PSYCHOPATHY AND RECIDIVISM IN ADOLESCENT SEX OFFENDERS

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Psychopathy, as measured by the Hare Psychopathy Checklist-Revised (PCL-R), has emerged as one of the most important factors in understanding and predicting adult criminal behavior, including sex offending. The authors used extensive file information to score a youth version of the PCL-R (the PCL:YV) for 220 adolescent males in an outpatient sex offender treatment program. The authors coded charges and convictions for an average of 55 months following cessation of treatment. The PCL:YV was positively and significantly related to total, violent, and nonviolent reoffense rates. Offenders with a high PCL:YV score and penile plethysmographic evidence of deviant sexual arousal prior to treatment were at very high risk for general reoffending. The results suggest that psychopathy may have much the same implications for the criminal justice system in adolescent offenders as it does in adult offenders.

Psychopathy, as operationalized by the Hare Psychopathy Checklist–Revised (PCL-R) (Hare, 1991), has emerged as one of the most important clinical constructs in the criminal justice system (Cooke,

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Forth, & Hare, 1998; Hare, Cooke, & Hart, 1999; Hart & Hare, 1997). The strong association between psychopathy and crime is a natural consequence of the interpersonal, affective, and behavioral features that define the disorder (Hare, 1991). For example, psychopathic offenders demonstrably are more egocentric, callous, manipulative, impulsive, and irresponsible and less capable of experiencing empathy, guilt, and remorse than are other offenders. In addition, psychopaths lack a normal sense of ethics and morality, live by their own rules, are prone to use cold-blooded, instrumental intimidation and violence to satisfy their wants and needs, and generally are contemptuous of social norms and the rights of others (Hare, 1998).

It is not surprising that psychopathy has major implications for assessing risk for general recidivism and violence. An extensive research literature indicates that psychopathic (PCL-R) criminals and patients reoffend more quickly, more often, and more violently following release from custody than do other offenders (see Grann, Långström, Tengström, & Kullgren, 1999; Hanson & Bussiere, 1998; Hare, Clark, Grann, & Thornton, 2000; G. Harris, Rice, & Quinsey, 1993; Hemphill, Hare, & Wong, 1998; Rice & Harris, 1995; Salekin, Rogers, & Sewell, 1996; Tengström, Grann, Långström, & Kullgren, 2000). Moreover, psychopathy, as measured by the screening version of the PCL-R, the PCL:SV (Hart, Cox, & Hare, 1995), is also emerging as an important risk factor in civil psychiatric patients (Douglas & Webster, 1999; Silver, Mulvey, & Monahan, 1999; Steadman et al., 2000). Indeed, the MacArthur Foundation study of risk for violence in civil psychiatric patients indicated that the PCL:SV predicted vio-

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lence better than did any of 133 other risk variables (Steadman et al., 2000).

A rapidly developing literature indicates that psychopathy also plays an important role in sexual offending. The prevalence of PCL-R psychopathy among various types of sex offenders varies from one sample to another, but generally ranges from about 10% to 15% in child molesters to about 40% to 50% in rapists and "mixed" (both rapist and child molester) offenders (S. Brown & Forth, 1997; Firestone, Bradford, Greenberg, & Serran, 2000; Miller, Geddings, Levenston, & Patrick, 1994; Porter et al., 2000; Prentky & Knight, 1991; Quinsey, Rice, & Harris, 1995). The offenses of psychopathic sex offenders are likely to be more violent or sadistic than are those of other sex offenders (Barbaree, Seto, Serin, Amos, & Preston, 1994; S. Brown & Forth, 1997; Miller et al., 1994).

PCL-R assessments of psychopathy appear to be as predictive of recidivism and violence among sex offenders as they are among offenders in general. For example, Quinsey et al. (1995), in a study of treated rapists and child molesters, concluded that "psychopathy [functions] as a general predictor of sexual and violent recidivism" (p. 102). They found that within 6 years of release from prison more than 80% of the offenders with high PCL-R scores, but only about 20% of those with low scores, had violently recidivated. Seto and Barbaree (1999) found that the PCL-R predicted both general and serious offending in sex offenders. They also evaluated the interaction between PCL-R scores and ratings by therapists of how well the offenders appeared to have responded to treatment (understanding of their offense cycle, quality of the relapse prevention plan, increase in empathy for the victim). By far the highest reoffense rate occurred among those offenders who had both a high PCL-R score and ratings of good therapeutic progress.

