture = 0	46	77	55	92
Human ≤ 2	37	62	44	73
Personal > 2	9	15	12	20

Note: CF + C > FC = Color Form and Color > Form Color.
a. Rorschach measures are clinically relevant cutoff scores (Exner, 1995).

Table 3 provides a summary of all measures that significantly differentiated sexual offenders from non–sexual offenders and includes test statistics (*t* test, chi-square, *z*) and effect size.

Logistic Regression Analysis

To assess the relative unique contribution of each of the measures as well as to describe the accuracy of these combined measures to predict the sexual offender in prison psychiatric treatment, stepwise hierarchical regression was conducted. Using measures that were independently significant, descriptors were entered in stepwise fashion using social (age, unmarried), psychological (PCL-R Factor 1, Factor 2), neuropsychological (intellectual functioning, neuropsychology Impairment Index, Tactual Performance Test–Memory, Tactual Performance Test–Location, and Wisconsin Perseverative Errors), and Rorschach (Texture, Reflection, Morbid, Human, Color Form + Color > Form Color) measures. The order of regression steps was determined by the researchers. Age and marital status were entered into the regression as Step 1 to control for the potential impact of these demographic and sociological measures on other regression results. Insignificance of these social and demographic measures, therefore, ensured that differences between sexual and non–sexual offenders in further steps were not primarily accounted for by age rather than by psychometric measures.

Each step independently added to the overall prediction of these sexual offenders. Although not independently significant ($p = .10$), social factors predicted sexual

Table 3
Summary of Measures Significantly Identifying Sex Offenders in Prison Psychiatric Treatment

Descriptor	Test Statistic	*z*	Odds Ratio / R^2
Biological			
Intellectual	t (118) = –2.37, p = .01***	–2.56, p = .01***	0.05
Overall Impairment[a]	t (118) = –2.38, p = .01***	–1.58, p = .01***	0.21
TPT–Memory	t (92) = –2.47, p = .01***	–2.42, p = .01***	0.06
TPT–Location	t (92) = –2.74, p = .001***	–1.92, p = .05*	0.08
Seashore	t (108) = –1.33, p = .18	–1.90, p = .05*	0.13
Wisconsin	t (91) = –1.75, p = .05*	–1.32, p = .18	0.02
Psychological			
PCL-R Factor 1	t (118) = 2.14, p = .03*	2.36, p = .01**	0.04
PCL-R Factor 2	t (118) = –2.61, p = .01**	–2.32, p = .02*	0.04
Rorschach			
Texture = 0	χ^2 (119) = –4.48, p = .03*		1.53
Reflection > 0	χ^2 (119) = 4.14, p = .04*		3.60
Morbid ≥ 2	χ^2 (119) = 7.83, p = .001***		1.27
Human	t (117) = –2.49, p = .01*	–2.25, p = .02*	0.04
CF + C > FC (by 2)	χ^2 (120) = 6.51, p = .01 **		1.21
Social/demographic			
Younger age	t (118) = –2.12, p = .03*	–1.72, p = .05*	0.05
Unmarried[b]	χ^2 (120) = 5.24, p = .02*	2.24, p = .02*	3.33

Note: TPT = Tactual Performance Test; Wisconsin = Wisconsin Card Sorting Test Perseveration Response; PCL-R Factor 1 = Psychopathy Checklist–Revised Factor 1 (Interpersonal/Affective) rating; PCL-R Factor 2 = Psychopathy Checklist–Revised Factor 2 (Lifestyle/Antisocial Lifestyle); CF + C > FC = Color Form and Color > Form Color.

a. Overall Impairment is Halstead Impairment Index *T*-Score ≤ 40.

b. Unmarried is single (single, divorced, widow, etc.) at time of evaluation.

*p = .05. **p = .01. ***p = .001.

offenders with 68.30% accuracy. Measures of psychological symptoms significantly added to the prediction (p = .01) and increased the accuracy to 70.30%. Neuropsychological measures also significantly added to the accurate prediction (p = .01) of sexual offenders, increasing prediction to 77.30%. Rorschach measures also significantly contributed to prediction (p = .001) of sexual offenders, and increased the accuracy of prediction of sexual offenders to 80.20% (Table 4).

