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Psychopathy and Sexual Deviance in Treated Rapists: Association With Sexual and Nonsexual Recidivism[1]

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This study examined the role of the Psychopathy Checklist-Revised (PCL-R; R. D. Hare, 1991) and sexual deviance scores in predicting recidivism in a sample of 94 convicted rapists involuntarily admitted to a Dutch forensic psychiatric hospital between 1975 and 1996. The predictive utility of grouping offenders based on the combination of psychopathy and sexual deviance was also investigated. Measures were coded from prerelease institutional records. Recidivism (reconviction) data were retrieved from the Judicial Documentation Register of the Ministry of Justice and were related to PCL-R and sexual deviance scores. The follow-up period after release ranged up to 23.5 years ($M = 11.8$ years). Base rates for sexual, violent nonsexual, violent (including sexual), and general recidivism were 34%, 47%, 55%, and 73%, respectively. For all types of offending, offenders scoring high on the PCL-R ($\geq$26) were significantly more often reconvicted than other offenders. The sexual deviance score was found to be a significant predictor of sexual reconviction. Survival analyses provided considerable evidence that psychopathic sex offenders with sexual deviant preferences are at substantially greater risk of committing new sexual offenses than psychopathic offenders without deviant preferences or nonpsychopathic offenders with or without sexual deviance. The findings are discussed in terms of their practical and clinical implications.

KEY WORDS: psychopathy; PCL-R; sexual deviance; rapists; recidivism; reconviction.

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Sexual assault toward adult women is a multidimensionally determined phenomenon. It encompasses a wide spectrum of behaviors targeting different types of victims in a variety of situations. Those involved in managing sex offenders, however, recognize that sex offenders are heterogeneous in their personality profiles, criminal diversity, and risk. The identification of risk factors that may be associated with recidivism in sex offenders play an important role in determining intervention strategies that best protect the community and reduce the likelihood of further victimization. To date, studies regarding the effect of interventions with these offenders have provided mixed findings (e.g., Hanson et al., 2002; Looman, Abracen, & Nicholaichuck, 2000; Marques, 1999). Sex offender treatment programs and the results of treatment outcome studies may vary not only due to their therapeutic approach, but also, for example, by the location of the treatment (e.g., prison, forensic psychiatric hospital, community), the degree of self-selection (e.g., voluntary participation or mandatory placement in a program), and the seriousness of the offender's (sex) offense history. Overall, only a small proportion of sex offenders are expected to benefit significantly from treatment (e.g., Furby, Weinrott, & Blackshaw, 1989; Hall, 1995).

In general, the recidivism rate of sex offenders is high (e.g., Doren, 1998). Overall, the observed rates for *sexual* recidivism are approximately 20% after a follow-up period of 10 years (Hanson, Morton, & Harris, in press). Recidivism rates, however, vary widely, depending on factors such as the definition and type of recidivism, whether or not offenders have completed treatment programs, the length of follow-up period after release from detention or inpatient forensic hospitalization, and type or subtype of sex offender. To illustrate, Prentky, Lee, Knight, and Cerce (1997) documented a 52% failure rate for *sexual* reoffending within their sample of extrafamilial child molesters ($N = 115$) over a 25-year at-risk period, using the definition of "charge of new sex offense." For rapists ($N = 136$), the sexual recidivism rate, as measured by a new sexual charge, was 39% over 25 years, and the corresponding reconviction rate for rapists was 24%. In addition, rapists generally show higher rates of (nonsexual) violent and general reoffending than other sex offenders (e.g., Hanson & Bussière, 1998; Marx, Miranda, & Meyerson, 1999; Prentky et al., 1997; Quinsey, Rice, & Harris, 1995).

Obviously, future behavior can never be predicted with 100% accuracy. Efforts directed at identifying factors that are predictive of future (sexual) offending, however, continue to be the focus of considerable research. In a meta-analytic review of the research, involving 61 different sex offender databases, some of which involved rapists, Hanson and Bussière (1996, 1998) found that there were different predictors for different types of recidivism. In general, the strongest predictors of *sexual* recidivism were factors related to sexual deviance and general criminal history. The single largest predictor of sexual reoffending was phallometric evidence of sexual interest in children ($r = .32$). Other predictors included clinical assessment of deviant sexual preferences ($r = .22$), prior sexual offenses

($r = .19$), and factors related to general criminality, such as antisocial personality or psychopathy ($r = .14$). Predictors of *violent nonsexual* recidivism in sex offenders were the same as those that are associated with violent recidivism in non-sex offenders (e.g., age, $r = -.24$; prior violent offenses, $r = .21$; psychopathy, $r = .19$) (Andrews & Bonta, 1994; Gendreau, Little, & Goggin, 1996). However, as has been noted previously, one should be cautious in the interpretation of the data as the meta-analysis included many different types of sex offenders, such as child molesters and exhibitionists, in different settings (e.g., outpatient, inpatient, prison).

Although originally developed to function as a research diagnostic tool to identify psychopathy, considerable empirical evidence now indicates that the Hare Psychopathy Checklist-Revised (PCL-R; Hare, 1991) is an important predictor of violent and general recidivism (e.g., Hare, Clark, Grann, & Thornton, 2000; Hemphill, Hare, & Wong, 1998; Salekin, Rogers, & Sewell, 1996). Psychopathy (PCL-R) is also identified as a risk factor for sexual recidivism (Hanson & Bussière, 1996; Seto & Lalumière, 2000), although the relation between psychopathy and sexual violence is complex (Porter et al., 2000). To illustrate, in a recent evaluation of its predictive validity among sex offenders, Barbaree, Seto, Langton, and Peacock (2001) reported that PCL-R scores failed to correlate with sexual recidivism, although PCL-R total scores and Factor 2 scores showed significant correlations with any and violent (including sexual) recidivism. Similarly, AUC values for the PCL-R total score reflected moderate predictive validity for any and violent recidivism but was no better than chance for sexual recidivism specifically.

Theoretically, one might expect that certain characteristics of the (PCL-R) psychopath (e.g., sexual promiscuity, lack of concern for the welfare of others, impulsivity) would lead to higher levels of sexual activity and to nonconsenting sexual encounters. In nonpsychopathic individuals, on the other hand, concern for the victim, and lack of general propensities to use other people for one's own ends would likely inhibit the acting out of deviant sexual preferences/fantasies. A sexually deviant psychopathic individual is less likely to show such restraint. Indeed, it is suggested that psychopathy in combination with deviant sexual arousal would be a strong predictor of sexual aggressive behavior (Quinsey, Lalumière, Rice, & Harris, 1995).