Rice and Harris (1997) found that psychopathy was predictive of violent recidivism in a large sample of sex offenders. In addition, they found that sexual recidivism (as opposed to violent recidivism in general) was predicted by a combination of a high PCL-R score and phallometric evidence of deviant sexual arousal, defined as any phallometric test that "indicated an absolute preference for deviant stimuli (children, rape cues, or nonsexual violence cues)" (p. 236). Serin, Mailloux, and Malcolm (2001) found that the combination of

a high PCL-R score and deviant sexual arousal was predictive of postrelease outcome, in this case general reoffending. They did not report outcomes for violent and sexual offenses. A. Harris and Hanson (1998) reported that offenders with a high PCL-R score and behavioral (file) evidence of sexual deviance had committed more preindex sexual offenses, more kidnapping and forcible confinements, more general (nonsexual) offenses, and were more likely to violently recidivate than were other offenders. Because of the importance of psychopathy in the risk assessment of sex offenders, the PCL-R typically plays a key role in current and proposed state-mandated civil commitment procedures of "sexually violent predators" (see Hare, 1999; Tucker, 1999).

Of course, neither psychopathy nor sexual offending emerge in adulthood unannounced. The features that define psychopathy can be measured reliably in early adolescence, and the implications of the disorder for crime and violence appear to be much the same in adolescence as in adulthood (Brandt, Kennedy, Patrick, & Curtin, 1997; Forth & Burke, 1998; Forth, Hart, & Hare, 1990; Gretton, 1998; McBride, 1998). Similarly, the sexual deviance of many adult sex offenders first becomes apparent at a much earlier age (Becker, 1988; Davis & Leitenberg, 1987).

The purpose of this study was to examine psychopathy as a risk factor in a sample of adolescents released from a sex offender treatment program. We expected that the offenders identified as psychopathic, particularly those with phallometric evidence of deviant sexual arousal, would be more likely than other offenders to commit further sexual, violent, and nonviolent offenses.

METHOD

PARTICIPANTS

Participants were 220 adolescent males, ages 12 to 18, who had confessed to, or had been convicted of, one or more violations of the sections of the Canadian Criminal Code that relate to sexual offending. They were part of a group of 264 adolescent offenders who had been directed by the courts or by their probation officers to attend the

sexual offender treatment program (SOTP), an outpatient treatment program of Youth Forensic Psychiatric Services in Burnaby, British Columbia, between January 1985 and April 1994. Forty-four participants in the SOTP were not included in this sample because their posttreatment criminal records were not available when we conducted the outcome analyses for this study. We recently obtained access to provincial records and were able to view the criminal records of all but eight offenders. There did not appear to be any systematic reasons for the original difficulty in obtaining the records of some offenders, and there was no reason to assume that their inclusion in the sample would have had an appreciable influence on the results of this study.

The sample included 143 White offenders (65%), 48 Native Indians (22%), and 29 offenders from other races, primarily Asian and East Indian (13%). The demographic composition and criminal history for the sample (as well as for each of the three PCL:YV groups described below) are presented in Table 1. For most of the offenders, the index offense involved either a child under the age of 12 (65.6%) or an adolescent or adult (21.5%). For the remaining 12.9% of the offenders, the victims were both children and adolescents or adults. The victims were female, male, or both female and male for 62%, 16%, and 22% of the offenders, respectively.

The clinical director and the Research Committee at Youth Forensic Psychiatric Services approved the study, as did the Behavioral Research Ethics Board of the University of British Columbia. To ensure individual confidentiality, we assigned each participant a coded number and omitted from our research protocols all potentially identifying information, including names, addresses, and schools attended.

PROCEDURE

Data were obtained from extensive file history information, including psychiatric and psychological evaluations, social history, police and victim statements, offense type, and victim characteristics (i.e., prepubescent, pubescent, adult), predisposition reports, interview notes, and progress summaries documented for the duration of each participant's attendance in the SOTP.

TABLE 1: Demographic Characteristics

		Psychopathy Checklist: Youth Version Group		
	Sample (N = 220)	*Low (n = 80)*	*Medium (n = 111)*	*High (n = 29)*
Age				
At index offense	14.7 (1.5)	15.0 (1.5)	14.6 (1.5)	14.3 (1.5)
At follow-up	22.5 (2.4)	22.6 (2.3)	22.6 (2.5)	21.6 (2.3)
IQ				
Full scale	95.1 (11.3)	95.9 (10.0)	94.5 (12.0)	98.0 (12.2)
Verbal	92.8 (11.8)	93.3 (11.0)	91.2 (11.2)	96.3 (12.2)
Performance	98.5 (11.3)	97.2 (9.6)	98.4 (12.3)	98.6 (16.3)
Previous offense (%)				
Nonviolent	56.0	25.0	53.2	58.6
Violent	22.0	15.0	18.0	44.8
Sexual	69.5	67.5	70.3	72.4

NOTE: Standard deviations are in parentheses.