Discussion

Using demographic, sociological, and standardized psychometric measures (neuropsychological, Rorschach, psychopathy), we described differences between sexual offenders and non–sexual offenders in prison psychiatric treatment and we evaluated the potential of this multitrait description to identify sexual offenders in prison

Table 4
Stepwise Logistic Regression Analysis Identifying Sex Offenders in Prison Psychiatric Treatment

Variable	Likelihood Ratio Chi-Square	*p*	*B*	*S*	Odds Ratio	Correct Classification (%)
Step 1—Social	4.49	.10				68.30
Age			0.06	0.03	1.06*	
Unmarried			0.66	0.57	1.92	
Step 2—Psychological	14.47	.01**				70.30
PCL-R Factor 1			0.15	0.06	1.16**	
PCL-R Factor 2			0.21	0.08	1.20**	
Step 3—Neuropsychological	27.34	.01*				77.30
Intellectual			0.02	0.02	1.02	
Overall Impairment			0.05	0.04	1.05	
TPT–Memory			0.01	0.03	1.01	
TPT–Location			0.04	0.03	1.04*	
Wisconsin			0.06	0.02	1.06***	
Step 4—Rorschach	36.99	.001***				80.20
Texture			0.76	0.83	2.14	
Reflection responses			0.15	0.33	1.16	
Morbid responses			0.17	0.16	1.19	
Human responses			0.45	0.22	1.58*	
CF + C > FC			0.12	0.66	1.14	

Note: PCL-R Factor 1 = Psychopathy Checklist–Revised Factor 1 (Interpersonal/Affective) rating; PCL-R Factor 2 = Psychopathy Checklist–Revised Factor 2 (Lifestyle/Antisocial) rating; Overall Impairment = Halstead Impairment Index *T*-score < 40; TPT = Tactual Performance Test; Wisconsin = Wisconsin Card Sorting Test Perseveration Response; CF + C > FC = Color Form and Color > Form Color.
*$p < .05$. **$p < .01$. ***$p < .001$.

psychiatric treatment. All sexual offenders met criteria for evaluation as SVPs, and if identified, would be civilly committed and would continue incarceration in a secure inpatient sexual offender treatment program. Although some investigators have reported positive outcome (reduced recidivism) of existing sexual offender treatment (Gordon, Nicholaichuk, Gu, & Wong, 2000; Grossman, Martis, & Fichtner, 1999; Hall, 1995), others have reported limited or no efficacy of current treatment programs (Furby, Weinrott, & Blackshaw, 1989; Hanson, Broom, & Stephenson, 2004; Hanson & Bussiere, 1998; Zgoba & Simon, 2005). Lipsey and Wilson (2001, p. 3) reported that their meta-analysis of treatment-efficacy research concluded with mixed results—"some work and some don't." In this discussion, we apply this empirical information to suggestions for consideration for treatment of SVPs who have been civilly committed for continued incarceration in sexual offender treatment.

Consistent with hypotheses of this study, sexual offenders in prison psychiatric treatment differed significantly from non–sexual offenders in prison psychiatric treatment on some measures within each biopsychosocial domain. Sexual offenders were younger and more likely to be unmarried. Sexual offenders had significantly more impairment on neuropsychological measures of overall brain functioning, with impairment predominantly on measures of temporal and frontal brain cortexes. Sexual offenders were more likely to provide Rorschach responses indicating disordered self-perception, disordered attachment, and impulsive emotionality, and sexual offenders had higher ratings on Psychopathy Factor 1 (Callous, Self-Interest). Logistic regression demonstrated that these biopsychosocial measures correctly identified 80.20% of sexual offenders who were in psychiatric treatment while in prison. It is relevant to note that although these conclusions are consistent with hypotheses of this study, these conclusions are not always in agreement with conclusions from other studies that do not emphasize incidence of psychiatric disorder among sexual offenders (Bonta, 2001; Bonta, Harmon, Hann, & Cormier, 1996).

