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Recidivism in Pedophiles: An Investigation Using Different Methods of Defining Pedophilia

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Abstract

This study examined the utility of the diagnosis of pedophilia in a sample of extra-familial child molesters who were assessed at a university teaching hospital between 1983 and 1995. Pedophilia was defined in one of four ways: 1) A DSM diagnosis made by a psychiatrist 2) A deviant phallometric profile 3) A DSM diagnosis and a deviant phallometric profile, and 4) high scores based on the *Screening Scale for Pedophilic Interest* (Seto & Lalumière, 2001). Demographic data and information on psychological tests and offence history were gathered and differences between detected pedophilic recidivists and nonrecidivists were examined within each of the four groups. Only the PCL-R statistically distinguished between recidivists and nonrecidivists across diagnostic groups. However, this variable provided limited incremental value in the prediction of recidivism. No differences were found between pedophiles and nonpedophiles with respect to recidivism rates, regardless of how pedophilia was defined. Based on these results the value of the diagnostic label of pedophilia is called into question.

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The purpose of diagnoses is to categorize individuals into homogeneous subgroups, which can promote accurate prognosis and effective treatment. Despite this, clinicians and researchers who work with sexual offenders often ignore the diagnosis of pedophilia because of validity concerns (Marshall, 1997). As a result, the terms "pedophile" and "child molester" have been used interchangeably, which can create conceptual confusion (Barbaree & Seto, 1997). A child molester is an individual who has engaged in a sexually motivated act against a prepubescent child, whereas a pedophile is an individual who displays sexual arousal, interest, or preference for children (O'Donohue, Regev, & Hagstrom, 2000). This distinction is important, as not all child molesters are pedophiles, and some pedophiles may not have committed a sexual offence against a child (Konopasky & Konopasky, 2000).

The Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR; APA, 2000), specifies three criteria to make a diagnosis of pedophilia. Criterion A requires that the individual has experienced recurrent, intense sexually arousing fantasies, sexual urges, or behaviors involving sexual activity with a prepubescent child or children (generally aged 13 years or younger) over a period of at least 6 months. Criterion B states that the person has acted on these sexual urges, or the sexual urges or fantasies cause marked distress or interpersonal difficulty. Lastly, Criterion C requires that the person is at least 16-years-old and at least 5 years older than the child or children in Criterion A (p. 572). The DSM-IV-TR further qualifies the diagnosis with specifiers indicating an attraction to males, females, or both, limited to incest, exclusive type (i.e., attracted only to children), or nonexclusive type.

Diagnostic Issues with Pedophilia

Concerns regarding the reliability and validity of the *Sexual and Gender Identity Disorders* have been cited, and problems with the application of diagnoses to sexual offending behaviour have represented an ongoing problem in this discipline (Marshall, 1997; Marshall, 2006; O'Donohue, et al., 2000; Zucker, Finegan, Doering, & Bradley, 1984). Levenson (2004) examined interdiagnostician reliability of four paraphilias based on individuals referred for sexually violent predator civil commitment consideration between 2000 and 2001. She found concerning results, suggesting poor reliability in the diagnosis of these types of disorders. Specifically, she reported the following rates of reliability for pedophilia (kappa = 0.65), sexual sadism (kappa = 0.30), exhibitionism (kappa = 0.47), and paraphilia NOS (kappa = 0.36).

In an examination of the value of the diagnosis of sadism in a forensic population, Marshall, Kennedy, and Yates (2002) evaluated the diagnosis of sadism by comparing sadists and non-sadists on a variety of offence features (e.g., use of threats), self-reports (e.g., sexually violent fantasies), and phallometric data. Overall, the results indicated that the designation of sadism was not based on the diagnostic criteria (as delineated in the DSM-IV-TR) and that the sadists and non-sadists were not reliably differentiated on the features assumed to be characteristic of sadistic sexual offenders (e.g., deviant arousal to rape). Moreover, the results demonstrated that those defined as non-sadists were in fact, more deviant on numerous measures (e.g., use of torture in the offence) than those diagnosed with sadism, calling into question the validity of the diagnosis and raising concerns about the implications for an offender, based on such a diagnosis.

In a related project, using the same database as the current study, demographic, psychological, and offence history variables were compared between pedophilic and

nonpedophilic men across four diagnostic methods (Kingston, Firestone, Moulden, & Bradford, 2005). The authors found that no variables reliably and consistently differentiated pedophiles from nonpedophiles. Although some variables predicted pedophilic designation, odds ratios revealed that the value added was quite limited and not clinically meaningful. As a final, preliminary examination, the authors looked at differences in the proportion of recidivists and noted no differences between pedophiles and nonpedophiles regardless of diagnostic method and criteria used.

O'Donohue et al. (2000) have identified some concerns with the diagnostic criteria for pedophilia. For example, they state that the ambiguous nature of the terms "recurrent" and "intense" within Criterion A force clinicians to draw inferences as to the nature of the disorder. Given the limitations regarding the accuracy of clinical judgment (Meehl, 1996), these inferences may adversely affect the reliability and validity of this diagnosis. Another concern with the diagnosis of pedophilia is that child molesters are often reluctant to admit to a clinician that they have deviant sexual fantasies/urges/behaviours, which makes it difficult to gather accurate information (Marshall, 1997; Ward, Hudson, Johnston, & Marshall, 1997). Lastly, concerns have been raised about Criterion B, which requires that the individual experience distress or impairment as a function of the disordered behaviour, which given the sometimes egosyntonic nature of pedophilia, is simply nonsensical. Fortunately, this issue has been addressed in DSM-IV-TR, which states "because of the egosyntonic nature of Pedophilia…experiencing distress about having fantasies, urges, or behaviors is not necessary for a diagnosis of Pedophilia" (APA, 2000, p. 571).

Due to the apparent difficulties with DSM criteria indicated above, it has been suggested that phallometric testing may provide reliable evidence for pedophilia in the absence of an

accurate diagnosis (Freund & Blanchard, 1989; Freund & Watson, 1991) or, at least, contribute to the diagnostic process (Marshall & Eccles, 1991). Moreover, phallometric testing allows for the assessment of deviant sexual preference, while attempting to overcome purposeful impression management, which may undermine self-reported information in forensic populations in particular (Nugent & Kroner, 1996). Phallometric assessment has reliably differentiated child molesters from sexual offenders against adults, such that rapists with the greatest number of adult victims are least likely to be diagnosed with pedophilia according to phallometric results (specificity = 96%), and men with the greatest number of child victims are more likely to demonstrate a deviant profile (sensitivity = 61%) (Blanchard, Klassen, Dickey, Kuban, & Blak, 2001; Freund & Watson, 1991).

Although, phallometric testing should provide evidence as to the degree of pedophilic interest, there are limitations when relying on this approach. For example, numerous studies have demonstrated that a significant proportion of offenders were able to suppress penile responses (Howes, 1998; Kalmus & Beech, 2005; Marshall & Fernandez, 2000). Furthermore, the interpretation of arousal is difficult, as some offenders may not be aroused to a certain deviant stimuli, while nonoffenders may be aroused to such deviant stimuli (Bahroo, 2003; Firestone, Bradford, Greenberg & Nunes, 2000). Problems with low responding (O'Donohue & Letourneau, 1992), along with concerns about the reliability (Barbaree, Baxter, & Marshall, 1989), and validity (Hall, Proctor, & Nelson, 1988) of this procedure have led some researchers to question its utility with sexual offenders (Marshall & Fernandez, 2003).

Despite the concerns about phallometric assessment, relative sexual interest in children remains one of the better predictors of sexual recidivism (Hanson & Bussière, 1998). However, practical limitations, such as limited access to phallometric laboratories, may preclude the ability

to assess offenders phallometrically. For this reason Seto and Lalumière developed a brief scale, the *Screening Scale for Pedophilic Interests* (SSPI; 2001), for the purpose of identifying individuals most likely to be sexually interested in children for the purpose of triage and risk management. Research to date has suggested that SSPI scores are significantly related to deviant phallometric responding, and identified pedophilic interest better than chance. The SSPI is also related to both sexual and violent recidivism in child molesters (Seto, Harris, Rice, & Barbaree, 2004). In an examination of the predictive utility of the SSPI, the authors (Seto, et al., 2004) found that it made a significant contribution to the prediction of sexual offending, beyond that of phallometric testing alone.

To date, many attempts have been made to refine the diagnosis of the paraphilias and pedophilia in particular. Many of those working with sexual offenders recognize the limitations to the diagnosis of pedophilia and have challenged its relevance and utility (Marshall, 1997; Marshall, 2006, O'Donohue, et al., 2000). One way in which a diagnosis should aid clinicians and researchers is in the prediction of behaviour. For those working with sexual offenders, understanding what unique differences exist between pedophiles who reoffend and those who don't is integral to our ability to provide competent assessment and treatment.

Recidivism in Pedophiles

Currently, what is known about risk predictors and recidivism rates in pedophiles is extrapolated from studies on intra- and extra-familial child molesters who may or may not have met the diagnostic criteria for pedophilia. In a comparison of recidivism rates in rapists, extrafamilial child molesters, intrafamilial child molesters, and hands-off sexual offenders (e.g. exhibitionists), recidivism rates for the extrafamilial child molesters (the group theoretically most

likely to include pedophilic offenders) were 14 %, 8 %, and 28 % for sexual, violent, and general recidivism, respectively, after a 5-year follow-up (Bartosh, Garby, Lewis, & Gray, 2003).
In another study (Firestone, Bradford, McCoy, Greenberg, Curry, & Larose, 2000) recidivism was examined in extra-familial child molesters, including pedophiles. The percentage of men who committed a sexual, violent, or any criminal offense by the 12th year was 15.1 %, 20.3 %, and 41.6 %, respectively. This study found that the sexual recidivists were more likely to endorse patterns of deviant sexual arousal and substance abuse compared to the nonrecidivists, a finding consistent with previous research with sexual offenders.