Recently, a number of studies have explored the relation between PCL-R psychopathy and sexual deviance, assessed with phallometric indices of deviant sexual arousal, in relation to recidivism in adult (Rice & Harris, 1997; Serin, Mailloux, & Malcolm, 2001) and adolescent sex offenders (Gretton, McBride, Hare, O'Shaughnessy, & Kumka, 2001). Serin et al. (2001) reported that the combination of a high PCL-R score and deviant sexual arousal predicted *general* recidivism in a sample of rapists. Unfortunately, they did not report outcomes for sexual reoffenses. Rice and Harris (1997) reported an interaction effect of PCL-R

psychopathy and sexual deviance in the prediction of *sexual* recidivism among rapists and child molesters followed for an average period of 10 years. Sexually deviant men scoring high on the PCL-R (more than 25) had a much lower survival rate (26%) than men who scored high on the PCL-R, but not on sexual deviance and those that were low on both factors. Gretton et al. (2001) found that a combination of high scores on the Hare Psychopathy Checklist: Youth Version (PCL:YV; Forth, Kosson, & Hare, in press) and phallometric evidence of deviant sexual arousal was more strongly predictive of general and violent reoffending than of sexual recidivism among adolescent sex offenders. All in all, these findings suggest that the combination of deviant sexual preferences and psychopathy puts sex offenders at particularly high risk for committing further offenses. Although past findings have been supportive of this hypothesis, further research in other, non-North American samples, is needed to study the predictive validity of the relationship between psychopathy and sexual deviance with regard to criminal recidivism, with a particular emphasis on sexual reoffending.

THE PRESENT STUDY

The main purpose of this study was to evaluate the validity of PCL-R psychopathy for the prediction of recidivism outcomes among convicted rapists who had returned to society after (intensive) forensic psychiatric inpatient treatment. The predictive value of Factor 1 and Factor 2 of the PCL-R was also examined. The second goal of the study was to examine the relationship between PCL-R psychopathy and sexual deviance, and the degree of predictive utility when defining groups according to combinations of psychopathy (high/low) and sexual deviance (present/absent).

Contrary to the important role assigned to phallometry in the assessment of sexual deviance in North American countries, phallometry is rarely used in the Netherlands. We believe this reflects the significant differences between North American and Dutch policy regarding assessment and treatment of sex offenders. Phallometry does not fit with the historically predominantly psychodynamic orientation of Dutch forensic psychiatry. Although since the 1990s cognitive-behavioral treatment models, with a focus on offense behavior and the context in which the offense took place (Laws, 1989; Marshall & Barbaree, 1990), have been implemented in several forensic psychiatric hospitals in the Netherlands, there still lingers an anti-empirical, antibehavioral mood among the forensic establishment in the Netherlands. Because phallometric assessments of sexual deviance were not available for the participants in this study, the "Sexual Deviance" item of the Sexual Violence Risk-20 (SVR-20; Boer, Hart, Kropp, & Webster, 1997) was used for scoring sexual deviance. The SVR-20 is a 20-item structured clinical guideline for the assessment of risk for sexual violence in adult sex offenders.

On the basis of previous research, we hypothesized that:

(1) Offenders identified as psychopathic would be more likely than nonpsychopathic offenders to commit further offenses (sexual, violent nonsexual, general) after release;
(2) With regard to sexual recidivism, psychopathic offenders with deviant sexual preferences were expected to recidivate more often and faster than other groups of offenders.

METHOD

Participants

Participants ($N = 94$) were male forensic psychiatric patients involuntarily admitted to the Dr. Henri van der Hoeven Kliniek, a Dutch forensic psychiatric hospital, between July 1975 and February 1996. Patients were convicted for rape ($n = 75$) or sexual assault ($n = 19$). According to the Dutch Code of Criminal Law, a criminal offender can be sentenced to a *maatregel van terbeschikkingstelling* (TBS-order) when (1) the offense committed can result in a sentence of 4 or more years imprisonment, with an estimated high risk of recidivism, and (2) the offender was judged to carry diminished responsibility for the offense committed due to a serious mental and/or personality disorder. The TBS-system evolved from a humanistic reform movement in criminal law, which emphasized the need for rehabilitation of mentally disordered offenders through intensive psychotherapeutic effort. The main purpose of the TBS-order is to protect society from unacceptably high risks of recidivism, directly through involuntary admission to a secure forensic psychiatric hospital, and indirectly by offering treatment to the mentally disordered offender. Treatment is aimed at structural and lasting behavior change, to allow a safe return to society. Since the early 1990s, the treatment model of the Dr. Henri van der Hoeven Kliniek is cognitive behavioral with relapse prevention, in which the no-cure-but-control principle (Laws, Hudson, & Ward, 2000) prevails. Every 1 or 2 years the court reviews the risk of reoffending to determine whether the TBS-order needs to be prolonged.

Sample Characteristics

At admission, the mean age of the sample was 24.5 years ($SD = 5.5$; range = 18–44). Most of the patients were White (95%). The academic and vocational background of the sample was clearly below average. Ten patients (11%) did not complete elementary school and 52 patients (55%) had no further education after elementary school. At the time of the index offense, most patients were single (79%) and without a job (56%). Eighty-two patients (89%, missing data for

two patients) had been convicted at least once before (mean number of previous convictions for any crime was 4.47, $SD = 5.47$; range = 0–28). The mean duration of forensic inpatient treatment was 53 months ($SD = 27$ months; range = 2–156 months).

Procedure

The study had a retrospective follow-up design. With the exception of recidivism data, the study variables were coded retrospectively from institutional files. In general, the files were extensive and contained psychiatric and psychological evaluations, police records, criminal history, treatment plans and treatment evaluations, the hospital's (bi-)annual advice to the court about the need for prolongation of the TBS-order, and family background data. The files were reviewed and coded by the authors, without knowledge of recidivism data.

Assessment Procedures

Psychopathy

Psychopathy was measured using the Psychopathy Checklist-Revised (PCL-R; Hare, 1991; Dutch translation: Vertommen, Verheul, de Ruiler, & Hildebrand, 2002), a reliable and well validated (e.g., Hemphill et al., 1998) 20-item structured clinical assessment instrument based on the description by Cleckley (1941) of a personality style which he named psychopathy. Participants were assigned ratings of "0" (absent), "1" (some indication), or "2" (present) on each of the PCL-R items, measuring characteristics as glibness/superficial charm, lack of empathy, need for stimulation/proneness to boredom, poor behavioral controls, impulsivity, and juvenile delinquency. Factor analyses have consistently found two correlated but distinct factors for the PCL-R (Hare, 1991), although there is recent evidence to suggest that a three-factor solution (Cooke & Michie, 2001) better reflects the multifaceted concept of psychopathy. The two-factor model is comprised of a first factor that has been described as callous and remorseless disregard for the rights and feelings of others (Hare, 1991), consisting of eight items that measure the affective and interpersonal features of the disorder. Factor 2 consists of nine items describing a chronically unstable, impulsive, and antisocial lifestyle. Total scores can range from 0 to 40, and the recommended cutoff score for a diagnosis of psychopathy is 30 (Hare, 1991, 1996), although in European studies a cut-off score of 26 is often used to differentiate between PCL-R psychopaths and nonpsychopaths (e.g., Grann, Långström, Tengström, & Stålenheim, 1998; Sjöstedt & Långström, 2002). The PCL-R is completed on the basis of a semistructured interview and file information, or on the basis of file information alone, provided that the file material is extensive and detailed. In a previous study (Hildebrand, de Ruiter, de

Vogel, & van der Wolf, 2002), high interrater reliability was demonstrated for the Dutch language version of the PCL-R.