We used the official records provided by the Fingerprint Service of the Royal Canadian Mounted Police and by the British Columbia Corrections Branch to code criminal charges and convictions from the time an offender was discharged from the SOTP until January 31, 1995. This follow-up period ranged from 7 to 106 months, with an average of 55 months (SD = 22.3). The coded information included the number of criminal offenses (charges and convictions), months spent in custody, months on probation, and months free in the community.

ASSESSMENT OF PSYCHOPATHY

We used the Hare Psychopathy Checklist: Youth Version (PCL:YV) (Forth, Kosson, & Hare, in press) to assess psychopathy. The PCL:YV is a slightly modified, age-appropriate version of the PCL-R. Like the PCL-R, it is a 20-item clinical rating scale designed to assess the traditional construct of psychopathy. Its psychometric properties are essentially the same as those of the PCL-R (Brandt et al., 1997; Forth & Burke, 1998; Forth et al., 1990; Forth et al., in press). Each item is scored on a 3-point scale: 2 indicates that the item applies to the individual; 1 indicates that the item may apply, or that it applies to a certain extent; and 0 indicates that it does not apply. Items

are summed to yield a total score that can range from 0 to 40. For research with adult offenders, psychopathy typically is defined by a PCL-R score of 30 or more, which is approximately 1 standard deviation above the mean for offenders in general (Hare, 1991).

The standard procedure for a PCL-R or PCL:YV assessment involves the integration of interview and file information. However, there is good evidence that, for research purposes, reliable and valid assessments can be made from file information alone, provided that such information is extensive and detailed (e.g., Grann, Långström, Tengström, & Stålenheim, 1998; Gretton, 1998; Rice & Harris, 1997; Wong, 1988). The PCL:YV assessments in this sample were made from particularly rich file information. Prior to making these assessments, we conducted a pilot study in which the PCL:YV scores were obtained in two different ways: from interview plus file information, and from file information alone. Four different clinicians/researchers, two for each type of assessment, independently completed the PCL:YV on 30 offenders at the SOTP. The PCL:YV total scores for the two procedures were similar and highly correlated (r = .89).

In the present sample, the distribution of file-based PCL:YV scores was approximately normal, with a mean of 21.2 and a standard deviation of 7.3. Cronbach's alpha was .82, and the mean interitem correlation was .29. Interrater reliability of total scores was evaluated in a subsample of 50 offenders, using intraclass correlation coefficients (ICC) (Shrout & Fleiss, 1979). The ICC was .82 for a single rater and .91 for the average of two raters. Raw PCL:YV scores were used for correlational and regression analyses.

As yet, there are no clear cutoff scores for a research diagnosis of adolescent psychopathy. However, given that the mean and standard deviation of PCL:YV scores across various samples of adolescent offenders are much the same as those of adult offenders (Forth et al., in press), we defined a high PCL:YV group (n = 29) by a score of 30 or more. For comparison purposes, we formed two other groups, one with PCL:YV scores from 18 to 29 (the medium group; n = 111) and the other with PCL:YV scores of less than 18 (the low group; n = 80). There were no significant differences in the racial composition of the three groups or in the age or sex of their victims. The demographic and criminal history characteristics of each group are presented in Table 1. One-way analyses of variance (ANOVAs) indicated that the only sig-

nificant differences ($p < .05$) among PCL:YV groups were in age at index offense, at least one prior nonviolent offense, and at least one prior violent offense.

PHALLOMETRIC ASSESSMENT

Penile plethysmographic (PPG) data were obtained from 186 offenders at the beginning of the SOTP. These offenders did not differ significantly from nonassessed offenders with respect to nonviolent, violent, or sexual offense history, race, age at first offense, age at index offense, or intellectual functioning. The SOTP was in the process of development during the study period and, as a result, PPG procedures varied somewhat over time. In general, the examiner explained the purpose of the examination, outlined the procedures and stimuli to be used, discussed confidentiality issues, and obtained signed consent from the offender or from a guardian if he was younger than 14 years.