Furthermore, Greenberg, Bradford, Firestone, and Curry (1999) found that those child molesters who offended against nonfamily members (biological or legal) reoffended at a higher rate compared to intrafamilial child molesters. Specifically, 16.2 % of those who offended against acquaintances committed a new sexual offence, compared to 4.8 % of offenders against biological children, or 5.1 % against stepchildren. Based on these findings, pedophiles are often considered at greater risk for sexual recidivism compared to other sexual offenders (Hanson, Steffy, & Guthiere, 1993), and other categories of child molesters (i.e. incest offenders). However, in a recent study of recidivism in child molesters, Wilson, Abracen, Picheca, Malcolm, and Prinzo (2003) found that a DSM-IV diagnosis of pedophilia was not related to long-term recidivism.

The purpose of this study was to examine recidivism in pedophilic child molesters who had committed a sexual offence, and were assessed at a university teaching hospital in Canada. Specifically, group differences between pedophilic recidivists and pedophilic nonrecidivists were examined to ascertain whether differences existed and might differentiate between the groups. A second goal of the study was to identify meaningful predictors of sexual, violent, and generally

criminal recidivism in pedophilic extra-familial child molesters, and examine recidivism differences and rates between pedophiles and nonpedophiles. Given the various methods of defining pedophilia (i.e. client self-report, psychometric testing, and phallometric testing) (Barbaree & Seto, 1997), these analyses were completed and compared across different diagnostic systems or methodologies (i.e. DSM, phallometrics, and SSPI). In the present study the analysis of recidivism was conducted in a fashion similar to others and will elaborated on below (Firestone, Bradford, Greenberg, & Serran, 2000; Greenberg, et al., 1999; Rice, Quinsey, & Harris, 1991).

Although the findings with respect to the unique features and behaviours of pedophiles are limited and mixed we proposed several hypotheses. First, it was hypothesized that pedophilic recidivists would be characterized by more deviant profiles (e.g. psychological measures, sexual offence history) compared to nonrecidivists, and these variables should be largely consistent across diagnostic methods. Second, it was hypothesized that sexual, violent, and criminal recidivism in pedophilic men would be predicted by variables related to poor sexual functioning for sexual recidivism, higher levels of violence (e.g. offence history, PCL-R) for violent recidivism, and demographic as well as offence history variables for criminal recidivism. Lastly, it was hypothesized that pedophiles would recidivate at a higher rate compared to nonpedophiles.

Method

Participants

All participants (N = 206) were adult males, and had been convicted of a hands-on sexual offence against an unrelated male or female child who was under the age of 16 at the time of the offence. The participants were assessed at a university teaching hospital in a large Canadian

city, between 1983 and 1995. If the police records indicated that the participants had ever offended against an adult or against a family member, they were excluded from the analysis.

The sample was divided into four categories based on different definitions or methods of determining pedophilia. Within each pedophilic group, recidivists and nonrecidivists were compared on psychological and offence history variables. The first comparison included DSM diagnosed pedophilic recidivists and nonrecidivists (DSM, $n = 85$). The second set compared recidivists and nonrecidivists defined as pedophilic based on a deviant phallometric index (index score > 1) on either the pedophile index (PIA) or the pedophile assault index (PAIA) (PD, $n = 110$). The third comparison distinguished between recidivists and nonrecidivists when they received a DSM diagnosis of pedophilia in addition to exhibiting a deviant phallometric index (i.e., ≥ 1 on either PIA or PAIA) (DSM+PD, $n = 60$). The last set of comparisons included recidivists and nonrecidivists described as pedophilic based on the SSPI (Seto & Lalumière, 2001). Those men with a score between 3 and 5 were defined as pedophilic (SSPI, $n = 103$). It is acknowledged that the reporting of sexual offences, along with difficulty establishing base rates limits this analysis to detected recidivists.

Procedures

The standard procedure in the Sexual Behaviors Clinic was that each patient was first interviewed by a psychiatrist who then provided a DSM diagnosis. Patients were also required to complete forms gathering various demographic information. The psychiatrist would have available previous medical charts and police reports. These diagnoses were made by experienced psychiatrists whose major clinical work was with sexual offenders. Participants would then be assessed in the phallometric lab and fill out various questionnaires including the psychological tests. The assessment battery administered at the hospital is part of the clinical

assessment used with all men charged and/or convicted of sexual offending. The specific version of the DSM used in the determination of the diagnoses varied depending on the year of assessment (DSM-III, DSM-III-R, DSM-IV). As expected, the progression of the DSM has resulted in more specific and comprehensive criteria. Perhaps the most significant difference between editions is the requirement in DSM-IV that the individual be distressed or experience some form of impairment as a result of his/her behavior, urges, or fantasies, which changed with DSM-IV-TR. This more stringent criteria might result in fewer diagnoses. However, as Marshall (1997) notes, many diagnosticians ignored this statement in order to justify treating individuals who were clearly engaging in deviant sexual behavior, regardless of their own lack of distress.

Measures

Michigan Alcoholism Screening Test

The Michigan Alcoholism Screening Test (MAST) is a 24-item self-report inventory, which is used to identify behaviors that are suggestive of alcohol abuse (Gibbs, 1983; Selzer, 1971; Selzer, Vinokur, & van Rooijen, 1975). The degree of problems, associated with alcoholism is reflected in the total number of "yes" responses. Scores of 5 or 6 are indicative of alcohol problems and scores of 7 or more are suggestive of alcohol abuse (Allnutt, Bradford, Greenberg, & Curry, 1996). The MAST has been utilized in many studies involving sexual offenders (e.g., Allnutt et. al., 1996; Firestone, Bradford, Greenberg, Larose, & Curry, 1998; Firestone, Bradford, McCoy, et al., 1998; Hucker, Langevin, & Bain, 1988). The internal consistency has a reported overall alpha coefficient of .87, a validity coefficient of $r = .79$, and is relatively unaffected by age of respondent or socially desirable responding (Magruder-Habib, Stevens, & Alling, 1993; Magruder-Habib, Durand, & Frey, 1991).

Derogatis Sexual Functioning Inventory

The Derogatis Sexual Functioning Inventory (DSFI), consists of 10 subscales, and assesses dimensions of sexual functioning (Derogatis & Melisaratos, 1979). The Sexual Functioning Index (SFI) is a global measure derived by summing the 10 subtest scores and provides an overall measure of an individual's level of sexual functioning, where higher scores represent healthy sexual functioning (Derogatis, 1980). The DSFI has good validity and good internal consistency with correlations ranging from .56 to .97 for the 10 subscales, and test-retest reliability ranging from .42 to .96 for the 10 subscales (Derogatis & Melisaratos). Although the DSFI has been used with large non-forensic samples, its use with sexual offenders is limited (see Firestone, Bradford, Greenberg, et al., 1998; Firestone, Bradford, McCoy, et al., 1998; Hanson, Cox, & Woszcsyna, 1991).

Buss-Durkee Hostility Inventory

The Buss-Durkee Hostility Inventory (BDHI; Buss & Durkee, 1957) contains 75 true-false statements, which provide a measure of general hostility, where higher scores are suggestive of higher levels of hostility. A total score of 38 and above is consistent with high levels of hostility (Buss & Durkee). The BDHI consists of five assault subscales: Assault, Indirect Aggression, Irritability, Negativism, Verbal Aggression, Resentment, and Suspicion. Among rapists, BDHI scores are higher than nonoffending controls (Firestone, Bradford, Greenberg et. al., 1998), and lower than both intra- and extrafamilial child molesters (Firestone, Nunes, Moulden, Broom, & Bradford, 2005).

Psychopathy Checklist-Revised

The Psychopathy Checklist-Revised (PCL-R) consists of 20 items designed to assess behaviors and personality characteristics considered fundamental to psychopathy. Factor

analyses have consistently yielded two distinct and stable factors representing (a) the degree of personality, interpersonal, and affective traits deemed relevant to the construct of psychopathy, and (b) the degree of antisocial behavior, unstable, and corrupted lifestyle (Hare, 1991; Hare, et al., 1990). Scores of 30 and above are generally considered indicative of psychopathy (Hare, 1991). The psychometric properties of this instrument are well established. The reported alpha coefficient, aggregated across seven samples of incarcerated males from Canada, the United States, and England was .87 (Hare, Forth, & Strachan, 1992). Using five prison samples and three forensic samples, Hare et al. (1990) found the correlation between the two factors averaged r = .48. The PCL-R is currently being used widely in sexual offender research (Firestone, et al., 2000; Serin & Amos, 1995; Serin, Malcolm, Khanna, & Barbaree, 1994), and is consistently identified as an important predictor of violent and sexual recidivism (Quinsey, Lalumière, Rice, & Harris, 1995).

In the present investigation, research assistants completed PCL-R assessments retrospectively from descriptive material contained in medical files. A random sample of clinic files was independently rated by each researcher, resulting in satisfactory interrater reliability correlation, r = .85. Valid PCL-R ratings can be achieved through quality archival information (Harris, Rice, & Quinsey, 1994; Wong, 1988).