In this study, PCL-R ratings for the 94 offenders were made by a single rater (CdR or VdV) on the basis of file information only. Although the PCL-R was not designed to be used without a clinical interview, several studies (e.g., Grann et al., 1998; Wong, 1988) have shown that PCL-R scores derived from (extensive) file data can be reliable and are acceptable for research purposes. In order to establish interrater reliability of file-only PCL-R ratings, the first author independently rated a random sample of 59 files. All three raters had been extensively trained in the PCL-R, by Drs. Robert D. Hare and David Cooke in a 3-day PCL-R workshop held at the Dr. Henri van der Hoeven Kliniek (October 1997) and by Drs. Robert D. Hare and Stephen D. Hart in a 3-day PCL-R workshop (Nijmegen, April 2000). The interrater reliability (two independent raters) for PCL-R total and factor scores appeared to be excellent. The single measure intraclass correlation coefficient (ICC; McGraw & Wong, 1996; Shrout & Fleiss, 1979) for the PCL-R adjusted total score was .90 (ICC Factor 1 = .79, ICC Factor 2 = .80). Comparison of PCL-R categorical diagnoses among two raters showed good agreement (Cohens's κ = .66) on the absence or presence of PCL-R psychopathy (adjusted sum total score 26); in 49 of the 59 cases (83%) the raters agreed on the presence or absence of the diagnosis of psychopathy. Internal consistency for the sample ($N = 94$) was acceptable for PCL-R total (Cronbach's $\alpha = .74$) and factor scores (α for Factor 1 = .78; α for Factor 2 = .80).

Sexual Deviance Scores

According to the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (American Psychiatric Association, 1994), sexual deviance—or deviant sexual preferences—are sexual preferences considered deviant because they are both statistically unusual and, when acted upon, likely to inflict unwarranted harm on oneself or others, such as exhibitionism, and sexual sadism. For the purpose of this study, we operationalized the presence of sexual deviance as having a score of "1" (possibly or partially present) or "2" (definitely present) on the "Sexual Deviance" item (Item 1) of the Sexual Violence Risk-20 (SVR-20; Boer et al., 1997; authorized Dutch language version: Hildebrand, de Ruiter, & van Beek, 2001), a set of professional guidelines designed to assist clinical risk assessment in sexual offenders. The scoring criteria followed the guidelines presented by the SVR-20.

The determination of sexual deviance was based on the person's documented history of offending ("pretreatment" information, including police files and psychological and/or psychiatric assessments) and/or the patient's acknowledgement of the sexual deviance during treatment (information gathered during treatment disclosures). Any diagnosed paraphilia constituted sexual deviance in this study,

ranging from exhibitionism to sadism to pedophilia to more atypical paraphilias. Ratings had been performed earlier, as part of a study of the psychometric properties of the SVR-20 by de Vogel, de Ruiter, van Beek, and Mead (2002). In order to establish interrater reliability of the sexual deviance ratings, a random sample of 24 files coded by the third author (VdV) was also coded by a second rater (a senior psychotherapist ($n = 9$) or the second author (CdR; $n = 15$). Comparison of sexual deviance scores among the two independent raters showed fair-to-good agreement (Cohens's $\kappa = .59$); in 19 of the 24 cases (79%) the raters agreed on the presence or absence of sexual deviance.

Recidivism Data

Data on recidivism were retrieved from the Judicial Documentation Register of the Dutch Ministry of Justice. Recidivism was coded into four categories: (1) *sexual* recidivism referred to whether or not the patient was reconvicted for a sexual offense, in accordance with Dutch criminal law, during the follow-up period; (2) *violent nonsexual* recidivism referred to whether or not the patient was reconvicted for a violent nonsexual offense (e.g., attempted or completed homicide, assault, robbery); (3) *violent* recidivism included reconvictions for both violent nonsexual and sexual offenses; (4) *general* recidivism was defined as any reconviction (including property and drug offenses) noted in the Judicial Documentation Register. Reoffending *during* the TBS-order, i.e., while the patient was still in treatment, was included as a reconviction.

All participants were retrospectively followed from date of release from the Dr. Henri van der Hoeven Kliniek, or transfer to another hospital, to first occurrence of sexual, violent nonsexual, violent, and general reoffending, or to end of follow-up (December 1, 2001). Mean follow-up time was 11.8 years ($SD = 6$ years), varying from 1.8 to 23.5 years.

Statistical Analyses

The predictive accuracy of the PCL-R was examined with Areas Under the Curve (AUC) in Receiver Operating Characteristics (ROC) analyses (e.g., Rice & Harris, 1995). ROC analysis is less reliant than other statistical analyses (percentage agreement, correlation coefficient) on base rates of recidivism and the particular cut off score chosen to classify cases (Mossman, 1994; Rice & Harris, 1995). Also, normality need not be assumed (Rice & Harris, 1995). ROCs take the form of a plot, with the sensitivity (true positive rate) of the predictor plotted as a function of the false positive rate. The AUC of the ROC graph can be considered as an index for the overall accuracy of the predictor. Areas can range from 0 (perfect negative prediction) to .50 (chance prediction) to 1.0 (perfect positive

accuracy in prediction). The AUC represents the probability that a randomly selected true recidivist would be more likely to have a high score on the instrument than a randomly selected truly nonrecidivist (Mossman, 1994). An AUC of 71% indicates that there is a 71% chance that a violent individual would have a higher score on the risk measure than a nonviolent individual. Based on a comparison with the literature, AUCs in the range of .70–.80 are considered to demonstrate moderate-to-large effect sizes (e.g., Rice, 1997).