PPG assessments were conducted in a sound-attenuated room. The offender sat in a chair with a sheet covering his lap; the chair was separated from the technician's area by an opaque partition to ensure privacy. The offender was instructed to measure the circumference of his flaccid penis using a strip of paper, and the recording equipment (a Farrell SP-300 two-channel portable system) was calibrated accordingly. Then he was asked to place the indium-gallium strain gauge midway down his penis, and told that the session would begin shortly. A clip of a videotape on sex education (pretest stimulus) was shown to stimulate full erection. The clip was of a man and a woman having consensual intercourse, and for most offenders this was the stimulus that evoked maximum arousal. After maximum erection was obtained, he was given neutral material (e.g., comic books) to read until detumescence, and then presented with several standardized sets of stimuli.

Prior to 1990, the stimuli were slides of nude male and female adults, adolescents, preadolescents, and children, and audiotapes of consensual, coercive, or manipulative sexual acts involving various combinations of male and female adults, adolescents, and children. In 1990, the visual and audio stimulus sets were transferred to videotape and presented on a television set. Penile responses were recorded in millimeters of pen deflection and transformed to percentages of maxi-

mum arousal. This usually occurred during presentation of the initial video clip, but in some cases it occurred during presentation of the other stimuli.

An index of general deviant sexual arousal was computed as the average change in arousal to "deviant" stimuli (e.g., children, coercive or manipulative sex as defined in the above categories) divided by the average change in arousal to "nondeviant" stimuli (e.g., adults, consensual sex). Cutoff scores for deviance are not well defined in the literature. Optimal cutoffs vary depending on the population, the purpose of classification, the number and type of stimuli, and the procedures used (Lalumière & Harris, 1998). A deviant/nondeviant cutoff of 1.0 for ratio scores is common but would have resulted in a relatively small number of offenders being classified as nondeviant in this study. We therefore decided to begin with a more conservative cutoff of 1.2 for classifying deviant arousal. Those with a ratio of less than 1.2 were considered to have shown nondeviant arousal. Several supplementary analyses were performed with a more liberal cutoff ratio of 1.0.

OUTCOME VARIABLES

Escapes from custody and breaches of probation. We coded escapes and attempted escapes from custody for each offender during the follow-up period. We also coded breaches of probation during the follow-up period, defined as a failure to comply with the conditions of probation orders.

Failures in the follow-up period (reoffending). General (any) offenses or failures were defined as any charges or convictions that occurred in the follow-up period. In addition to general offenses, we coded all violent offenses and sexual offenses. Violent offenses included murder, manslaughter, attempted murder, assault, robbery, kidnapping, possession of a weapon, and sexual offenses (Hare, McPherson, & Forth, 1988). We coded sexual offenses separately, which included indecent assault, sexual assault, incest, bestiality, indecent act (in public), indecent exposure, sexual interference, and aggravated sexual assault (e.g., rape).

DATA ANALYSIS

Group differences in the dichotomous (failure vs. no failure) outcome variables were evaluated in several ways. Chi-square was computed for the group differences in outcome (with $df = 2, N = 220$ unless otherwise indicated). Because the three groups were ordered along an ordinal dimension of PCL-R scores, we tested the significance of each chi-square with Bartholomew's test for qualitatively ordered proportions, with $c = .29$ in each case (Fleiss, 1981, pp. 147-149).

We used survival analyses (Brown, 1982) to estimate the time taken to reach a specified event (reoffense, or "failure") and the rate of occurrence of that event (the survival function) while controlling for loss of participants due to nonevent-related factors (censored cases). The Kaplan-Meier procedure (SPSS for Windows 7.5) was used to obtain survival curves for the high, medium, and low PCL:YV groups for general failures, violent failures, and sexual failures, with log rank tests for group and pairwise comparisons. Cox regression analyses were performed to determine if psychopathy predicted offense outcome after group differences in demographic variables typically associated with reoffending (age at index offense, offense history) had been taken into account.

We also computed odds ratios to compare the PCL:YV groups on the risk for each type of dichotomous outcome (i.e., failure, no failure). The odds ratio indicates the degree to which the odds of committing an offense are greater for one group than for another.

Finally, we computed point-biserial correlations (r_{pbi}) between the entire range of PCL:YV scores (a dimensional variable) and the dichotomous outcome variables, with $df = 218$.