Cognition Scale

The Cognition Scale, which was designed for use with adult child molesters, is composed of 29 statements, which reflect values regarding sexual contact with children. Factor analysis has indicated that the Cognition Scale is unidimensional (Abel et al., 1989; Hanson, Gizzarelli, & Scott, 1994). Scores range from 1 to 5, where lower scores are indicative of a greater degree of acceptance towards adult sexual contact with children. This scale has demonstrated good

discriminant validity, in that child molesters have been distinguished from non-offending controls (Hanson et al.; Stermac & Segal, 1989). Reliability is adequate, with an alpha coefficient of .92 for internal consistency (Hanson et al.). A Pearson product-moment coefficient of .76 indicates good test-retest reliability (Abel et. al.).

Screening Scale for Pedophilic Interests

The SSPI (Seto & Lalumière, 2001) is a brief screening instrument based on historical/static offence variables. The scale includes four items including presence of a male victim, more than one victim, victim is 11-years-old or younger, and unrelated victim. The SSPI has been shown to be highly correlated with measures of pedophilic interest based on phallometric assessment (pedophilic index), and to identify pedophilic interest in child molesters significantly better than chance (Seto & Lalumière, 2001). Although this measure was not designed with a cutoff score, we chose to dichotomize our participant group based on high versus low scores for the purpose of comparing this nonintrusive and relatively simple measure to the more traditional methods of determining pedophilic interest.

Measurement of Sexual Arousal

Changes in penile circumference in response to audio/visual stimuli were measured by means of an Indium-Gallium strain gauge and processed on an IBM compatible computer for storage and printout.

Stimuli Presentation. The order of the stimuli presentation, held constant for all participants, was computer-controlled. Participants were presented with one or more of three series of audiotapes. The audiotape battery consisted of vignettes (Abel, Blanchard, & Barlow, 1981) of approximately two-minute duration describing sexual activity between two people varying with respect to age, sex, and degree of consent, coercion, and violence portrayed. Each

participant was presented with a full set containing one vignette from each category following instructions to allow normal arousal to occur. The female child series consisted of descriptions of sexual activity with a female partner/victim for eight categories. The male child series consisted of eight corresponding vignettes involving a male partner/victim but also included one scenario involving an adult female partner. For each of the female child and male child series, two equivalent scenarios for each category were included. Categories were as follows: (a) child initiates, (b) child mutual, (c) non-physical coercion of child, (d) physical coercion of child, (e) violent sex with child, (f) nonsexual assault of child, (g) consenting sex with female adult, and (h) sex with female child relative (incest).

Scoring. The Pedophile Index was calculated by dividing the participant's highest response to a child initiates or child mutual stimulus by the highest response to an adult-consenting stimulus. The Pedophile Assault Index was calculated by dividing the highest response to an assault stimulus involving a child victim (non-physical coercion of child, physical coercion of child, sadistic sex with child, or nonsexual assault of child) by the highest response of the child initiates or child mutual stimulus.

Criminal Offence History and Offence Characteristics

Offence information was gathered from the Canadian Police Information Center (CPIC) at the Ottawa Police Station. This information was based on a national database of criminal arrests and convictions including INTERPOL reports from the Royal Canadian Mounted Police. CPIC records contain the individual's criminal history and include details such as the date of charge or conviction, the nature of the offense, the disposition of the incident (e.g., convicted, charges withdrawn, etc.) and sentence/penalty imposed in cases of convictions.

Offence characteristics included a measure of the intrusiveness of the sexual act. The intrusiveness of the sexual act was scored based on a six-point scale where higher scores represented increasing levels of sexual intrusion. The specific descriptors along with their corresponding scores were as follows: nil (0), verbal threat (1), attempt (2), touching (3), penetration (4), and sexual assault with excessive violence (5).

Recidivism Analyses

A definition of sexual recidivism was any charge or conviction for a sexual offence after the index offence. Violent recidivism was any charge or conviction for violent and sexual offences and finally, criminal recidivism was any charge or conviction noted in the Canadian Police Information Center's (CPIC) report. Recidivism analyses was based on the time to the first offence, and the length of follow-up in this particular study was 15 years. It should be stressed that recidivists were those individuals that have been charged or convicted of reoffending. It is evident that this is a major under representation of all reoffending. This cumulative hierarchy in which each additional category includes the previous category is employed to account for plea-bargaining, a common practice, and to allow comparison with prior recidivism studies.

Results

Statistical Treatment of the Data

Prior to performing statistical tests, the data were screened to ensure that assumptions underlying the tests were not violated. Outlying cases were detected using a criterion of plus or minus three standard deviations from the mean or by visual inspection of normal probability plots. Values of outlying cases were adjusted upward or downward according to the direction of the problem.

Recidivism Analyses

DSM Group

ANOVAs and chi-square analyses were performed to analyze group differences within each diagnostic category. Table 1 summarizes the results for sexual, violent, and criminal pedophilic recidivists and nonrecidivists within the DSM diagnosed group. With respect to sexual recidivism, the recidivists had higher scores on the PCL-R and more previous violent offences compared to the nonrecidivists. A number of variables differentiated between violent recidivists and nonrecidivists. The recidivists were less educated, less likely to have ever been married, had higher scores on the PCL-R and BDHI, and lower scores on the DSFI. The recidivists also had more prior sexual, violent, and criminal charges/convictions than the nonrecidivists. Many variables distinguished between criminal recidivists and nonrecidivists. The recidivists were younger, less educated, and less likely to have ever been married. These men had higher scores on the PCL-R, MAST, and BDHI, and lower scores on the DSFI. Lastly, the criminal recidivists had more prior violent and criminal offences, and had more deviant scores on the PAIA.

A logistic regression was used to predict sexual recidivism in those men diagnosed as pedophilic based on DSM criteria. A test of the full model with predictors (PCL-R, prior violent offences) against a constant-only model was statistically significant, χ^2 (2, N = 78) = 10.07, $p <$ .01, suggesting that the predictors reliably distinguished between sexual recidivists and nonrecidivists. The overall variance accounted for in sexual recidivist designation was small with a Nagelkerke adjusted R^2 = .18, indicating that 18% of the variability in sexual recidivists and nonrecidivists was predicted by PCL-R scores and prior violent offences. Prediction analysis revealed that 93% of the nonrecidivists and 25% of the recidivists were predicted, for an overall

success rate of 75.6%. Additionally, the area under the Receiver Operating Characteristic (ROC) curve was used to assess the predictive accuracy for this group of sexual recidivists. Specifically, this analysis revealed inadequate predictive accuracy (ROC =.59, p <.74). Table 5 summarizes the logistic regression results. In predicting sexual recidivism in the DSM group, the PCL-R score made a unique contribution. The odds ratio was 1.09, indicating very little change in the likelihood of being classified as a sexual recidivist based on unit increase on the PCL-R.

A logistic regression was used to predict violent recidivism in the DSM group. A test of the full model with predictors (education, ever married, PCL-R, BDHI, DSFI, and prior sexual, violent, and criminal offences) against a constant-only model was statistically significant, χ^2 (8, N = 72) = 17.39, p < .05, suggesting that the predictors, as a set, reliably distinguished between violent recidivists and nonrecidivists. The overall variance accounted for was moderate, with a Nagelkerke adjusted R^2 = .29, indicating that 29% of the variability in violent recidivists and nonrecidivists was predicted by the variables indicated above. Prediction analysis revealed that 87% of the nonrecidivists and 53.8% of the recidivists were predicted, for an overall success rate of 75%. The area under the ROC curve revealed adequate predictive accuracy (ROC =.75, p <.01). According to the Wald Criterion, PCL-R scores predicted violent recidivism in men diagnosed using DSM. The odds ratio of 1.09 indicated little change in the likelihood of being classified as a violent recidivist based on one unit change in PCL-R scores.

A logistic regression was used to predict criminal recidivism, comparing the full model with predictors (age, education, ever married, PCL-R, MAST, BDHI, DSFI, prior violent and criminal offences, and PAIA) against a constant-only model. This analysis was significant, χ^2 (9, N = 62) = 24.61 p < .01, suggesting that the predictors, as a set, reliably distinguished between criminal recidivists and nonrecidivists. The overall variance accounted for was moderate with a

Nagelkerke adjusted R^2 = .44, indicating that 44% of the variability in criminal recidivists and nonrecidivists was predicted by the variables indicated above. Prediction analysis revealed that 77% of the nonrecidivists and 63% of the recidivists were predicted, for an overall success rate of 71%. The ROC analysis revealed good predictive accuracy (ROC =.73, p <.01). No variables uniquely predicted criminal recidivism in the DSM group.

Phallometric Group

Table 2 summarizes the results for ANOVA and chi-square analyses for sexual, violent, and criminal pedophilic recidivists and nonrecidivists within the PD group. With respect to sexual recidivism, the recidivists had more victims, higher PCL-R scores, and demonstrated higher scores on the PAIA compared to nonrecidivists. Compared to the nonrecidivists, violent recidivists were younger, had higher scores on the PCL-R and the PAIA. Many variables distinguished between the criminal recidivists and nonrecidivists. The recidivists were younger, had less education, and had higher scores on the PCL-R, MAST, and BDHI. Given phallometric scores were used to define this group, significant scores on the PAIA were not entered into the logistic regression. These scores are reported for descriptive purposes only.

A logistic regression predicting sexual recidivism in the PD group revealed a significant difference between the full model with predictors (number of victims and PCL-R) and a constant-only model, χ^2 (2, N = 99) = 8.41, p < .05. The overall variance accounted for in sexual recidivist designation was small with a Nagelkerke adjusted R^2 = .11, indicating that 11% of the variance was predicted by the variables indicated above. Prediction analysis revealed that 95.6% of the nonrecidivists and 16.1% of the recidivists were predicted, for an overall success rate of 70.7%. ROC analysis revealed inadequate predictive accuracy (ROC =.56, p <.70). Neither of the variables uniquely predicted sexual recidivism.