The association between PCL-R psychopathy and the dichotomous (failure vs. no failure) outcome variables (i.e., types of reconviction) was examined in several ways. Chi-square was computed for the group differences in outcome (with $df = 1$, $N = 94$). We tested each chi-square with Yates' correction for continuity. A diagnosis of psychopathy was defined as a score of 26 or more on the PCL-R. Next, we computed odds ratios (*OR*) with 95% confidence intervals (*CI*) to compare the PCL-R groups on the risk for each type of recidivism. The OR indicates the degree to which the odds of committing an offense are greater for one group (i.e., psychopathic sex offenders) than for another (nonpsychopathic sex offenders). *OR*s greater than 3 will be considered evidence of a strong association (Douglas & Webster, 1999; Fleiss, Williams, & Dubro, 1986). In addition, we calculated *OR*s to examine the association between sexual deviance and recidivism.

Survival analyses were conducted to determine the likelihood of occurrence of reoffending and the average time prior to that event. Survival analysis calculates the probability of recidivating for each time period given that the offender has not yet reoffended. Once an offender recidivates, he is removed from the analysis of subsequent time periods. Survival analysis has the advantage of being able to estimate year-by-year recidivism rates even when the follow-up periods vary across offenders. The Kaplan–Meier method was used to obtain the survival curves, and the log rank statistic was used to test differences between the survival curves of the subgroups.

We also studied a number of other potential risk factors in relation to recidivism to compare the PCL-R with these other predictors of reoffending. The question was whether these variables added incrementally to the accuracy of psychopathy (PCL-R $\geq$ 26; dichotomous) in predicting recidivism outcomes. The selection of these covariates took place on an empirical (suggested by previous research, e.g., Hanson & Bussière, 1996, 1998; Salekin et al., 1996) and practical (availability) basis. The following variables were included: Age at first offense (continuous), marital status (never married; dichotomous), substance abuse/dependence (dichotomous; not included for sexual recidivism), and number of prior convictions for sexual, violent nonsexual, violent, or general offenses (continuous). Cox regression analyses (Cox, 1972) were used to investigate the relationship between the independent variables and recidivism outcomes over time. To evaluate effects of predictors on survival, the Cox proportional hazards model, which assumes that the hazard ratio is invariant across time (i.e., that the effect of a predictor variable is stable over time), was used. All analyses were conducted using SPSS version 10.

RESULTS

Descriptive Characteristics

The mean adjusted total score of the PCL-R for this sample was 22.2 (SD = 7.3; range 8–36), with a median score of 22.1 and a mode of 16.0. The kurtosis of the PCL-R score was –1.028 (SE = .493). PCL-R scores were normally distributed (Kolmogorov–Smirnov Z = .791, p = .558). The mean Factor 1 score was 7.7 (SD = 3.5) and the mean Factor 2 score was 11.8 (SD = 4.7). Using a cut-off score of 26 to divide patients into a psychopathic and a nonpsychopathic group, 33 patients (35.1%) fulfilled the criterion for psychopathy. When the recommended cutoff point of 30 was used (Hare, 1991), 20 patients (21.3%) were classified as "psychopaths."

The distribution of SVR-20 item 1 (sexual deviance) scores was as follows: 54 patients were rated "0" (absent), 27 were rated "1" (possibly or partially present), and 13 were rated "2" (present). Thus, 40 patients (43%) in the sample met our criterion for sexual deviance.

Predictive Accuracy of the PCL-R

As can be seen in Table I, the AUCs demonstrating the strength of the relationship of the PCL-R with recidivism in our sample are modest to moderate (AUCs

Table I. Recidivism Predicted by PCL-R Psychopathy (N = 94)

	AUC	*SE*	95% *CI*	*r*
Sexual				
PCL-R total	.68**	.06	.56–.80	.24*
Factor 1	.67**	.06	.56–.78	.23*
Factor 2	.65*	.06	.53–.77	.18
Violent nonsexual				
PCL-R total	.66**	.06	.55–.77	.28**
Factor 1	.55	.06	.44–.67	.09
Factor 2	.68**	.06	.58–.79	.33**
Violent (including sexual)				
PCL-R total	.70**	.05	.59–.80	.32**
Factor 1	.62	.06	.51–.73	.19
Factor 2	.69**	.06	.58–.83	.31**
General				
PCL-R total	.74**	.05	.63–.84	.30**
Factor 1	.67**	.06	.55–.80	.22*
Factor 2	.71**	.06	.58–.83	.27**

Note. PCL-R = Psychopathy Checklist-Revised. *CI* = Confidence Interval. Pearson point-biserial correlations between PCL-R scores and the dichotomous outcome variables are also presented, as they are easily understood, and to facilitate comparison with the results of other studies. AUC = Area under curve from ROC analysis.
* $p \leq .05$. ** $p \leq .01$.

varying from .62 to .74), except for the association between violent nonsexual reconviction and Factor 1 (AUC = .55).

Both the PCL-R total and Factor 1 score significantly, albeit moderately, predicted *sexual* reconviction with an AUC of the ROC of .65. *Violent nonsexual* and *violent* reconviction was significantly predicted by the PCL-R total and Factor 2 scores. PCL-R total, Factor 1 and Factor 2 scores demonstrated a statistically significant ability to discriminate between individuals with and without *any* reconviction during the time-at-risk period.

Psychopathy and Recidivism Rates

Chi-Square

By the end of the follow-up period, which ranged up to 23.5 years, 32 (34%) of the 94 sex offenders had been reconvicted for a *sexual* offense. A total of 44 (47%) participants were reconvicted for a *violent nonsexual* offense; 53 (55%) for a *violent* offense, and 69 (73%) for a *general* offense. Failure rates for psychopathic and nonpsychopathic sex offenders are depicted in Table II. For psychopathic offenders, the failure rate for sexual recidivism was 55%, for violent nonsexual recidivism 64%, for violent recidivism 76%, and for general recidivism 91%. For nonpsychopathic sex offenders, failure rates were 23%, 38%, 44%, and 64%, respectively. It is clear that psychopathic offenders were more likely to recidivate than nonpsychopathic offenders. The group differences using Yates' correction for

Table II. Base Rates (In Percentages), With Survival Probability Rates in Brackets, of Four Types of Reconviction for Sex Offenders, Subdivided by Psychopathy and Sexual Deviance

		Type of recidivism			
	n	Sexual	Violent nonsexual	Violent	General
Total sample	94	34 (45)	47 (58)	55 (68)	73 (100)
PCL-R score					
PCL-R $\geq$ 26	33	55 (60)	64 (69)	76 (78)	91 (100)
PCL-R $<$ 26	61	23 (35)	38 (50)	44 (61)	64 (100)
Sexual deviance					
Deviant	40	48 (56)	47 (55)	62 (69)	72 (87)
Nondeviant	61	20 (28)	46 (60)	48 (62)	70 (84)
Psychopathy and sexual deviance					
High PCL-R/deviant	17	82 (85)	59 (69)	82 (82)	94 (100)
High PCL-R/nondeviant	16	25 (25)	69 (72)	69 (71)	88 (88)
Low PCL-R/deviant	23	30 (38)	39 (44)	52 (58)	65 (100)
Low PCL-R/nondeviant	38	18 (35)	37 (58)	39 (61)	63 (75)

Note. PCL-R = Psychopathy Checklist-Revised. In survival analysis, the cumulative survival function represents the proportion of participants remaining free of an offense as a function of time since release.That is, survival is depicted as not having failed, although here we refer to its inverse, namely, failure.

continuity ($df = 1$, $N = 94$ in each comparison) were significant for *sexual* failure, $\chi^2 = 8.17$, $p < .05$; *violent nonsexual* failure, $\chi^2 = 4.79$, $p < .05$; *violent*, $\chi^2 = 7.37$, $p < .05$, and *general* failure, $\chi^2 = 6.66$, $p < .05$.