RESULTS

OUTCOME VARIABLES

Escapes and breaches of probation. The percentage of offenders in the high, medium, and low groups who attempted or committed an escape while in custody was 44.8, 10.8, and 0, respectively ($\chi^2 = 42.53, p < .001$). The percentage of offenders in the high, medium, and

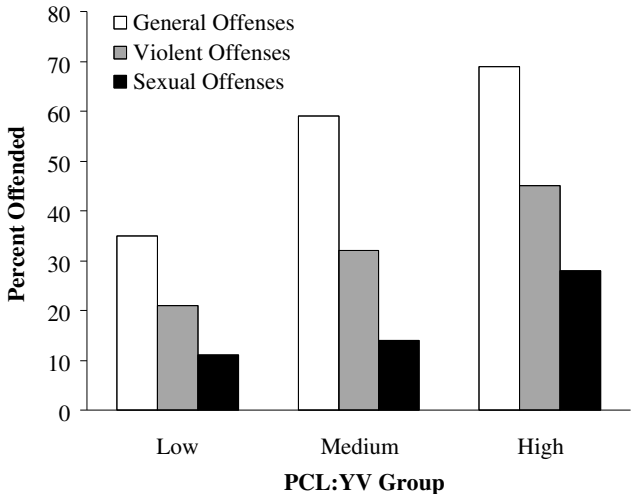

Figure 1: Percentage of Offenders in the High, Medium, and Low Psychopathy Checklist: Youth Version (PCL:YV) Groups Who Committed at Least One Offense (each type plotted separately) in the Follow-Up Period.

low groups who breached probation during the follow-up period was 69.0, 46.8, and 16.3, respectively ($\chi^2 = 31.32$, $p < .001$).

Psychopathy and Failure Rates

Chi-square. For the entire sample of 220 offenders, the failure rates (commission of at least one offense) during the follow-up period were 51% for general offenses, 30% for violent offenses, and 15% for sexual offenses. Failure rates for the high, medium, and low psychopathy groups are depicted in Figure 1. It is clear that offenders in the high group were the most likely, and those in the low group the least likely, to reoffend. The group differences using Bartholomew's test for qualitatively ordered proportions were significant for general failures ($\chi^2 = 14.47$, $p < .005$), violent failures ($\chi^2 = 6.11$, $p < .05$), and sexual failures ($\chi^2 = 4.76$, $p < .05$).

Correlations. The point-biserial correlation (r_{pbi}) between PCL:YV scores and each outcome variable was as follows: general failure, .25 ($p < .01$); violent failure, .19 ($p < .01$); sexual failure, .09 (n.s.).[1]

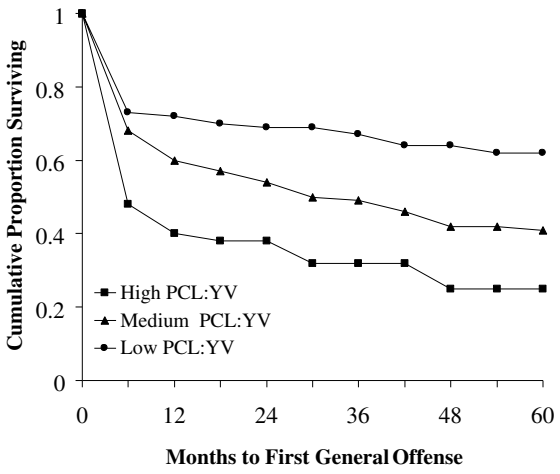

Figure 2: Survival Curves (cumulative proportion surviving) for the High, Medium, and Low Psychopathy Checklist: Youth Version (PCL:YV) Groups for General Offenses Committed in the Follow-Up Period.

Odds ratios. Comparisons of the high and the low PCL:YV groups yielded the following odds ratios ($df = 1$ in each comparison) for each type of offense outcome (95% confidence intervals in brackets): general offense, 4.13 (1.66-10.26), ($\chi^2 = 9.96$, $p < .005$); violent failure, 3.01 (1.22-7.46), ($\chi^2 = 5.93$, $p < .05$); and sexual failure, 3.01 (1.03-8.76), ($\chi^2 = 4.32$, $p < .05$). That is, for each type of offense, the odds that an offender in the high group would commit an offense were between three and four times the odds that an offender in the low group would commit an offense.

SURVIVAL ANALYSIS

Survival analyses for each group were performed for offenses committed during the follow-up period. The cumulative survival function represents the proportion of participants remaining free of an offense as a function of time since release from custody. That is, survival is depicted as not having failed, although throughout this article we refer to its inverse, namely, failure.