The logistic regression analysis for violent recidivism, including predictors age and PCL-R scores, was statistically significant, χ^2 (2, N = 100) = 17.79, p < .001. The overall variance accounted for was small, with a Nagelkerke adjusted R^2 = .22, indicating that 22% of the variability in violent recidivists and nonrecidivists was predicted by the above noted variables. Prediction analysis revealed that 77.6% of the nonrecidivists and 52.4% of the recidivists were predicted, for an overall success rate of 67%. ROC analysis revealed adequate predictive accuracy (ROC =.65, p <.01).

According to the Wald Criterion, PCL-R scores predicted violent recidivism in the PD group. The odds ratio of 1.11, indicated that for every unit increase in PCL-R score there was little change in the likelihood that this individual was classified as a violent recidivist.

Logistic regression analysis predicting criminal recidivism in the PD group was significant, χ^2 (5, N = 57) = 17.83, p < .01, suggesting that the predictors (age, education, PCL-R, MAST, and BDHI) reliably distinguished between criminal recidivists and nonrecidivists. The overall variance accounted for was moderate with a Nagelkerke adjusted R^2 = .36, indicating that 36% of the variability in criminal recidivists and nonrecidivists was predicted by the variables above. Prediction analysis revealed that 65.4% of the nonrecidivists and 77.4% of the recidivists were predicted, for an overall success rate of 71.9%. ROC analysis revealed adequate predictive accuracy (ROC =.71, p <.01).

According to the Wald Criterion, age predicted criminal recidivism in the PD group. The odds ratio of 0.93, indicated that for every unit increase in violence there was little change in the likelihood that the individual was classified as a criminal recidivist.

DSM and Phallometric Group

A series of ANOVAs and chi-square analyses were performed to analyze group differences in pedophiles within each recidivism category for the DSM+PD group. Table 3 summarizes the results. With respect to sexual and violent recidivism, the recidivists had higher PCL-R scores compared to nonrecidivists. Criminal recidivists were younger, more sexually intrusive in their offending, had higher scores on the PCL-R, and had more prior violent offences compared to the nonrecidivists. Given phallometric scores were used to define this group, their inclusion in the table is for descriptive purposes only.

A logistic regression was used to predict sexual recidivism and a test of the full model (PCL-R) against a constant-only model was statistically significant, χ^2 (1, N = 56) = 4.67, p < .05. The overall variance accounted for in sexual recidivist designation was small with a Nagelkerke adjusted R^2 = .11. Prediction analysis revealed that 92.3% of the nonrecidivists and 5.9% of the recidivists were predicted, for an overall success rate of 66.1%. ROC analysis revealed an adequate predictive accuracy (ROC =.49, p <.95). According to the Wald criterion, PCL-R scores uniquely predicted sexual recidivism, with an odds ratio of 1.10, suggesting that for every unit increase in PCL-R scores, there was little change in the likelihood of being classified as a sexual recidivist.

A logistic regression predicting violent recidivism in the DSM+PD group was significant, χ^2 (1, N = 56) = 9.60, p < .01, but the overall variance accounted for was small, with a Nagelkerke adjusted R^2 = .21. Prediction analysis revealed that 75.0% of the nonrecidivists and 62.5% of the recidivists were predicted, for an overall success rate of 69.6%. ROC analysis revealed an adequate predictive accuracy (ROC =.69, p <.05). According to the Wald Criterion, PCL-R scores also uniquely predicted violent recidivism. However, the odds ratio of 1.12

indicated that for every unit increase in PCL-R score there was little change in the likelihood of being classified as a violent recidivist.

A final logistic regression was used to predict criminal recidivism in the DSM+PD group. A test of the full model with predictors (age, PCL-R, and prior violent offences) against a constant-only model was statistically significant, χ^2 (4, N = 56) = 19.27, p < .001. The overall variance accounted for was moderate, with a Nagelkerke adjusted R^2 = .39. Prediction analysis revealed that 72.0% of the nonrecidivists and 67.7% of the recidivists were predicted, for an overall success rate of 69.6%. Additionally, ROC analysis revealed good predictive accuracy (ROC =.70, p <.05). According to the Wald Criterion, PCL-R scores predicted criminal recidivism in the DSM+PD group. The odds ratio of 1.13 indicated that for every unit increase in PCL-R there was little change in the likelihood that the individual was classified as a criminal recidivist.

SSPI

Table 4 summarizes the results for sexual, violent, and criminal recidivists and nonrecidivists for pedophiles in the SSPI group. Sexual recidivists had less education, more victims, and had lower scores on the DSFI than the nonrecidivists. The violent recidivists had less education, higher scores on the PCL-R and BDHI, and lower scores on the DSFI that the nonrecidivists. This group of recidivists was also more likely to have more prior sexual, violent, and criminal offences. Criminal recidivists were younger, had less education, and higher scores on the PCL-R and BDHI. They also had more prior violent and criminal offences.

A logistic regression was used to predict sexual recidivism in the SSPI group, and a test of the full model (education, number of victims, and DSFI) against a constant-only model was statistically significant, χ^2 (1, N = 97) = 12.69, p < .01. The overall variance accounted for in

sexual recidivist designation was small with a Nagelkerke adjusted R^2 = .19. Prediction analysis revealed that 96.0% of the nonrecidivists and 9.1% of the recidivists were predicted, for an overall success rate of 76.3%. ROC analysis revealed an adequate predictive accuracy (ROC =.53, p <.75). According to the Wald criterion, DSFI scores uniquely predicted sexual recidivism, with an odds ratio of 0.94, suggesting that for every unit increase in DSFI scores, there was little change in the likelihood of being classified as a sexual recidivist.

A logistic regression predicting violent recidivism (with predictors: education, PCL-R, BDHI, DSFI, prior sexual, violent, and criminal offences) in the SSPI group was significant, χ^2 (1, N = 57) = 17.68, p < .05, and the overall variance accounted for was moderate, with a Nagelkerke adjusted R^2 = .36. Prediction analysis revealed that 81.8% of the nonrecidivists and 66.7% of the recidivists were predicted, for an overall success rate of 75.4%. ROC analysis revealed an adequate predictive accuracy (ROC =.74, p <.01). None of the predictors made a unique contribution to the prediction of violent recidivism.

A final logistic regression was used to predict criminal recidivism. A test of the full model with predictors (age, education, PCL-R, BDHI, violent, and criminal offences) against a constant-only model was statistically significant, χ^2 (4, N = 58) = 13.33, p < .05. The overall variance accounted for was moderate, with a Nagelkerke adjusted R^2 = .27. Prediction analysis revealed that 59.3% of the nonrecidivists and 77.4% of the recidivists were predicted, for an overall success rate of 69.0%. Additionally, ROC analysis revealed good predictive accuracy (ROC =.68, p <.05). None of the predictors made a unique contribution to the prediction of criminal recidivism.

Survival Analysis

A life-tables survival analysis was used to compare recidivism rates for pedophiles and nonpedophiles within each diagnostic group. The analyses computed recidivism based on the time to the first offence, and produced the survival rates over a fifteen-year period. Figure 1 shows that the survival rates for pedophiles and nonpedophiles in the DSM group were not significantly different for sexual recidivism, Survival $\chi^2 = .07$ (1), $p < .80$, violent recidivism, Survival $\chi^2 = .03$ (1), $p < .90$, or criminal recidivism, Survival $\chi^2 = .04$ (1), $p < .90$.

Figure 2 shows that the survival rates of pedophilic and nonpedophilic sexual offenders in the PD group were not significantly different for sexual recidivism, Survival $\chi^2 = 3.18$ (1), $p < .10$, violent recidivism, Survival $\chi^2 = 1.85$ (1), $p < .20$, or criminal recidivism, Survival $\chi^2 = .3.8$ (1), $p < .10$.

Figure 3 describes the survival rates for pedophiles and nonpedophiles in the DSM+PD group. As shown the survival rates between pedophilic and nonpedophilic sexual offenders were not significantly different for sexual recidivism, Survival $\chi^2 = 0.99$ (1), $p < .35$, violent recidivism, Survival $\chi^2 = 1.75$ (1), $p < .20$, or criminal recidivism, Survival $\chi^2 = 3.23$ (1), $p < .10$.

Figure 4 shows that survival rates for pedophiles and nonpedophiles in the SSPI group were not significantly different for sexual recidivism, Survival $\chi^2 = 1.01$ (1), p , $<.35$, violent recidivism, Survival $\chi^2 = .07$ (1), $p < .80$, or criminal recidivism, Survival $\chi^2 = .02$ (1), $p < .90$.

Insert Figures 1, 2, 3, 4 here

Discussion

The purpose of the present paper was to examine recidivism in pedophilic men. Specifically, differences between pedophilic recidivists and nonrecidivists were compared across four different methods of diagnosis. Within these same four groups, the predictive utility of various demographic, psychological, and offence history variables was examined with respect to sexual, violent, and criminal recidivism. Lastly, recidivism rates between pedophiles and nonpedophiles, within each category, were compared.