Inconsistent with hypotheses of this study, sexual offenders in prison psychiatric treatment were not predominantly Caucasian, did not significantly differ in their reports of childhood victimization, and were not significantly different in their reports of continued support from family and/or relationships while in prison. These sexual offenders also did not have statistically significant different Rorschach responses indicating depression, psychosis, or overwhelming emotional distress. It is our suggestion that this description of sexual offenders in prison psychiatric treatment is relevant to understanding and to developing treatment for offenders who are identified as SVPs and continue beyond their original prison sentence for continued incarceration in a sexual offender treatment program.

As a group, sexual offenders in prison psychiatric treatment were young, most frequently 30 years of age, and had not graduated from high school. Most sexual offenders were from the lowest SES (52%), indicating limited education and work experiences. It is suggested that in addition to traditional therapy, opportunities for educational and/or vocational experiences be considered for inclusion in sexual offender treatment.

The majority (77%) of sexual offenders in prison psychiatric treatment were not married at the time of incarceration, the majority (70%) did not have family and/or interpersonal support while in prison, and many (37%) reported childhood sexual victimization. Some emphasis on developing interpersonal relationship skills, as well as understanding of the lifelong impact of sexual abuse on their victim and understanding of the lifelong impact on the sexual offender who himself experienced childhood victimization, is suggested. Although higher than expected, drug abuse was pervasive (88%), and of those who abused drugs, most abused multiple drugs (78%). Treatment for drug abuse and the role of drug use in offending would, therefore, be an important component of SVP treatment.

As would be expected in any psychiatric treatment program, Rorschach protocols for 27% of sexual offenders in prison psychiatric treatment indicated substantial psychiatric symptoms of depression and/or psychosis. Like any psychiatric treatment program, focus on accurate psychiatric diagnosis, and when indicated, appropriate psychopharmacological intervention likely targeting depression, psychosis, anxiety, and/or mood stabilization, is suggested as an important component of treatment.

The high incidence of psychopathy (28%) and the high incidence of personality characteristics associated with PCL-R Factor 1 (Callous, Self-Interest), combined with the demonstrated difficulty in treating psychopathic individuals—sexual offender or not (Rice, Harris, & Cormier, 1992; Wong & Hare, in press)—suggests that identifying those offenders who are psychopathic and individualizing treatment for this subgroup of offenders warrants particular attention.

Other features that significantly identified sexual offenders in prison psychiatric treatment were emotional factors characterized by narcissistic-like self-focus, disordered self-perception, and disordered attachment. Self-understanding of his narcissistic need, his vulnerability to "narcissistic insult," and his consequent impulsive, unmodulated emotionality when "insulted" would also be an important component of the sexual offender's therapy. Alternately, increasing the awareness of less experienced therapists of their own vulnerability to the sexual offender's narcissistic need, dysfunctional attachment, and disordered self-perception should be emphasized through continuing training, supervision, and ongoing collegial consultation and support for those providing treatment for SVPs.

Although several approaches to the treatment of sexual offenders have been proposed, several investigators have suggested that one effective treatment for sexual offenders is a cognitive–behavioral approach (Hall, 1995; Miller, 1998). Other investigators have reported that the most frequently used cognitive–behavioral treatment approach is relapse prevention (Marlatt, 1998; Polaschek, 2003), and a relapse-prevention model of treatment is currently being used in several existing treatment programs for sexual offenders (California Department of Mental Health, 2007; Washington State Institute for Public Policy, 2005). A necessary condition of relapse prevention is that the patient has an adequate level of cognitive ability not only to understand the concepts but also to ultimately be able to generalize knowledge and skills acquired in treatment to daily life. In this sample of sexual offenders, 73% demonstrated overall brain dysfunction, with up to 67% of those offenders demonstrating impaired executive functioning. Executive functioning is the ability to think, reason, problem solve, maintain impulse control, monitor actions, anticipate consequences of actions, change actions based on information that is provided by the environment, and generalize learning from one situation to another situation. Without individualization and modification of some relapse-prevention concepts—brain dysfunction, and particularly, executive-functioning dysfunction—the ability of some sexual offenders to respond to traditional relapse-prevention methods would be limited. To be maximally effective, relapse-prevention interventions may need to be individualized to match the individual sexual offender's cognitive abilities and disabilities.