The results for general, sexual, and violent failures are plotted in Figures 2, 3, and 4, respectively. Log rank tests revealed that the sur-

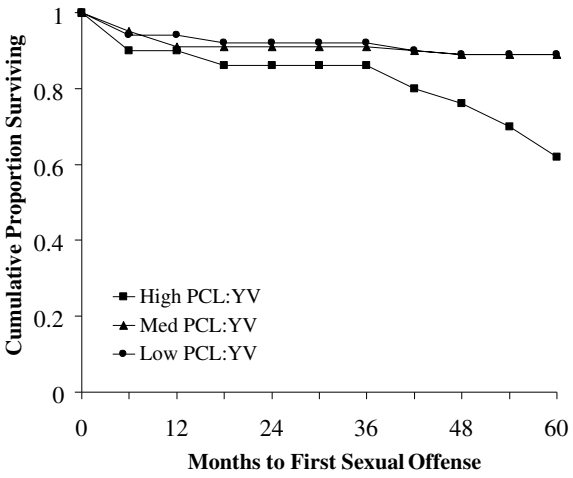

Figure 3: Survival Curves (cumulative proportion surviving) for the High, Medium, and Low Psychopathy Checklist: Youth Version (PCL:YV) Groups for Sexual Offenses Committed in the Follow-Up Period.

vival function of the high group was significantly different from that of the low group for general failures, $\chi^2(1, n = 109) = 14.55, p < .001$, violent failures, $\chi^2(1, n = 109) = 8.48, p < .005$), and sexual failures, $\chi^2(1, n = 109) = 5.24, p < .05$. The high group also differed significantly from the medium group for general failures, $\chi^2(1, N = 140) = 5.01, p < .05$. The medium group differed significantly from the low group for general failures, $\chi^2(1, n = 191) = 5.70, p < .05$. When we accounted for time spent incarcerated, the survival analyses did not change substantially. Cox regression analyses indicated that when age at index offense and offense history were entered first into the equations for predicting offense outcome, PCL:YV scores contributed significantly to the prediction equation for general failures ($p < .005$) and for violent failures ($p < .05$) but not for sexual failures.

PSYCHOPATHY AND DEVIANT SEXUAL AROUSAL

PCL:YV scores were not significantly correlated with PPG evidence of deviant sexual arousal ($r = .09$), nor was the latter significantly associated with any outcome measure. However, we primarily

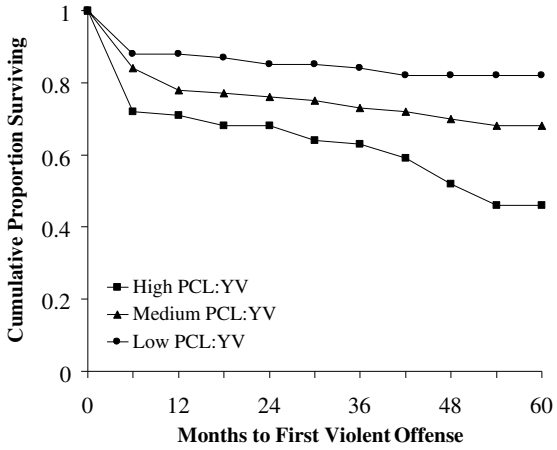

Figure 4: Survival Curves (cumulative proportion surviving) for the High, Medium, and Low Psychopathy Checklist: Youth Version (PCL:YV) Groups for Violent Offenses Committed in the Follow-Up Period.

were interested in the combination of psychopathy and deviant arousal.

Initially, we subdivided offenders in the high, medium, and low PCL:YV groups into those with or without PPG evidence of pretreatment deviant sexual arousal, six groups in all. However, several of the groups were rather small for survival analysis. For example, there were only 24 offenders with a high PCL:YV score (30 or more); only 9 of these had a deviant arousal index of 1.2 or more. Descriptively, however, it is interesting that 8 (89%) of these 9 offenders had a general failure and 6 (67%) had a violent failure within 12 months of discharge from the treatment program. The failure rate for the 15 with a high PCL:YV score and a deviant arousal index of less than 1.2 was 53% for general offenses and 33% for violent offenses. By way of comparison, the failure rate for 27 offenders with a low PCL:YV score and a deviant arousal index of less than 1.2 was 41% for general offenses and 15% for violent offenses; these failure rates were not reached until the end of the follow-up period.