The results revealed that many variables differentiated between pedophilic recidivists and nonrecidivists (see tables 1-4). This finding supported our first hypothesis that pedophilic recidivists would exhibit more deviant profiles, and indeed had less education, were less likely to have ever been married, had more victims, demonstrated poorer sexual functioning, more hostility, more psychopathy, and had more prior offences. However, there was little consistency between variables across diagnostic categories, particularly with respect to sexual recidivism. Furthermore, despite statistical significance, some variables revealed little clinically useful information. For example, pedophilic recidivists consistently had higher hostility scores compared to nonrecidivists. However, scores for both groups are well below the cutoff score of 38. Another example is found upon examination of the sexual functioning scores, such that despite evidence of poorer sexual functioning in the recidivistic pedophiles ($< 4^{th}$ quartile), this same pattern has been observed in other groups of sexual offenders, including incest offenders and rapists (Firestone, et al., 1998; Firestone, Bradford, Greenberg, McCoy, Larose, & Curry, 1999).

There was some consistency across DSM, PD, and DSM+PD groups. Most notably, psychopathy as measured by the PCL-R, distinguished between sexual recidivists and nonrecidivists in the DSM, PD, and DSM+PD groups, and between violent and criminal

recidivists across all groups. Despite making a unique contribution to the prediction of sexual recidivism, the odds ratios revealed that higher PCL-R scores resulted in no meaningful increase in the likelihood of an offender reoffending sexually. This pattern of results was observed for the PCL-R in violent and criminal recidivism as well. These results were not consistent with the second hypothesis, which stated that different variables would be predictive of sexual, violent, and criminal recidivism individually. Across diagnostic groups and recidivism categories, no reliable and meaningful predictors were found. The results demonstrated that few variables were independently predictive, and those that were offered little incremental value. Moreover, psychopathy, being the variable most consistently predictive of recidivism, has nothing specifically to do with being pedophilic. Instead, psychopathy has been demonstrated to be a very good predictor of violence and criminal recidivism in all types of sexual offenders, and the relationship between psychopathy and sexual offending is less clear (Brown & Forth, 1997). Porter et al., (2000) found that within group comparisons of sexual offenders, extra-familial and a mixed group of both intra- and extra-familial offenders had the lowest proportions of psychopaths (6.3%, respectively) compared to rapists (36%), a group of mixed rapists and child molesters (64%), and nonsex offenders (34%). The current findings and previous research suggest that the limited differences do not provide meaningful information in the prediction and explanation of recidivism in pedophiles.

The final hypothesis was also not supported. That is, no differences were observed between pedophiles and nonpedophiles with respect to time to first sexual, violent, and criminal recidivism regardless of how pedophilia was defined. These results suggest that meaningful differences may not exist between pedophilic and nonpedophilic offenders in terms of their risk to reoffend, and actual reoffence rates. This finding has implications for practice, given that

pedophiles are often considered to be at greater risk for sexual recidivism compared to nonpedophilic offenders.

These results suggest poor validity with this particular diagnostic category. Diagnoses (DSM or otherwise) are employed because of their putative value for therapeutic guidance and predictive utility (e.g. recidivism). However, in this investigation of convicted child molesters, given that no differences existed between pedophiles and nonpedophiles with respect to sexual, violent, and criminal recidivism, and no variables reliably predicted recidivism in pedophiles, the utility of this diagnostic label should be questioned.

Limitations

There are some limitations to the present study. First, concerns with the reliability of self-report data, particularly in forensic settings, have routinely been cited and may have influenced the results of the present study (Nugent & Kroner, 1996). Given that two of the methods used for defining pedophiles in this study are likely influenced by the respondents desire to present himself in a socially desirable manner (interviews for DSM diagnosis, and phallometric assessment), it may be that certain pedophilic individuals were not detected and therefore were classified as non-pedophiles.

Another issue to acknowledge is that the psychiatrists making the diagnoses in this investigation were not aware that the validity of their diagnoses was going to be studied. In our view, the noted problems with the diagnosis of pedophilia are not intended to be a criticism of these individuals or their diagnostic skill. Instead, we feel that the results presented may be seen as ecologically valid because they reflect how the diagnosis is routinely used. One might argue that because the criteria are so flawed, diagnosticians are forced to modify or infer data for the

purpose of making a diagnosis, and it is likely these issues (i.e. diagnostic criteria, inference) which compromise the utility of the diagnosis.

As mentioned above, the participants in the study were assessed over a 12 year period, during which time, DSM criteria for pedophilia changed. Changes in the criteria may have challenged the reliability of diagnosis, resulting in some contamination between the groups.

Psychometrically, much controversy surrounds the reliability and validity of both the diagnosis of pedophilia (O'Donohue et al., 2000) and phallometrics (Marshall, & Fernandez, 2000). This is problematic given that both were used to define pedophilic groups. The decision to define pedophilia using these methods was based on the fact that these are the two most commonly used ways to make such a categorization in the field. Clearly, these methodological issues will impact on the integrity of these results. However, given that *DSM* and phallometric assessment remain the standard of practice, the practicality and generalizability of these results warranted the use of these tools.

A final limitation concerns the use of the SSPI. The authors recognize that this instrument was not designed to be a diagnostic tool, but chose to incorporate it as another method of defining pedophilia because of its promise as a non-intrusive, actuarial method of identifying men with pedophilic interests. The use of high scores (3-5) was selected by the authors as a way of differentiating those men with more, or more strongly weighted, features associated with pedophilic designation. The authors recognize that the determination of high scores is arbitrary and does not represent the suggested use of the SSPI. However, such a dichotomous categorization was selected for the purpose of consistency between grouping methods.

Lastly, this research summarized results for those recidivists who had been detected within the follow-up period, and therefore represents an underestimate of recidivism in

pedophiles. An underlying limitation to forensic work is the difficulty establishing base rates and accurate reporting of offences and reoffences.

Conclusions

This study suggests that the current use of the diagnosis of pedophilia may not provide clinicians and researchers with additional or relevant information to effectively, and reliably predict recidivism or assist in the development of treatment for sexual offenders against children. The results demonstrated that some factors do differentiate between recidivistic and nonrecidivistic pedophiles. However, psychopathy was the only reliable predictor of recidivism, but ultimately added limited incremental value to the prediction of sexual, violent, and criminal recidivism in pedophiles. Furthermore, pedophiles do not recidivate more often or more quickly than nonpedophiles. Given that the present findings, along with those of a related study (Kingston, Firestone, Moulden, & Bradford, 2005) contradict the implication that pedophiles are more deviant and likely to reoffend, it seems prudent to reevaluate the current definition and diagnostic practices related to pedophilic interest. Consistent with the suggestions of others (Marshall, 1997; 2005; O'Donohue, et al., 2000) it is the authors' belief that future descriptions of pedophilia focus more on behavioural criteria, because in its current use as indicated in the present investigation, this diagnosis offers little useful information regarding legal adjudication or guidance for treatment.

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Table 1

Comparison of Recidivistic and Nonrecidivistic Pedophiles Based on DSM Diagnoses

Variable	Sexual Recidivism (a)		Violent Recidivism (b)		Criminal Recidivism (c)			
	Yes	No	Yes	No	Yes	No	*df*	F/χ^2
Age (In Years)	37.00±12.67 (21)	37.53±12.81 (64)	33.72±11.71 (29)	39.30±12.53 (56)	33.59±11.68 (39)	40.63±12.33 (46)	83	(a) 0.03 (b) 3.96 (c) 7.22 **
Education (In Years)	9.67±4.52 (21)	11.56±4.34 (63)	9.59±3.94 (29)	11.87±4.51 (55)	9.54±3.75 (39)	12.42±4.60 (45)	82	(a) 2.92 (b) 5.30* (c) 9.75**
Ever married	4 (21)	20 (63)	4 (29)	20 (55)	7 (39)	17 (45)	1	(a) 1.24 (b)4.74* (c) 4.03*
Number of Victims	3.25±3.14 (20)	2.26±2.39 (58)	2.71±2.80 (28)	2.40±2.53 (50)	2.81±3.05 (37)	2.24±2.15 (41)	76	(a) 2.17 (b) 0.26 (c) 0.91
Intrusiveness of sexual assault	3.71±0.78 (21)	3.52±0.78 (64)	3.72±0.75 (29)	3.48±0.79 (56)	3.62±0.94 (39)	3.52±0.62 (46)	83	(a) 1.03 (b) 1.87 (c) 0.30
PCL-R	22.47±7.72 (20)	16.49±7.91 (58)	22.37±7.80 (28)	15.59±7.50 (50)	21.79±8.50 (37)	14.62±6.39 (41)	76	(a) 8.58** (b) 14.26*** (c) 17.97***
MAST	11.13±12.93 (16)	6.29±9.10 (55)	10.64±12.76 (22)	5.92±8.54 (49)	10.63±12.43 (30)	5.00±7.46 (41)	69	(a) 2.87 (b) 3.37 (c) 5.64*

BDHI	33.00±15.85 (21)	28.33±13.72 (60)	34.59±15.04 (29)	26.73±13.28 (52)	34.77±13.52 (39)	24.69±13.50 (42)	79	(a) 1.66 (b) 5.92* (c) 11.25**
DSFI (SFI)	25.42±8.60 (19)	30.84±11.53 (60)	24.96±8.19 (27)	31.91±11.71 (52)	26.00±8.60 (37)	32.66±12.16 (42)	77	(a) 3.56 (b) 7.56 ** (c) 7.69**
ABEL	4.23±0.63 (18)	4.33±0.59 (57)	4.28±0.60 (25)	4.32±0.61 (50)	4.26±0.65 (34)	4.34±0.56 (41)	73	(a) 0.41 (b) 0.05 (c) 0.33
Prior Charges /Convictions								
Sexual	1.38±2.84 (21)	0.59±1.48 (64)	1.37±2.97 (29)	0.48±0.91 (56)	1.18±2.62 (39)	0.46±0.89 (46)	83	(a) 2.73 (b) 4.36* (c) 3.01
Violent	2.00±3.16 (21)	0.81±1.71 (64)	2.07±3.20 (29)	0.61±1.20 (56)	1.82±2.96 (39)	0.50±0.89 (46)	83	(a) 4.82* (b) 9.23** (c) 8.27**
Criminal	5.10±6.64 (21)	2.83±6.12 (64)	6.14±8.16 (29)	1.96±4.52 (56)	5.10±7.37 (39)	1.96±4.84 (46)	83	(a) 2.08 (b) 9.23** (c) 5.47*
Phallometrics								
PIA	1.66±1.38 (21)	1.69±72 (61)	1.88±1.61 (29)	1.58±1.66 (53)	1.83±1.66 (38)	1.56±1.63 (44)	80	(a) 0.01 (b) 0.61 (c) 0.53
PAIA	1.04±0.74 (21)	0.75±0.61 (60)	1.01±0.75 (29)	0.73±0.57 (52)	1.03±0.70 (38)	0.650.56 (43)	79	(a) 3.11 (b) 3.70 (c) 7.21**

Note. PCL-R = Psychopathy Checklist Revised, MAST = Michigan Alcoholism Screening Test, BDHI = Buss Durkee Hostility Inventory, DSFI = Derogatis Sexual Functioning Inventory, PIA = Pedophile Index, PAIA = Pedophile Assault Index; *p <.05. **p<.01, ***p<.001.