Although it is our belief that information in this study provides relevant information about sexual offenders who experience psychiatric symptoms and were in psychiatric treatment while in prison, there are several limitations to information gained from this study. First and foremost, all of the offenders in this study were receiving treatment in a psychiatric program in prison. Information from this study may or may not generalize to the larger group of sexual offenders who are not in prison, to sexual offenders who are in prison but are not identified as potential SVPs, or to offenders who are in prison but who have not been referred for psychiatric treatment while in prison. With regard to this, the following considerations are suggested: (a) Offenders in this study represented a reasonably large sample and were randomly selected from the population of all offenders admitted to the programs; (b) offenders were referred from a wide range of prisons throughout the state and from all custody levels (low to maximum security); (c) offenders did not significantly differ, on sociodemographic characteristics (age, education, SES), from offenders in the general prison population and without psychiatric symptoms; and (d) at least one of the measures used in this study, the PCL-R, was originally developed using a general prison population, and this same test—without modification—has subsequently been demonstrated to have acceptable generalizablity to a diverse group of offenders, including female offenders (Douglas, Strand, Belfrage, Fransson, & Levander, 2005), offenders from different ethnic groups (Cooke, Kosson, & Michie, 2001), adolescent offenders (although with some modification; Book, Clark, Forth, & Hare, 2006), and offenders similar to the offenders in this study who were receiving psychiatric treatment while in prison. Specific research has also demonstrated significant scalar equivalence (how a test score statistically represents the same level of a construct across diverse populations) of the PCL-R, based on the forensic psychiatric standardization population, to offenders in the general prison population and not receiving psychiatric treatment while in prison (Bolt, Vitale, Hare, & Newman, 2004). The demonstrated generalizability of this one test certainly does not ensure acceptable generalizability of information in this study. In the absence of existing research evaluating the generalizability of measures in this study, however, the demonstrated generalizability of this one measure is suggested as at least tentative support for generalization of information from this study to sex offenders in the general prison population.

A second and similar limitation is the heterogeneity of sexual offenders in this study. Some offenders were diagnosed with a psychiatric disorder and some were not diagnosed with a psychiatric disorder. Some were high functioning before prison and some were not. Some were incarcerated for a nonviolent sexual offense that did not involve bodily assault (predominantly molestation), and some were incarcerated for a violent sexual offense that did involve bodily assault (primarily rape). All sexual offenders, however, would be evaluated as possible SVPs, and if found to meet criteria as an SVP, would be civilly committed with continued incarceration in sexual offender treatment until determined to no longer be of high risk for future sexual offending.

Future research needs to address these concerns, comparing sexual offenders who experience a psychiatric disorder with those who do not, comparing sexual offenders who are high functioning with those who are not, comparing violent sexual offenders with violent offenders who are not sexual offenders, and comparing rape offenders with molestation offenders.

Even if future research indicates that information from this study does not generalize to groups of offenders other than those receiving psychiatric treatment while in prison, there remains substantial current—and growing—need for information about this specific group of sex offenders. According to the Washington State Institute for Public Policy (2005), as of December 2004, a total of 3,493 sexual offenders in Washington State had been held for continued incarceration in an inpatient sexual offender treatment program. Although not specifically describing sexual offenders, in 2002, Lovell, Gagliardi, and Peterson reported that there were approximately 1,175,000 inmates in state and federal prisons, 16% of whom were mentally ill. Considering this information, it is not unreasonable to conclude that some of these offenders were sexual offenders, and although not in psychiatric treatment while in prison, experienced psychiatric symptoms and are similar to the offenders in this study.