Odds Ratios

The odds of reconviction given patient's PCL-R scores above or equal to/below 26 on the PCL-R were as follows ($df = 1$, $N = 94$ in each comparison; 95% confidence intervals in brackets) for each type of recidivism: *sexual* recidivism, 4.03 (1.62–9.99), $\chi^2 = 9.52$, $p < .01$; *violent nonsexual* recidivism, 2.89 (1.20–6.96), $\chi^2 = 5.78$, $p < .05$; *violent* recidivism, 3.94 (1.53–10.10), $\chi^2 = 8.59$, $p < .01$; *general* recidivism, 5.64 (1.53–20.63), $\chi^2 = 7.98$, $p < .01$. That is, offenders with PCL-R scores $\geq$26 were more likely to be convicted for all types of offenses.

Survival Analyses

Survival analyses revealed that the survival functions of psychopathic ($M = 10.8$) and nonpsychopathic offenders ($M = 16.8$) differed significantly with respect to *sexual* recidivism (log rank = 6.15, $p < .05$). Psychopathic offenders had also significantly worse survival times than nonpsychopathic offenders for violent reoffending ($M = 7.3$ vs. $M = 12$ years; log rank = 5.74, $p < .05$). In addition, psychopathic offenders had worse survival times than nonpsychopathic offenders for *violent* nonsexual ($M = 9.7$ vs. $M = 13.6$ years; log rank = 3.59, $p = .06$), and *general* recidivism ($M = 5.3$ vs. $M = 8.3$ years; log rank = 3.17, $p = .07$). However, these differences just failed to reach statistical significance.

Cox Regression Analyses

Table III summarizes the results of the regression analyses using the PCL-R and other potential risk factors to predict recidivism outcomes. For all types of recidivism, the PCL-R dichotomous category variable was entered in Block 1. In Block 2, the other variables were forced into the model.

For *sexual* recidivism, the PCL-R entered in the first Block accounted for a significant portion of the variance. With the entry of age at first offense, marital status, and prior sexual convictions in Block 2, there was a significant increment in the amount of variance explained. Marital status and prior sexual convictions accounted for unique variance in sexual recidivism. For *violent nonsexual* reoffending, psychopathy entered in Block 1 accounted for a significant portion of the variance. The addition of the predictors substance abuse/dependence and prior violent nonsexual convictions produced a significant increment in the amount of variance explained. After addition of the other risk factors, the PCL-R failed to

Table III. Summary of Cox Regression Analyses Using the PCL-R and Potential Risk Factors to Predict Types of Recidivism

	B	*SE B*	Wald	e^B	95% CI e^B
Sexual reoffending[a]					
Block 1					
PCL-R	.90	.36	6.38*	2.46	1.22–4.96
Block 2					
CL-R	.65	.38	2.92	1.90	.91–3.99
Age at first offense	−.01	.04	.16	.99	.92–1.06
Marital status	.97	.50	3.78*	2.63	1.00–6.97
Prior sexual offenses	.68	.20	11.25***	1.98	1.33–2.95
Violent nonsexual reoffending[b]					
Block 1					
PCL-R	.77	.31	6.09**	2.15	1.17–3.94
Block 2					
PCL-R	.45	.34	1.75	1.57	.80–3.09
Age at first offense	−.04	.04	.89	.96	.88–1.04
Marital status	.17	.37	.21	1.19	.57–2.47
Substance abuse/dependence	.85	.34	6.13*	2.33	1.19–4.55
Prior violent nonsexual offenses	.24	.11	4.52*	1.27	1.02–1.59
Violent reoffending[c]					
Block 1					
PCL-R	.85	.28	8.85**	2.33	1.34–4.07
Block 2					
PCL-R	.57	.31	3.45	1.77	.97–3.23
Age at first offense	−.04	.04	1.20	.96	.89–1.03
Marital status	.24	.34	.48	1.27	.65–2.46
Substance abuse/dependence	.39	.30	1.66	1.47	.82–2.64
Prior violent offenses	.17	.09	3.55	1.18	.99–1.41
General reoffending[d]					
Block 1					
PCL-R	.57	.25	5.38	1.77	1.09–2.88
Block 2					
PCL-R	.57	.26	3.69	1.66	.99–2.79
Age at first offense	.00	.04	.00	1.00	.93–1.08
Marital status	.28	.29	.92	1.32	.75–2.32
Substance abuse/dependence	.05	.27	.03	1.05	.62–1.76
Prior offenses	.06	.02	7.24**	1.06	1.02–1.10

Note. PCL-R = Psychopathy Checklist-Revised. Due to missing values, $N = 90$ for all regression analyses.

[a] $\chi^2(1) = 6.82$ at Block 1, $p < .01$; $\Delta\chi^2(3) = 14.92$ at Block 2, $p < .01$; for the final equation, $\chi^2(4) = 23.74$, $p < .001$.

[b] $\chi^2(1) = 6.38$ at Block 1, $p < .05$; $\Delta\chi^2(4) = 14.52$ at Block 2, $p < .01$; for the final equation, $\chi^2(4) = 23.16$, $p < .001$.

[c] $\chi^2(1) = 9.37$ at Block 1, $p < .01$; $\Delta\chi^2(4) = 9.08$ at Block 2, $p < .059$; for the final equation, $\chi^2(4) = 18.82$, $p < .01$.

[d] $\chi^2(1) = 5.53$ at Block 1, $p < .05$; $\Delta\chi^2(4) = 7.54$ at Block 2, $p < .110$; for the final equation, $\chi^2(4) = 15.28$, $p < .01$.