To have the numbers of offenders in each group large enough for reliable statistical analysis, we divided the PCL:YV scores at the median (22) to form two new groups, a high mdn group and a low mdn

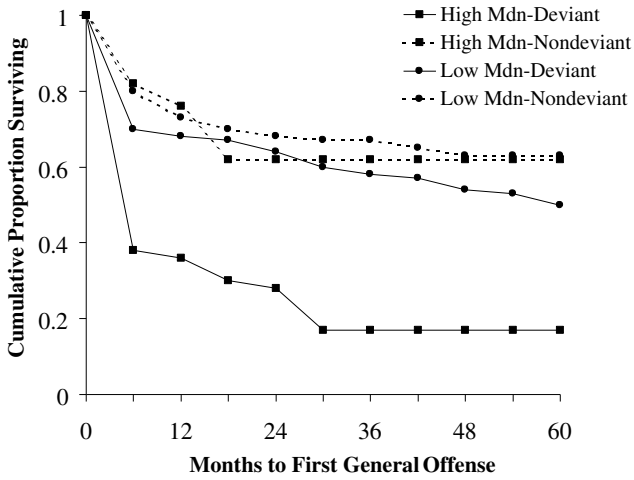

Figure 5: Survival Curves (cumulative proportion surviving) for High-Mdn and Low-Mdn Psychopathy Checklist: Youth Version (PCL:YV) Groups (median splits) Subdivided Into Those With and Without Evidence of Deviant Sexual Arousal (cutoff of 1.2).

NOTE: The plots are for general offenses committed in the follow-up period.

group. These two groups were then subdivided on the basis of evidence of PPG deviance (cutoff of 1.2) to form four groups: high mdn-deviant ($n = 42$); high mdn-nondeviant ($n = 55$); low mdn-deviant ($n = 39$); and low mdn-nondeviant ($n = 50$).

We performed survival analyses for these four groups for general offenses, violent offenses, and sexual offenses. Considering general offenses first (see Figure 5), log rank tests indicated that the survival function for the high mdn-deviant group was significantly different from the low mdn-nondeviant group, $\chi^2(1, n = 92) = 18, p < .001$, from the low mdn-deviant group, $\chi^2(1, n = 81) = 9.54, p < .005$, and from the high mdn-nondeviant group, $\chi^2(1, n = 97) = 5.62, p < .05$. No other group difference was significant for general offenses.

The survival curves for violent failures during the follow-up period are plotted in Figure 6. The high mdn-deviant group was significantly different from the low mdn-nondeviant group, $\chi^2(1, n = 92) = 8.42, p < .005$. No other group difference was significant for violent failures. The survival analysis for sexual offenses during the follow-up period did not yield any significant group effects.

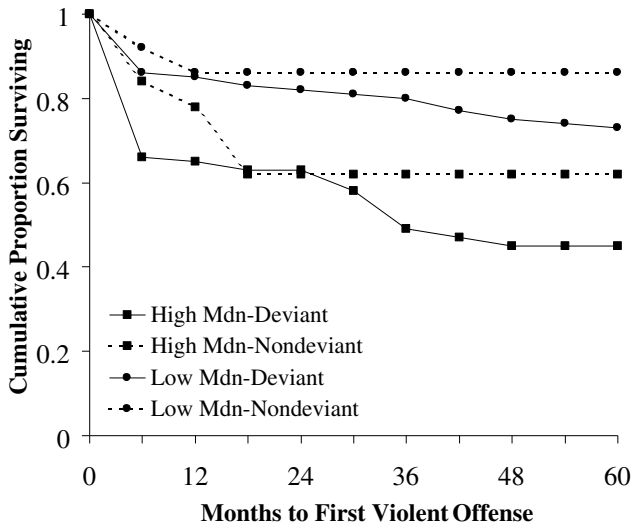

Figure 6: Survival Curves (cumulative proportion surviving) for High-Mdn and Low-Mdn Psychopathy Checklist: Youth Version (PCL:YV) Groups (median splits) Subdivided Into Those With and Without Evidence of Deviant Sexual Arousal (cutoff of 1.2).

NOTE: The plots are for violent offenses committed in the follow-up period.