As increasing numbers of states pass commitment laws for SVPs, more individuals will be identified as SVPs and will be involuntarily incarcerated in inpatient sexual offender treatment until they are determined not to be at high risk for sexual reoffending. The effectiveness of treatment for these sexual offenders will, therefore, continue to be important. Despite the previously described limitations, we think that this empirically derived multidimensional description of sexual offenders in prison psychiatric treatment provides information to those providing treatment to SVPs and may be useful to better understanding of sexual offenders who are in prison but not in prison psychiatric treatment as well as to our understanding of sexual offending.

Notes

1. For basic descriptions of neuropsychological tests and brain regions primarily measured by the neuropsychological tests reported in this study, please see Lezak (1995, pp. 490–493 [Tactual Performance Test–Memory and Tactual Performance Test–Location]; pp. 381–384 [Trail Making A and Trail Making B]; pp. 422–423 [Seashore Rhythm Test]; pp. 608–611 [Category Test]; and pp. 621–625 [Wisconsin Card Sorting Test]). Please see Kolb and Wishaw (2003, pp. 408–410 and 418–422 [Wisconsin Card Sorting Test]). Additional independent research provides further information describing relationships between neuropsychological testing and specific brain regions.

2. For basic descriptions of Rorschach Test measures reported in this study, please see Exner (1991, pp. 184–185 [Texture]; pp. 176–185 and 189–190 [Human Responses]; pp. 177–178 [Morbid Responses]; pp. 144–145 and 173–174 [Reflection Responses]; pp. 147–148 and 167–168 [D and Adjusted D Ratios]; and pp. 194–197 [Color Form and Color > Form Color]). Also, for further descriptions of Rorschach Test measures reported in this study, please see Exner and Erdberg (2005, pp. 40, 204–205, and 282–295 [Texture]; pp. 5–6, 34–35, 205–206, and 285 [Human Responses]; pp. 42–45 and 187–140 [Morbid Responses]; pp. 14, 202–204, and 265–268 [Reflection Responses]; pp. 13, 30–33, 69, 201–292, 290, and 400 [D and Adjusted D Ratios]; and pp. 239–241 [Color Form and Color > Form Color]). Additional

independent research provided in these references provides further information describing Rorschach Test measures and descriptions of ecological validity for these measures.

References

Aigner, M., Eher, R., Fruehwald, S., Fortier, P., Gutierrez-Lobos, L., & Dywer, S. (2000). Brain abnormalities and violent behavior. *Journal of Psychology and Human Sexuality*, *11*(3), 57-64.

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.

Aylwin, A., Studer, L., Reddon, J., & Clelland, S. (2003). Abuse prevalence and victim gender among adult and adolescent child molesters. *International Journal of Law and Psychiatry*, *26*(2), 179-190.

Blummer, D. (1970). Changes in sexual behavior related to temporal lobe disorders in man. *Journal of Sexual Research*, *6*, 173-180.

Bolt, D., Vitale, J., Hare, R., & Newman, J. (2004). A multigroup item response theory analysis of the Psychopathy Checklist–Revised. *Psychological Assessment*, *16*(2), 155-168.

Bonta, J. (2001). *Offender rehabilitation: From research to practice*. Toronto: Public Works and Government Services Canada.

Bonta, J., Harman, W., Hann, R., & Cormier, R. (1996). The prediction of recidivism among federally sentenced offenders: A revalidation of the SIR scale. *Canadian Journal of Criminology*, *38*, 285-293.

Book, A., Clark, H., Forth, A., & Hare, R. (2006). The PCL-R and PCL-YV: Forensic applications and limitations. In R. P. Archer (Ed.), *Forensic use of clinical assessment instruments.* Mahwah, NJ: Lawrence Erlbaum.

Bridges, M. R., Wilson, J. S., & Gacono, C. (1998). A Rorschach investigation of defensiveness, self-perception, interpersonal relations and affective states in incarcerated pedophiles. *Journal of Personality Assessment*, *70*(2), 365-385.