Table 2

Comparison of Recidivistic and Nonrecidivistic Pedophiles Based on Phallometric Criteria

Variable	Sexual Recidivism (a)		Violent Recidivism (b)		Criminal Recidivism (c)			
	Yes	No	Yes	No	Yes	No	*df*	F/χ^2
Age (In Years)	35.97±13.02 (34)	37.74±12.82 (76)	34.00±12.91 (46)	39.48±12.40 (64)	34.02±12.61 (60)	41.00±12.19 (50)	108	(a) 0.44 (b) 5.10* (c) 8.62**
Education (In Years)	10.00±4.20 (29)	10.85±3.93 (74)	9.71±3.79 (41)	11.21±4.05 (62)	9.75±3.63 (55)	11.60±4.20 (48)	101	(a) 0.95 (b) 3.60 (c) 5.81*
Ever married	35 (34)	32 (74)	14 (46)	22 (62)	18 (60)	18 (48)	1	(a) 0.09 (b) 0.30 (c) 0.66
Number of Victims	3.32±2.77 (31)	2.19±2.08 (68)	2.81±2.55 (42)	2.35±2.22 (57)	2.82±2.70 (55)	2.20±1.84 (44)	97	(a) 5.09* (b) 0.91 (c) 1.66
Intrusiveness of sexual assault	3.64±1.00 (33)	3.49±0.76 (74)	3.66±.91 (44)	3.44±0.78 (63)	3.64±0.85 (58)	3.41±0.81 (49)	105	(a) 0.73 (b) 1.71 (c) 2.01
PCL-R	21.60±6.80 (31)	17.70±7.96 (69)	22.40±7.10 (42)	16.38±7.37 (58)	21.61±7.72 (55)	15.58±6.57 (45)	98	(a) 5.54* (b) 16.69*** (c) 17.24***
MAST	11.19±12.21 (16)	6.04±10.00 (48)	10.35±12.10 (23)	5.63±9.60 (41)	9.88±12.16 (33)	4.61±8.25 (31)	62	(a) 2.90 (b) 2.93 (c) 4.10*

BDHI	30.73±13.50 (33)	30.00±14.02 (73)	32.87±12.65 (45)	28.26±14.40 (61)	32.86±13.27 (58)	27.02±13.89 (48)	104	(a) 0.07 (b) 2.93 (c) 4.90*
DSFI (SFI)	26.56±8.50 (32)	28.50±10.20 (71)	25.73±8.69 (44)	29.49±10.16 (59)	26.35±8.63 (58)	29.87±10.70 (45)	101	(a) 0.86 (b) 3.90 (c) 3.42
ABEL	4.32±0.60 (18)	4.15±0.72 (56)	4.26±0.71 (27)	4.15±0.68 (47)	4.23±0.78 (40)	4.14±0.58 (34)	72	(a) 0.86 (b) 0.48 (c) 0.28
Prior Charges /Convictions								
Sexual	1.26±2.40 (34)	0.84±2.09 (76)	1.20±2.47 (46)	0.81±1.94 (64)	1.07±2.22 (60)	0.86±2.14 (50)	108	(a) 0.88 (b) 0.83 (c) 0.24
Violent	1.65±2.60 (34)	1.33±2.60 (76)	1.84±2.70 (46)	1.13±2.48 (64)	1.78±2.60 (60)	1.00±2.52 (50)	108	(a) 0.35 (b) 2.11 (c) 2.54
Criminal	3.94±5.30 (34)	3.90±7.35 (76)	5.33±7.41 (46)	2.90±6.11 (64)	4.70±6.72 (60)	2.98±6.75 (50)	108	(a) 0.00 (b) 3.51 (c) 1.78
Phallometrics								
PIA	1.74±1.45 (34)	1.97±1.63 (76)	1.95±1.63 (46)	1.87±1.53 (64)	1.89±1.65 (60)	1.92±1.48 (50)	108	(a) 0.49 (b) 0.08 (c) 0.01
PAIA	1.29±0.68 (34)	1.03±0.56 (76)	1.25±0.69 (46)	1.00±0.53 (64)	1.21±0.65 (60)	0.99±0.54 (50)	108	(a) 4.36* (b) 4.48* (c) 3.69

Note. PCL-R = Psychopathy Checklist Revised, MAST = Michigan Alcoholism Screening Test, BDHI = Buss Durkee Hostility Inventory, DSFI = Derogatis Sexual Functioning Inventory, PIA = Pedophile Index, PAIA = Pedophile Assault Index; **p* <.05. ***p*<.01, ****p*<.001. Phallometrics were not included in the logistic regression analyses.

Table 3

Comparison of Recidivistic and Nonrecidivistic Pedophiles Based on DSM and Phallometric Criteria

Variable	Sexual Recidivism (a)		Violent Recidivism (b)		Criminal Recidivism (c)			
	Yes	No	Yes	No	Yes	No	*df*	F/χ^2
Age (In Years)	37.39±12.51 (13)	36.10±13.69 (42)	33.48±12.56 (25)	38.63±13.50 (35)	32.76±12.27 (33)	41.04±13.20 (27)	58	(a) 0.12 (b) 2.25 (c) 6.32*
Education (In Years)	10.33±4.42 (18)	10.79±4.28 (42)	10.04±3.89 (25)	11.09±4.56 (35)	9.82±3.80 (33)	11.67±4.70 (27)	58	(a) 0.14 (b) 0.87 (c) 2.84
Ever married	4 (18)	11 (42)	4 (25)	11 (35)	6 (33)	9 (27)	1	(a) 0.75 (b) 0.17 (c) 0.18
Number of Victims	3.47±3.36 (17)	2.23±2.50 (39)	2.88±2.98 (24)	2.41±2.71 (32)	3.03±3.28 (31)	2.08±2.04 (25)	54	(a) 2.36 (b) 0.38 (c) 1.60
Intrusiveness of sexual assault	3.78±0.80 (18)	3.52±0.67 (42)	3.76±0.78 (25)	3.49±0.66 (35)	3.73±0.76 (33)	3.44±0.64 (27)	58	(a) 1.59 (b) 2.17 (c) 2.36
PCL-R	22.90±7.14 (17)	17.80±8.85 (39)	23.18±7.10 (24)	16.47±8.14 (32)	22.87±8.05 (31)	14.97±6.53 (25)	54	(a) 4.72* (b) 10.38** (c) 15.71***
MAST	10.14±11.61 (14)	6.60±9.85 (35)	10.42±11.90 (19)	5.83±9.06 (30)	10.24±11.85 (25)	4.88±7.95 (24)	47	(a) 1.17 (b) 2.33 (c) 3.43

BDHI	33.06±15.52 (18)	32.90±12.92 (41)	35.80±14.07 (25)	30.85±13.11 (34)	35.97±12.88 (33)	29.12±13.84 (26)	57	(a) 0.01 (b) 1.93 (c) 3.86
DSFI (SFI)	26.06±8.89 (17)	27.20±8.75 (41)	24.75±7.99 (24)	28.35±9.03 (34)	25.59±8.15 (32)	28.42±9.31 (26)	56	(a) 0.20 (b) 2.46 (c) 1.52
ABEL	4.26±0.64 (15)	4.25±0.61 (37)	4.28±0.58 (21)	4.23±0.64 (31)	4.28±0.63 (28)	4.22±0.60 (24)	50	(a) 0.01 (b) 0.09 (c) 0.15
Prior Charges /Convictions								
Sexual	1.06±2.18 (18)	0.74±1.73 (42)	1.20±2.63 (25)	0.57±0.98 (35)	1.09±2.35 (33)	0.52±0.94 (27)	58	(a) 0.36 (b) 1.68 (c) 1.42
Violent	1.50±2.31 (18)	1.05±2.00 (42)	1.80±2.71 (25)	0.74±1.38 (35)	1.70±2.59 (33)	0.56±0.93 (27)	58	(a) 0.59 (b) 3.93 (c) 4.72*
Criminal	4.00±5.35 (18)	3.86±7.31 (42)	5.72±7.87 (25)	2.60±5.56 (35)	4.94±7.09 (33)	2.63±6.17 (27)	58	(a) 0.01 (b) 3.25 (c) 1.77
Phallometrics								
PIA	1.87±1.38 (18)	2.34±1.71 (42)	2.13±1.59 (25)	2.25±1.67 (35)	2.05±1.66 (33)	2.38±1.58 (27)	58	(a) 1.04 (b) 0.08 (c) 0.62
PAIA	1.17±0.71 (18)	0.99±0.54 (42)	1.14±0.72 (25)	0.98±0.49 (35)	1.13±0.68 (33)	0.94±0.48 (27)	58	(a) 1.13 (b) 1.10 (c) 1.53

Note. PCL-R = Psychopathy Checklist Revised, MAST = Michigan Alcoholism Screening Test, BDHI = Buss Durkee Hostility Inventory, DSFI = Derogatis Sexual Functioning Inventory, PIA = Pedophile Index, PAIA = Pedophile Assault Index; *p <.05, **p<.01, ***p <.001.