* $p < .05$. ** $p \leq .01$. *** $p < .001$.

reach conventional levels of statistical significance ($p = .187$) at Block 2. *Violent* recidivism (i.e., including sexual) was significantly predicted by the PCL-R at Block 1. The addition of the predictors in Block 2 failed to produce a significant increment in the amount of variance explained by the PCL-R alone. Psychopathy ($p = .063$) and prior violent offenses ($p = .059$), however, remained as near-significant predictors. Finally, for *general* recidivism, the PCL-R entered in the first Block accounted for a significant portion of the variance. Of the variables added in Block 2, only total number of prior convictions produced a significant increment in the amount of variance explained by the PCL-R alone, with psychopathy almost reaching significance ($p = .055$).

Sexual Deviance and Recidivism

A total of 19 (48%) of the 40 sexually deviant offenders were convicted for at least one *sexual* reoffense, whereas 11 (20%) of the 54 offenders without deviant sexual preferences were reconvicted for a sexual offense (Table II). For *violent nonsexual* offenses, rates were 47% and 46%; for *violent* recidivism, 62% and 48%; for *general* recidivism, 72% and 70%, respectively. As expected, odds ratios revealed that the presence of sexual deviance was significantly associated with an increased risk of reconviction for a *sexual* offense, increasing the risk with a factor of over 3 ($OR = 3.54$, 95% $CI = 1.43$–8.77; $\chi^2 = 7.83$, $p = .005$). The survival functions of sexually deviant offenders ($M = 12.8$ years) and nondeviant offenders ($M = 17.6$ years) differed significantly with regard to *sexual* recidivism (log rank $= 5.57$, $p < .05$). For violent nonsexual, violent, and general recidivism, no significant differences were found.

Psychopathy and Sexual Deviance in Relation to Sexual Recidivism

PCL-R psychopaths and nonpsychopaths were further subdivided on the basis of presence or absence of deviant sexual preferences to create four groups: psychopathic/deviant ($n = 17$), psychopathic/nondeviant ($n = 16$), nonpsychopathic/deviant ($n = 23$), and nonpsychopathic/nondeviant ($n = 38$). For the psychopathic/deviant group, the failure rate for a sexual reconviction during the follow-up period was extremely high, i.e., 82%. For the psychopathic/nondeviant group, it was 25%; for the nonpsychopathic/deviant group, it was 30%, and for the nonpsychopathic/nondeviant group, it was 18% (Table II).

Although the number of participants in each subgroup was small, a clear interaction between psychopathy and sexual deviance was found for *sexual* recidivism (see Fig. 1). PCL-R psychopaths with deviant sexual preferences recidivated much faster and more often (i.e., at a higher rate) than participants in the other three groups (log rank $= 12.06$, $p < .05$). On average, psychopathic/deviant offenders failed after 9.4 years. Psychopathic/nondeviant offenders and nonpsychopathic/

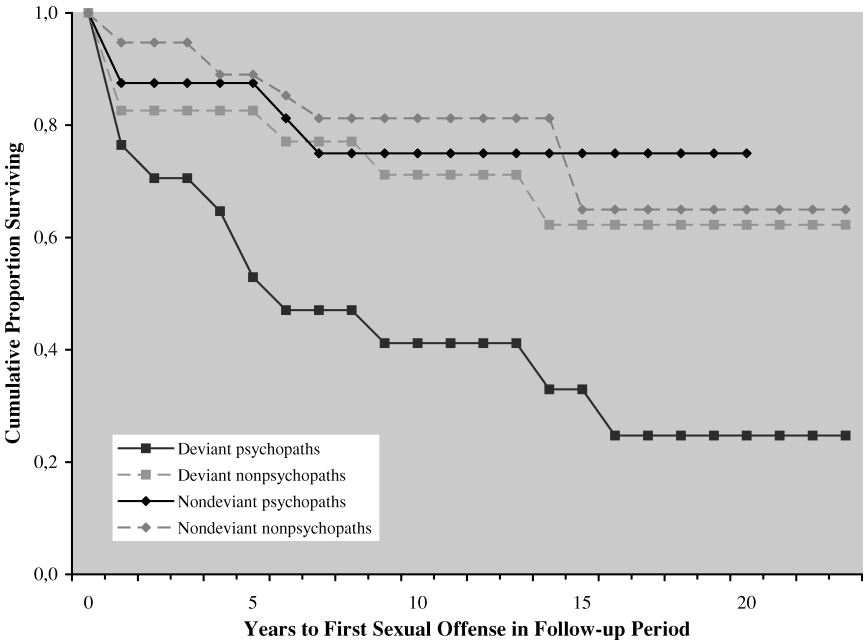

Fig. 1. Kaplan-Meier Survival Curves for Sexual Recidivism for Psychopathic (PCL-R $\geq$ 26) and Nonpsychopathic (PCL-R $<$ 26) Rapists Subdivided into Those With and Without Deviant Sexual Preferences.

deviant offenders had similar survival times ($M = 15.6$ and 15.7 years, respectively), whereas subjects in the psychopathic/nondeviant group, on average, failed after 17.3 years. No other significant interaction effects were found.

Additional Analyses

Failure to Complete Treatment

Only 30 patients (32%) completed the treatment provided in the hospital. For 33 patients, the court ended the TBS-order *against* the hospital's advice and 28 patients were readmitted to another forensic psychiatric institution. In most cases, the reason for readmission was that further treatment was deemed impossible due to a disturbed relationship between the patient and hospital staff.

Chi-square analyses revealed that sex offenders who did not complete the treatment provided in the hospital were more likely to recidivate with a sexual offense than offenders who had completed their hospital treatment. The group difference using Yates' correction for continuity was significant, $\chi^2\,(1, 94) = 4.84$, $p < .05$. Interestingly, 16 of the 17 psychopathic/deviant offenders had ended treatment

prematurely; 14 of these 16 offenders recidivated with a sexual offense. Over the period, the survival rate between groups was significantly different. Sex offenders who had ended their hospital treatment prematurely began reoffending earlier after their release and continued to reoffend with a sexual offense throughout the entire follow-up period (log rank = 4.19, $p < .05$). For violent nonsexual, violent, and general recidivism, no significant differences between treatment completers and noncompleters were found.

DISCUSSION

This study explored the relevance of PCL-R psychopathy and sexual deviance, in relation to sexual, violent nonsexual, violent, and general recidivism (i.e., reconvictions) in a Dutch sample of offenders convicted for rape or sexual assault, involuntarily admitted to a forensic psychiatric hospital. Secondly, the study investigated the predictive utility of defining offenders according to combinations of psychopathy and sexual deviance. Retrospective PCL-R ratings and sexual deviance scores were based on extensive file-based data from various sources. The interrater reliability of the file-based PCL-R ratings was high. In general, the high levels of reliability found in this study are consistent with those documented by other researchers using file material only (e.g., Grann et al., 1998), and further support the use of file-only ratings for research objectives.