Brown, L., Sherbenou, R., & Johnsen, S. (1997). *Test of nonverbal intelligence: A language-free measure of cognitive ability* (3rd ed.). Austin, TX: ProEd.

California Department of Mental Health. (2007). *Frequently asked questions about the sexually violent predator program (Sex Offender Commitment Program)*. Sacramento, CA: Author.

Cohen, J. (1960). A coefficient of agreement for nominal scales. *Journal of Psychological and Educational Measurement*, *20*, 37-47.

Cooke, D., Kosson, D., & Michie, C. (2001). Psychopathy and ethnicity: Structural, item, and test generalizability of the Psychopathy Checklist-Revised (PCL-R) in Caucasian and Black participants. *Psychological Assessment*, *13*(4), 531-542.

Douglas, K., Strand, S., Belfrage, H., Fransson, G., & Levander, S. (2005). Reliability and validity evaluation of the Psychopathy Checklist: Screening Version (PCL-SV) in Swedish correctional and forensic psychological samples. *Assessment*, *12*(2), 145-161.

Exner, J. (1991). *The Rorschach: A comprehensive system* (2nd ed.). Ashville, NC: Rorschach Workshops.

Exner, J. (1995). *A Rorschach workbook for the comprehensive system* (4th ed.). Ashville, NC: Rorschach Workshops.

Exner, J., & Erdberg, P. (2005). *The Rorschach: A comprehensive system* (3rd ed.). Hoboken, NJ: John Wiley & Sons.

Fago, D. (2003). Evaluation and treatment of neurodevelopmental deficits in sexually aggressive children and adolescents. *Professional Psychology: Research and Practice*, *34*(3), 248-357.

Fisher, D., Beech, A., & Browne, K. (1999). Comparison of sexual offenders to non-offenders on selected psychological measures. *International Journal of Offender Therapy and Comparative Criminology*, *43*(4), 473-491.

Ford, M. E., & Linney, J. A. (1995). Comparative analysis of juvenile sexual offenders, violent nonsexual offenders and status offenders. *Journal of Interpersonal Violence*, *10*, 56-70.

Furby, L., Weinrott, M., & Blackshaw, L. (1989). Sex offender recidivism: A review. *Psychological Bulletin*, *105*(1), 3-30.

Gacono, C. B. (Ed.). (2000). *The clinical and forensic assessment of psychopathy: A practitioner's guide* (pp. 333-350). Wahwah, NJ: Lawrence Erlbaum.

Gacono, C. B., Meloy, J. R., & Bridges, M. (2000). A Rorschach comparison of psychopaths, sexual homicide perpetrators, and nonviolent pedophiles: Where angels fear to tread. *Journal of Clinical Psychology*, *54*(6), 757-777.

Galski, T., Thornton, K., & Shumsky, D. (1990). Brain dysfunction in sex offenders. *Journal of Offender Rehabilitation*, *16*(1/2), 65-80.

Gillespie, N. K., & McKenzie, K. (2000). An examination of the role of neuropsychological deficits in mentally disordered sexual offenders. *Journal of Sexual Aggression*, *5*(1), 21-29.

Gordon, A., Nicholaichuk, T., Gu, D., & Wong, S. (2000). Outcome of an institutionalized sexual offender treatment program: A comparison between treated and matched untreated offenders. *Sexual Abuse*, *12*(2), 139-153.

Graber, B., Hartman, K., Coffman, J., Huey, C., & Golden, C. (1982). Brain damage among mentally disordered sex offenders. *Journal of Forensic Sciences*, *27*(1), 22-32.

Grossman, L., Martis, B., & Fichtner, C. (1999). Are sex offenders treatable? A research overview. *Psychiatric Service*s, *50*, 349-361.

Hall, G. (1995). Sexual offender recidivism: A meta-analysis. *Journal of Consulting and Clinical Psychology*, *63*(5), 802-809.

Hanson, R. K., Broom, I., & Stephenson, M. (2004). Evaluating community sexual offender treatment programs: A 12-year follow-up of 724 offenders. *Canadian Journal of Behavioural Science*, *36*(2), 87-96.