Table 4

Comparison of Recidivistic and Nonrecidivistic Pedophiles Based on SSPI Scores

Variable	Sexual Recidivism (a)		Violent Recidivism (b)		Criminal Recidivism (c)			
	Yes	No	Yes	No	Yes	No	*df*	F/χ^2
Age (In Years)	36.66±14.16 (24)	37.51±12.25 (79)	34.36±13.21 (33)	38.59±12.26 (70)	34.07±12.26 (46)	39.79±12.50 (57)	101	(a) 0.16 (b) 2.53 (c) 5.43*
Education (In Years)	9.08±3.59 (24)	11.12±3.69 (79)	9.34±3.43 (32)	11.23±3.76 (69)	9.62±3.35 (46)	11.45±3.88 (56)	99	(a) 5.63* (b) 5.81* (c) 6.22*
Ever married	8 (24)	20 (72)	11 (33)	17 (63)	14 (43)	14 (53)	1	(a) 0.27 (b) 0.42 (c) 0.43
Number of Victims	3.71±2.56 (24)	2.64±2.16 (78)	3.30±2.33 (33)	2.70±2.26 (69)	3.24±2.53 (46)	2.61±2.05 (56)	100	(a) 0.05 (b) 1.58 (c) 1.94
Intrusiveness of sexual assault	3.38±0.97 (24)	3.21±0.94 (77)	3.39±0.86 (33)	3.18±0.98 (68)	3.33±0.94 (46)	3.18±0.95 (55)	99	(a) 0.57 (b) 1.19 (c) 0.59
PCL-R	21.01±7.54 (20)	17.67±7.92 (41)	21.27±7.04 (26)	16.90±8.07 (35)	21.21±7.72 (32)	16.07±7.29 (29)	59	(a) 2.46 (b) 4.87* (c) 7.11*
MAST	11.42±14.27 (12)	6.10±8.55 (62)	9.41±12.75 (17)	6.23±8.71 (57)	8.61±11.82 (28)	5.96±8.28 (46)	72	(a) 3.06 (b) 1.40 (c) 1.28

BDHI	30.78±13.50 (23)	25.78±12.97 (77)	31.47±12.74 (32)	24.79±12.95 (68)	30.64±12.96 (45)	23.89±12.71 (55)	98	(a) 2.59 (b) 5.84* (c) 6.87*
DSFI (SFI)	25.05±7.48 (22)	31.83±11.83 (77)	25.39±9.65 (31)	32.57±11.40 (68)	28.11±10.43 (44)	32.09±11.81 (55)	97	(a) 6.47* (b) 9.27** (c) 3.07
ABEL	4.16±0.56 (15)	4.44±0.62 (69)	4.28±0.54 (23)	4.43±0.64 (61)	4.27±0.70 (35)	4.48±0.53 (49)	82	(a) 2.54 (b) 0.94 (c) 2.47
Prior Charges /Convictions								
Sexual	2.29±3.06 (24)	1.23±2.45 (79)	2.45±3.16 (33)	1.01±2.21 (70	2.02±2.82 (46)	1.04±2.40 (57)	101	(a) 3.08 (b) 7.15** (c) 3.69
Violent	2.58±3.06 (24)	1.52±2.75 (79)	2.79±3.29 (33)	1.29±2.59 (70)	2.43±3.02 (46)	1.23±2.72 (57)	101	(a) 2.51 (b) 6.31* (c) 4.55*
Criminal	5.58±7.32 (24)	3.43±5.98 (79)	6.67±7.83 (33)	2.64±5.08 (70)	5.67±7.02 (46)	2.53±5.41 (57)	101	(a) 2.14 (b) 9.79** (c) 6.61*
Phallometrics								
PIA	1.48±1.26 (20)	1.77±1.66 (41)	1.66±1.54 (26)	1.69±1.55 (35)	1.77±1.54 (32)	1.58±1.55 (29)	59	(a) 0.47 (b) 0.01 (c) 0.24
PAIA	0.92±0.77 (20)	0.74±0.59 (41)	0.88±0.74 (26)	0.74±0.58 (35)	0.93±0.68 (32)	0.66±0.60 (29)	59	(a) 0.95 (b) 0.70 (c) 2.65

Note. PCL-R = Psychopathy Checklist-Revised, MAST = Michigan Alcoholism Screening Test, BDHI = Buss Durkee Hostility Inventory, DSFI = Derogatis Sexual Functioning Inventory, PIA = Pedophile Index, PAIA = Pedophile Assault Index; *p <.05. **p<.01.

Table 5

Logistic Regression Analyses of Recidivism

Recidivism Category Variable	β	Wald Test (Z-ratio)	Odds Ratio	95% CI for Odds Ratio Upper	 Lower
		Diagnostic Group			
		DSM Group			
Sexual recidivism					
PCL-R	0.09	5.65*	1.09	1.02	1.17
Prior violent offences	0.15	1.97	1.17	0.94	1.45
Violent recidivism					
Education	-0.03	0.16	0.97	0.84	1.12
Ever married	-0.27	0.14	0.76	0.18	3.20
PCL-R	0.09	4.05*	1.09	1.00	1.19
BDHI	-0.01	0.04	1.00	0.95	1.05
DSFI	-0.06	2.53	0.94	0.88	1.01
Prior sexual offences	0.00	0.00	1.00	0.46	2.18
Prior violent offences	0.20	0.27	1.22	0.58	2.56
Prior criminal offences	-0.00	0.01	0.95	0.89	1.11
Criminal recidivism					
Age	-0.07	3.45	0.06	0.87	1.00
Education	-0.14	2.24	0.87	0.72	1.05
Ever married	0.31	0.15	1.37	0.28	6.63
PCL-R	0.50	0.87	1.05	0.95	1.17
MAST	0.06	1.81	1.06	0.97	1.17
BDHI	0.02	0.44	1.02	0.95	1.10
DSFI	0.02	0.18	1.01	0.94	1.10

Table 5 continued.

Prior violent offences	0.61	3.26	1.84	0.95	3.55
Prior criminal offences	-0.06	0.47	0.95	0.81	1.11
PAIA	0.59	0.83	1.81	0.51	6.45
		PD Group			
Sexual recidivism					
Number of victims	0.16	2.71	1.17	0.97	1.41
PCL-R	0.06	3.63	1.06	1.00	1.13
Violent recidivism					
Age	-0.03	2.33	0.97	0.94	1.01
PCL-R	0.11	11.09*	1.11	1.04	1.18
Criminal recidivism					
Age	-0.07	4.70*	0.93	0.88	0.99
Education	-0.11	1.30	0.90	0.74	1.08
PCL-R	0.08	2.74	1.08	0.99	1.18
MAST	0.05	1.61	1.05	0.98	1.13
BDHI	-0.01	0.03	1.00	0.94	1.06
		DSM+PD Group			
Sexual recidivism					
PCL-R	0.08	4.20*	1.10	1.00	1.17
Violent recidivism					
PCL-R	0.11	7.99**	1.12	1.04	1.21
Criminal recidivism					
Age	-0.04	2.50	0.96	0.92	1.01
PCL-R	0.12	7.01**	1.13	1.03	1.23
Prior violent offences	0.32	2.20	1.37	0.90	2.10

Table 5 cont.

		SSPI Group			
Sexual recidivism					
Education	-0.10	1.92	0.91	0.79	1.04
Number of victims	0.16	2.48	1.18	0.96	1.44
DSFI	-0.07	4.76*	0.94	0.88	0.99
Violent recidivism					
Education	-0.09	1.05	0.91	0.76	1.09
PCL-R	0.08	2.55	1.08	0.98	1.20
BDHI	0.01	0.05	1.01	0.96	1.06
DSFI	-0.04	1.40	0.96	0.90	1.03
Prior sexual offences	2.60	3.29	13.48	0.81	22.85
Prior violent offences	-2.51	3.11	0.08	0.01	1.32
Prior criminal offences	0.15	1.49	1.16	0.92	1.47
Criminal recidivism					
Age	-0.04	2.02	0.96	0.91	1.02
Education	-0.14	2.56	0.87	0.73	1.03
PCL-R	0.07	2.13	1.07	0.98	1.02
BDHI	0.02	0.89	1.02	0.98	1.07
Prior violent offences	0.17	1.26	1.19	0.88	1.61
Prior criminal offences	-0.05	0.47	0.96	0.84	1.09

Note. PCL-R = Psychopathy Checklist Revised, MAST = Michigan Alcoholism Screening Test, BDHI = Buss Durkee Hostility Inventory, DSFI = Derogatis Sexual Functioning Inventory, PAIA = Pedophile Assault Index; *p <.05. **p<.01.

Figure 1. Survival graphs for sexual, violent, and criminal recidivism for the DSM group.