In our sample, the sexual reconviction rate was 34%, over an average follow-up period of 11.8 years. In other studies (Proulx et al., 1997; Quinsey et al., 1995; Rice, Harris, & Quinsey, 1990; Sjöstedt & Långström, 2002) the reported sexual reconviction rate was somewhat lower (± 21–28%). Differences in sexual reconviction rates may be due to the shorter follow-up period in these studies. With longer follow-up periods, the rate increases to 35–45% after 15–25 years (Prentky et al., 1997; Rice & Harris, 1997). Doubtless, the reported recidivism rates are very conservative, because a substantial proportion of sex offenses remains undetected (Bonta & Hanson, 1994; Doren, 1998). Our findings further indicate that rapists did not limit their recidivism to sexual offenses. In fact, they were more likely to be convicted for a new violent nonsexual offense (47%) than a new sexual offense (34%), which is in line with previous research (e.g., Prentky et al., 1997; Sjöstedt & Långström, 2002).

The present results support the predictive validity of the PCL-R for recidivism outcomes. Using ROC analysis, following their release from a forensic psychiatric hospital, rapists with high PCL-R scores appeared to be at particular risk for reoffending (sexual, violent nonsexual, violent, and general). Overall, the results are consistent with other studies that have examined the association of PCL-R psychopathy recidivism outcomes of sex offenders (e.g., Serin et al., 2001). It was found that both PCL-R Factor 1 and Factor 2 were related to the criterion variables: Factor 2 showed significant predictive validity for risk of sexual and violent

nonsexual reoffending, whereas Factor 1 significantly predicted risk of sexual and general reoffending. Our finding that the predictive validity of Factor 2 is higher than that of Factor 1 for violent nonsexual and violent reconviction is in line with previous research (e.g., Grann, Långström, Tengström, & Kullgren, 1999; Salekin et al., 1996), indicating that it is the characteristics associated with a chronically unstable, socially deviant lifestyle, rather than those associated with the selfish, callous, and remorseless use of others that predict nonsexual recidivism. Moreover, survival analyses showed that violent (including sexual) offenses following release occurred significantly earlier for psychopaths, compared to nonpsychopaths. Psychopathic rapists also had worse survival times than nonpsychopathic offenders for *sexual*, *violent nonsexual*, and *general* reoffending. The difference approached significance for sexual and violent nonsexual recidivism. Thus, in general, our first hypothesis (i.e., offenders identified as psychopathic would be more likely than nonpsychopathic offenders to commit further offenses after release) was confirmed.

Consistent with the results of the Hanson and Bussière (1998) meta-analysis, the total number of prior convictions (sexual, violent nonsexual, general) was found to be a significant predictor of recidivism (sexual, violent nonsexual, general, respectively), accounting for a unique portion of the variance in this outcome while controlling for psychopathy. In addition, marital status was found to be a predictor of sexual recidivism, whereas substance abuse/dependence remained as the only significant predictor for violent nonsexual reoffending, after controlling for psychopathy. Age at first offense and marital status did not add incremental variance over PCL-R psychopathy for the prediction of violent nonsexual, violent, or general reconviction.

Dividing participants according to presence or absence of sexual deviance revealed that the presence of deviant sexual preferences was significantly related to an increased risk of reconviction for a sexual offense. As well, the first reoffense in offenders with deviant sexual preferences occurred significantly earlier than in those without deviant sexual preferences. To the best of our knowledge, this is the first study providing initial evidence for the usefulness of item 1 of the SVR-20 to predict sexual recidivism in rapists. A structured clinical judgment approach to the assessment of deviant sexual preferences resulted in highly similar findings as obtained with the traditional phallometric approach. Sex offenders are well known for their tendency to deny and distort their true motives and actual offense behavior (e.g., Maletzky, 1996; Marshall, 1994; Ward, McCormack, Hudson, & Polaschek, 1997). Thus, phallometric assessment is generally considered desirable for the assessment of sexual deviance because it is thought to circumvent possibly distortive processes. The present findings point at the feasibility of using the structured clinical judgment approach of the SVR-20 to assess sexual deviance, in a less intrusive manner. Although promising, the present findings should be viewed as tentative and need to be replicated in independent samples. For example, it might very well

be that the validity of the SVR-20 assessment of sexual deviance is highly dependent on the quality of file information on which the assessment is based. In our case, most files were quite extensive, with criminal history data, verbatim victim statements, and treatment progress reports. Less complete file information might compromise the validity of the SVR-20 ratings.

One of our most important findings is that psychopathic rapists with deviant sexual preferences recidivated more often and faster with a sexual offense than other groups of rapists. Although psychopathy and sexual deviance were, by themselves, related to sexual recidivism, the present findings offer considerable evidence that the combination of psychopathy and sexual deviance is of special importance in the prediction of sexual violence. Fourteen of the 17 offenders (82%) in the psychopathic/sexual deviance group recidivated with a sexual offense. Despite the small sample sizes, survival analysis provided considerable evidence that psychopathic sex offenders with sexual deviant preferences are at much greater risk of committing new sexual offenses than psychopathic sex offenders without deviant preferences and nonpsychopathic sex offenders (with or without a diagnosis of sexual deviance). Similar results supporting the value of considering the "bad combination" of PCL-R psychopathy and sexual deviance (measured phallometrically) for the prediction of sexual violence have been reported by Rice and Harris (1997). However, this effect has been difficult to replicate across studies: for example, Gretton et al. (2001) and Hanson and Harris (2000) did not find the interaction for sexual recidivism. Gretton et al. (2001), however, found that a combination of high scores on the PCL:Youth Version and phallometric evidence of deviant sexual arousal was predictive of general and violent reoffending. Serin et al. (2001) similarly reported that the combination of a high PCL-R score and deviant sexual arousal predicted *general* recidivism in a sample of rapists (no outcomes for sexual reoffenses were reported). In the present study, no significant interaction effects were found for violent nonsexual and general recidivism.