Hanson, R. K., & Bussiere, M. T. (1998). Predicting relapse: A meta-analysis of sexual offender recidivism studies. *Journal of Consulting and Clinical Psychology*, *66*(2), 248-362.

Hare, R. (1991). *Hare Psychopathy Checklist-Revised (PCL-R) technical manual* (2nd ed.). New York: Multi-Health Systems.

Hare, R. (2003). *Hare Psychopathy Checklist-Revised (PCL-R) technical manual* (3rd ed.). New York: Multi-Health Systems.

Heaton, R., Chelune, G., Talley, J., Kay, G., & Curtis, G. (1993). *Wisconsin Card Sorting Test manual*. Orlando, FL: Psychological Assessment Resources.

Heaton, R., Grant, I., & Matthews, C. (1991). *Comprehensive norms for an expanded Halstead-Reitan Battery*. Orlando, FL: Psychological Assessment Resources.

Hollingshead, A. (1965). *Two factor index of social position.* New Haven, CT: Yale University, Department of Sociology.

Huprich, S. K., Gacono, C. B., Schneider, R. B., & Bridges, M. R. (2004). Rorschach oral dependency in psychopaths, sexual homicide perpetrators, and nonviolent pedophiles. *Behavioral Sciences and the Law*, *22*, 345-356.

Jonson-Reid, M., & Way, I. (2001). Adolescent sexual offenders: Incidence of childhood maltreatment, serious emotional disturbance, and prior offenses. *American Journal of Orthopsychiatry*, *71*(1), 120-130.

Joyal, C., Black, D., & Dassylva, B. (2007). The neuropsychology and neurology of sexual deviance: A review and pilot study. *Sexual Abuse*, *19*, 155-173.

Kafka, M. P. (1991). Successful antidepressant treatment of nonparaphilic sexual addictions and paraphilics in men. *Journal of Clinical Psychiatry*, *52*, 60-75.

Kafka, M. P. (1994). Sertraline pharmacotherapy for paraphilias and paraphilia-related disorders: An open trial. *Annual of Clinical Psychiatry*, *6*(3), 189-195.

Kafka, M., & Hennen, J. (2002). DSM-IV Axis I comorbidity study of males with paraphilias and paraphilia-related disorders. *Sexual Abuse*, *14*, 349-366.

Kolb, B., & Wishaw, I. (2003). *Fundamentals of neuropsychology* (5th ed.). New York: Worth Publishers.

LaFond, J. (1998). The costs of enacting a sexual predator law. *Psychology, Public Policy, and Law*, *4*(1), 468-504.

LaFond, J. Q. (2003). Outpatient commitment's next frontier: Sexual predators. *Psychology, Public Policy, and Law*, *9*(12), 159-182.

Landis, R. J., & Koch, G. G. (1977). The measurements of observer agreement for categorical data. *Biometrics*, *33*, 159-174.

Langevin, R. (1985). *Erotic preference, gender identity and aggression in men: New research studies*. Hillsdale, NJ: Lawrence Erlbaum.

Langevin, R. (1990). Sexual anomalies and the brain. In W. L. Marshall, D. R. Laws, & H. E. Barbaree (Eds.), *Handbook of sexual assault: Issues, theories, and treatment of the offender* (pp. 103-113). New York: Plenum.

Lezak, M. (1995). *Neuropsychological assessment* (3rd ed.). New York: Oxford University Press.

Lipsey, W., & Wilson, D. (2001). *Practical meta-analysis*. Thousand Oaks, CA: Sage.

Lovell, D., Gagliardi, G., & Peterson, P. (2002). Recidivism and use of services among persons with mental illness after release from prison. *American Psychiatric Association*, *53*, 1290-1296.

Lyn, T. S., & Burton, D. L. (2004). Adult attachment and sexual offender status. *American Journal of Orthopsychiatry*, *74*(2), 150-159.

Marlatt, G. A. (1998). *Harm reduction: Pragmatic strategies for managing high-risk behaviors.* New York: Guilford.