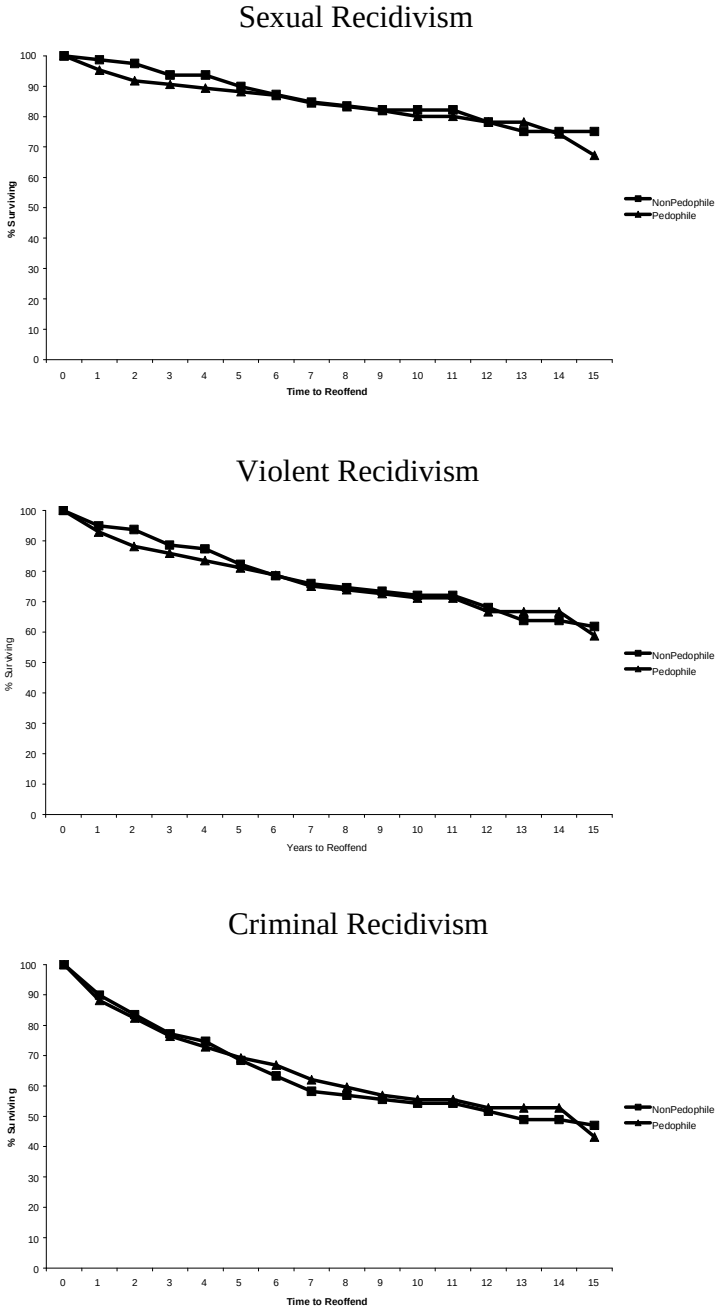

Figure 2. Survival graphs for sexual, violent, and criminal recidivism for the PD group.

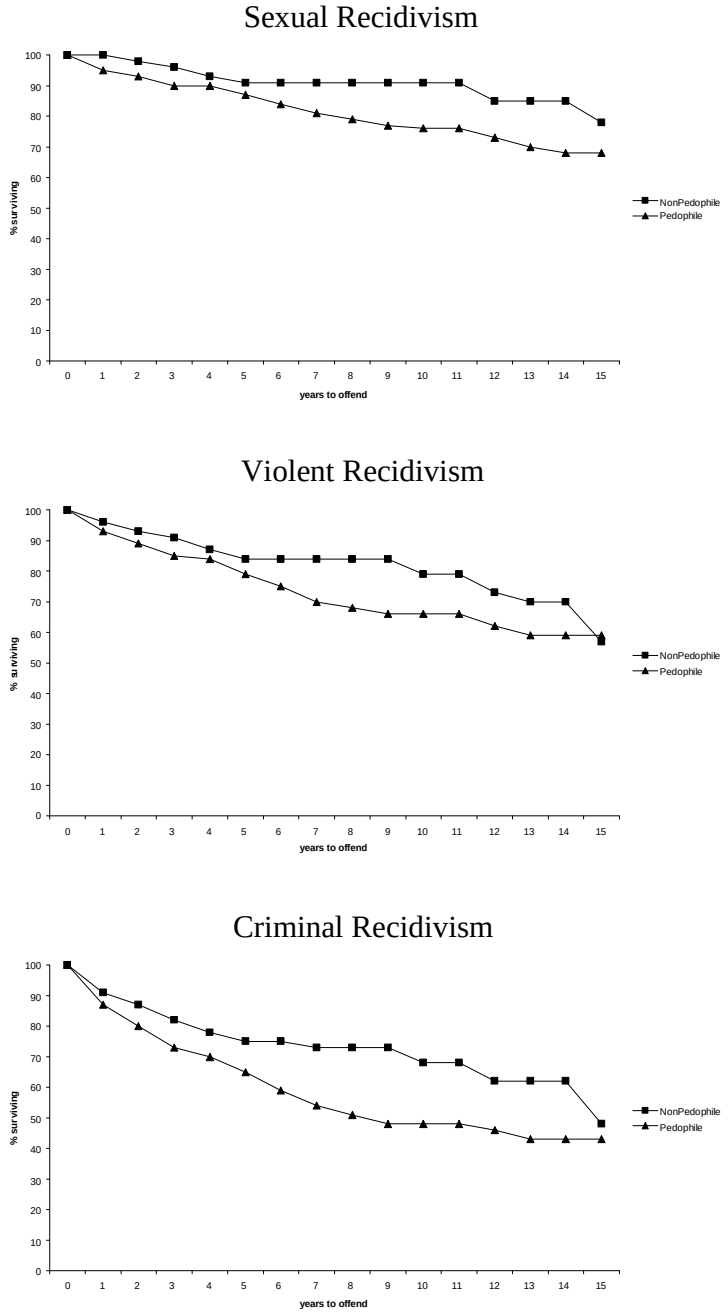

Figure 3. Survival graphs for sexual, violent, and criminal recidivism for the DSM+PD group.

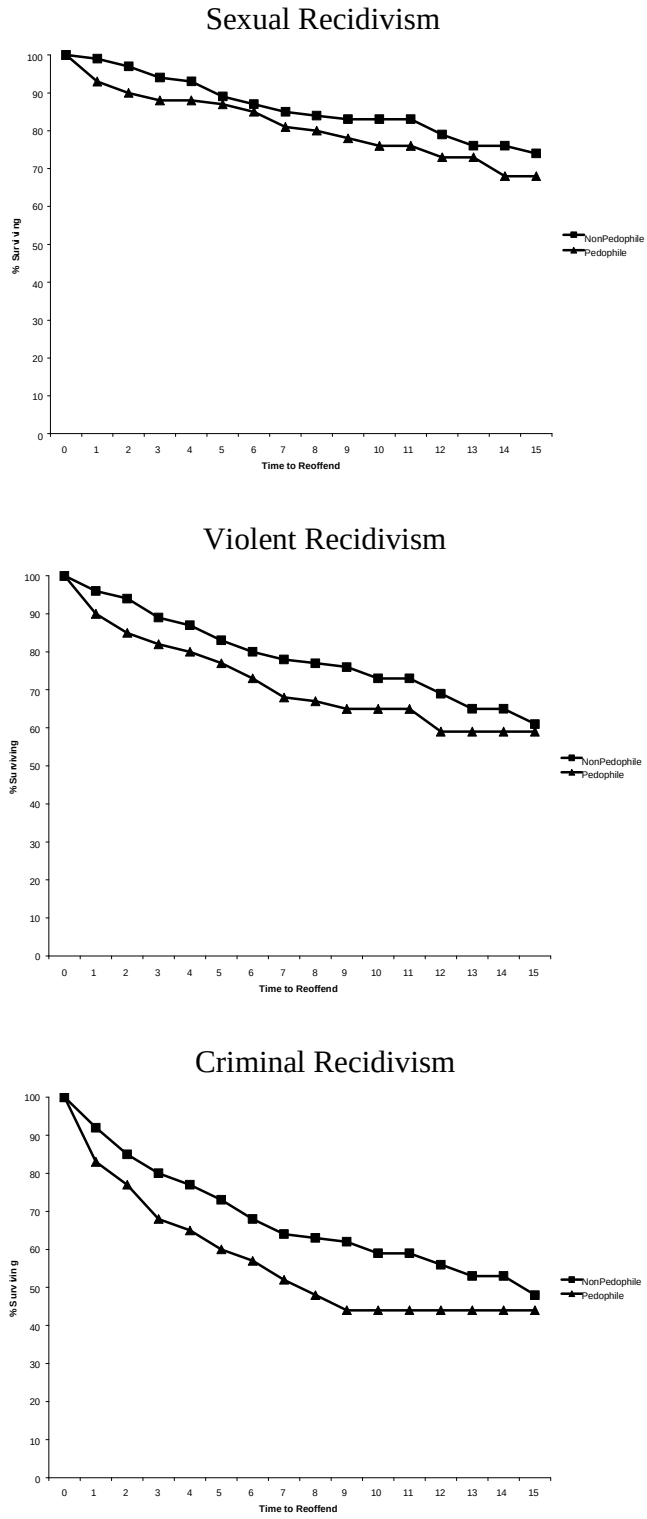

Figure 4. Survival graphs for sexual, violent, and criminal recidivism for the SSPI group.