In general, our findings suggest that a combination of deviant sexual preferences and psychopathy puts sex offenders at particularly high risk for committing further sexual offenses. Replication of these results with a larger sample of sex offenders is important, including samples from other Dutch forensic psychiatric institutions. Furthermore, our data underscore the importance of considering both psychopathy and sexual deviance when determining treatment intensity and degree of security required for individual patients (Serin et al., 2001). Andrews and Bonta (1994; see also Andrews et al., 1990) have argued that offenders that pose the highest risk should receive the highest level of security and the most intensive form of treatment. In general, high security can be provided in inpatient forensic settings. However, appropriate treatment for the group of psychopathic/deviant sex offenders is not available at this time. On the contrary, several studies have pointed out that providing (standard) treatment to psychopathic sex offenders may be counterproductive and may even lead to increased offending. Seto and Barbaree (1999),

for example, examined the relationship between psychopathy and performance in treatment in terms of recidivism outcomes in a sample of 216 sex offenders who participated in an institutional treatment program for sex offenders. The program followed a relapse prevention model and provided treatment in daily 3-hour groups sessions over a 5-month period. It was found that the group of sex offenders with PCL-R scores above 15 (median split) who were rated as having demonstrated "good" treatment behavior (i.e., participation in group sessions, completion of homework, attainment of treatment targets, and positive scores on global clinical ratings of motivation and change) were the most likely to reoffend. According to the authors, the results suggested that "good treatment behavior should not be considered when making management decisions, especially for men who score higher on the PCL-R" (p. 1245). In an extended follow-up of the sample, which increased the average follow-up period from 2.7 to 5.2 years, however, Barbaree, Seto, and Langton (2001), found that the interaction effect between the PCL-R and treatment behavior was no longer evident, although the association between the PCL-R and serious recidivism remained significant. Looman, Abracen, Serin, and Marquis (2002) used a similar design to examine recidivism outcomes for a sample of sex offenders ($N = 102$) who had participated in an institutional program for sex offenders. Using survival analysis, Looman et al. (2002) found that those with PCL-R scores >25 and ratings of good progress in treatment reoffended seriously (i.e., violently or sexually) at a significantly faster rate than either of the groups with lower PCL-R scores. The failure rate for the two PCL-R groups, however, did not differ. Note that none of the three studies described above examined the association between the variables (and their interaction effect) and *sexual* recidivism.

A number of authors have discussed the need for the development and scientific evaluation of special treatment programs for psychopaths (e.g., Wallace, Vitale, & Newman, 1999; Wong, 2000). However, until now, the treatment options for (PCL-R) psychopaths are limited. We believe that the current findings point at the need for Dutch policymakers in the criminal justice field to reconsider the rehabilitation doctrine of the TBS-order for some high risk rapists—we may just not have the treatment means at this time, to allow a safe return to society for a *particular category* of rapists. One possible implication of such a conclusion is that deviant psychopathic rapists will have to be excluded from treatment programs. However, this is a "questionable extrapolation of the existing data" (Serin & Brown, 2000, p. 254) and inconsistent with the principle of treatment responsiveness (Andrews & Bonta, 1994). Nevertheless, the present findings suggest that (deviant) psychopathic rapists are highly resistant to treatment and tend to exhibit disruptive and other types of negative behavior in the context of treatment. Consistent with this pessimism, there is a general lack of empirical evidence indicating a positive effect of treatment programs on psychopaths (e.g., Blackburn, 1993; Hare, 1996; Lösel, 1998). On the other hand, there is little empirical evidence to suggest psychopaths are untreatable either (e.g., Hemphill & Hart, 2002). Considering

the lack of empirical support for current sex offender programs for psychopaths and the potential of iatrogenic effects of providing treatment to psychopaths, we strongly advise that treatment programs offered to psychopathic rapists be carefully evaluated using a methodologically sound research design.

Interestingly, offenders who failed to complete treatment (68%) were at higher risk for sexual recidivism than those who completed treatment. In the past, Hanson and Bussière (1998) have reported in their meta-analysis that sex offenders who failed to attend or who dropped out of treatment were at higher risk for both sexual and general recidivism than those who successfully completed treatment. Contrary to Hanson and Bussière (1998), we did not find a relationship between treatment completion and general recidivism. Reduced risk could be due to treatment effectiveness; alternately, high-risk offenders may be those most likely to quit, or be terminated from treatment (Hanson & Bussière, 1998). In our study, for example, 16 of the 17 psychopathic/deviant offenders (i.e., high-risk cases) had ended treatment prematurely, mainly because of a disturbed relationship between the patient and hospital staff; 14 of these 16 offenders recidivated with a sexual offense. The design of the present study does not permit an inference about treatment efficacy per se. Instead, it suggests that a rapist's completion versus failure to complete treatment represents potentially useful information for the purpose of appraising risk.

Regarding generalization, all participants in the present retrospective follow-up study were convicted for rape or sexual assault and treated in a single Dutch forensic psychiatric hospital. Although our sample is representative of Dutch sex offenders with a TBS-order, it is not of sex offenders in general. Previous research (de Vogel et al., 2002) has shown that our sample mainly includes medium-high to high risk cases, as measured by means of the Static-99 (Hanson & Thornton, 1999), an actuarial sex offender risk scale.

Several (methodological) limitations deserve attention. First of all, the sample size of the study was rather small. Larger samples would have resulted in increased power. However, this is considered a relatively minor problem given that there is such a paucity of research on recidivism of sex offenders in the Netherlands. Indeed, no prior study has examined the predictive validity of the PCL-R among Dutch sex offenders. In addition, prior published studies examining rapists/sexual assaulters have been similarly restricted by relatively limited sample sizes (e.g., Sjöstedt & Långström, 2002). In fact, despite the limited power available, the current study found evidence of the hypothesized moderate-to-large differences between PCL-groups in the expected direction.

Furthermore, one might argue that it would have been preferable to use a prospective design, although the retrospective follow-up or postdictive design used in the current study prevented the assessments from being confounded with outcome measures of recidivism. Indeed, several studies have used archival follow-up procedures in retrospective studies and detected sufficient base rates of recidivism to detect moderate-to-large effect sizes (e.g., Rice et al., 1990; Sjöstedt & Långström, 2002). Furthermore, the length of the follow-up period can be

considered a strength since it has been shown that studies with a follow-up period of less than 5 years underestimate long-term recidivism (e.g., Prentky et al., 1997).

Another limitation concerns the penal records that were requested from the Ministry of Justice. The Dutch Criminal Law (Act of Judicial Documentation, section 7) states that offenses that have been committed over 20 years ago have to be removed from the register. Although the average follow-up period in the presented study was almost 12 years, some individual cases of reoffending may have gone undetected as a result of being removed from the official records. Finally, the files that were used in this retrospective study varied in content and quality. For example, the individual course of treatment within the forensic hospital was documented more elaborately as the years proceeded. This may have influenced PCL-R and sexual deviance ratings. Also, some files included additional information such as statements of victims or a deposition of the offender.

In conclusion, this study contributes to a growing body of research suggesting that not all rapists be equally likely to reoffend. Research has established that psychopathy is related to sexual and nonsexual violent recidivism, but there is building evidence that, with regard to sexual recidivism, comprehensive assessment should consider the combination of psychopathy and sexual deviance. Further research is needed to determine whether these factors are changeable by treatment.

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