Mendez, M., Chow, T., Ringman, J., Twitchell, G., & Hinkin, C. (2000). Pedophilia and temporal lobe disturbance. *Journal of Neuropsychiatry*, *12*(1), 71-76.

Miller, R. (1998). Forced administration of sex-drive reducing medications to sex offenders: Treatment or punishment. *Psychology, Public Policy, and Law*, *4*(1/2), 175-199.

Mohr, J., Turner, R., & Jerry, M. B. (1964). *Pedophilia and exhibitionism: A handbook.* Toronto: University of Toronto Press.

Patrick, C. J., Bradley, M. M., & Lang, P. J. (1993). Emotion in the criminal psychopath: Startle reflex modulation. *Journal of Abnormal Psychology*, *102*(1), 82-92.

Polaschek, D. L. (2003). Relapse prevention, offense process models, and the treatment of sexual offenders. *Professional Psychology: Research and Practice*, *34*(4), 361-367.

Porter, S., Fairweather, D., Drugge, J., Herve, H., Birt, A., & Boer, D. (2000). Profiles of psychopathy in incarcerated sexual offenders. *Criminal Justice and Behavior*, *27*(2), 216-233.

Prentky, R. A., Knight, R. A., & Lee, A. (1997). Risk factors associated with recidivism among extra familial child molesters. *Journal of Consulting and Clinical Psychology*, *65*, 141-149.

Raymond, N., Coleman, E., Ohlerking, F., Christenson, G., & Miner, M. (1999). Psychological co-morbidity in pedophilic sexual offenders. *American Journal of Psychiatry*, *155*(6), 786-788.

Reitan, R., & Wolfson, D. (1985). *The Halstead-Reitan neuropsychological test battery: Theory and clinical implication.* Tucson, AZ: Neuropsychology Press.

Rice, M. E., & Harris, G. T. (1995). Violent recidivism: Assessing predictive validity. *Journal of Consulting and Clinical Psychology*, *63*, 737-748.

Rice, M., Harris, G., & Cormier, C. (1992). An evaluation of a maximum security therapeutic community for psychopaths and other mentally disordered offenders. *Law and Human Behavior*, *16*, 399-412.

Serin, R. C., Mailloux, D. L., & Malcolm, P. B. (2001). Psychopathy, deviant sexual arousal, and recidivism among sexual offenders: A psycho-culturally determined group defense. *Journal of Interpersonal Violence*, *16*(3), 234-246.

Spinella, M., White, J., Frank, M., & Schiraldi, J. (2006). Evidence of orbitofrontal dysfunction in sex offenders. *International Journal of Forensic Psychology*, *1*(3), 62-68.

Umile, E., Rosette, M., Plotkin, C., & Sandel, M. (1998). Functional assessment of mild traumatic brain injury using SPECT and neuropsychological testing. *Brain Injury*, *12*(7), 577-594.

United States Department of Justice. (1999). *Prior abuse reported by inmates and probationers.* Rockville, MD: Author.

Ward, T., & Beech, A. (2005). An integrated theory of sexual offending. *Aggression and Violent Behavior*, *11*(1), 44-63.

Washington State Institute for Public Policy. (2005). *Involuntary civil commitment of sexually violent predators: Comparing state laws.* Olympia, WA: Author.

Widom, C. S. (1995). Victims of childhood sexual abuse: Later criminal consequences. *NIJ Research in Brief.* Retrieved from http://www.ncjrs.org/txfiles/abuse.txt

Wong, S., & Hare, R. D. (in press). *Program guidelines for the institutional treatment of violent psychopathic offenders.* Toronto: Multi-Health Systems.

Worling, J. R. (1995). Adolescent sexual offenders against females: Differences based on the age of their victim. *International Journal of Offender Therapy and Comparative Criminology*, *39*, 276-293.

Zgoba, M., & Simon, L. (2005). Recidivism rates of sexual offenders up to seven years later: Does treatment matter? *Criminal Justice Review*, *30*(2), 155-173.