Supplementary analyses. The preceding analyses were based on the use of a deviant arousal cutoff ratio of 1.2. We repeated the analyses with a more typical cutoff ratio of 1.0. In terms of PPG assessments, the deviant offenders in these supplementary analyses were in fact somewhat less deviant than those in the analyses described above. The four new groups for these analyses, defined by a PCL:YV median cutoff of 22 and a deviant cutoff ratio of 1.0, were as follows: high mdn-deviant (n = 76); high mdn-nondeviant (n = 21); low mdn-deviant (n = 62); and low mdn-nondeviant (n = 27). As before, we performed survival analyses for general offenses, violent offenses, and sexual offenses. To save space, the plots (available on request) are not presented here. Briefly, by the end of the follow-up period the failure rate for general offenses was 63% for the high mdn-deviant group, 52% for the high mdn-nondeviant group, 40% for the low mdn-deviant group, and 30% for the low mdn-nondeviant group. Log rank tests indicated that the survival function for the high mdn-deviant

group was significantly different from the low mdn-nondeviant group, $\chi^2(1, N = 103) = 7.55, p < .01$, and the low mdn-deviant group, $\chi^2(1, n = 138) = 10.08, p < .005$, but not from the high mdn-nondeviant group. No other group difference was significant for general offenses.

For violent offenses, the failure rate by the end of the follow-up period was 34% for the high mdn-deviant group, 33% for the high mdn-nondeviant group, 24% for the low mdn-deviant group, and 15% for the low mdn-nondeviant group. Log rank tests indicated no statistically significant group effects. There were no significant group effects for sex offenses.

It is apparent from these analyses that the effect of using a more liberal definition of deviant sexual arousal was to reduce the strength of its association with the outcome variables. However, the impact of psychopathy on outcome also may have been attenuated because of our use of a median PCL:YV cutoff. The net effect may have been to underestimate the association that the combination of psychopathic traits and deviant sexual arousal had with posttreatment outcome. The informal analyses of the outcome data for offenders with PCL:YV scores higher than 30 and deviant arousal cutoff scores of at least 1.2 are consistent with this view.

DISCUSSION

The psychometric properties of the PCL:YV in this sample of sex offenders were much the same as those obtained with other groups of adolescent offenders (e.g., Brandt et al., 1997; Forth & Burke, 1998; Forth et al., 1990; Forth et al., in press; Gretton, 1998; McBride, 1998). In most studies, including this one, the mean scores of the PCL:YV are similar to those typically obtained with its adult counterpart, the PCL-R, indicating that psychopathic traits may be as common among adolescent offenders as among adult offenders.

The results of this study clearly indicate that before and following their attendance at an adolescent SOTP, offenders with high PCL:YV scores posed a particularly serious problem for the criminal justice system and for society. These offenders were more likely than other adolescent offenders to escape from custody, violate the conditions of

probation, and commit nonviolent and violent offenses in the 5-year follow-up period. Moreover, survival analyses showed that, with the exception of sexual offenses, the first offenses of those with a high PCL:YV score following release occurred much earlier than did those of the other offenders. It is possible that the weak relationship obtained between the PCL:YV and sexual offending was due in part to the sample's low base rate of sex offending during the follow-up period. Because we used only criminal records to determine posttreatment outcome, it was not always clear from a given charge or conviction whether or not the offense was sexual in nature. Had we been able to obtain the police reports for each offense, the results might have been different.

The strong association between psychopathy and postrelease failure was apparent even after other established predictor variables, including offense history, had been taken into account. These findings are consistent with the adult literature on psychopathy and recidivism, including sexual recidivism (e.g., Grann et al., 1999; Hemphill et al., 1998; Rice & Harris, 1997; Salekin et al., 1996).

Rice and Harris (1997) reported that among adult sex offenders the PCL-R was a strong predictor of violent recidivism, but that sexual recidivism was predicted better by a combination of a high PCL-R score and phallometric evidence of deviant sexual arousal. The difference between their findings and ours is that in our sample this combination was more strongly predictive of recidivism in general than it was of sexual reoffending in particular. This was so even when we used a high PCL:YV score (30, rather than the score of 22 used in other analyses) and a conservative estimate of deviance (a deviant/nondeviant ratio of 1.2, rather than the ratio of 1.0 used in other analyses). It is possible that as adolescent offenders age, the combination of psychopathy and deviant sexual arousal will become more predictive of sexual offending. However, we might note that several other investigators also have found that the combination of psychopathic features and deviant sexual arousal is associated with general and violent recidivism in adult offenders (A. Harris & Hanson, 1998; Serin et al., 2001). The conceptual and methodological issues associated with the PPG measurement of sexual arousal make it difficult to draw firm conclusions from our findings. However, the combination of psycho-

pathic traits and deviant sexual arousal appears to be an important risk factor for general and violent reoffending. In this regard, it is interesting that, using a PCL:YV median cutoff, the risk for general reoffending was greater when deviant sexual arousal was defined by a cutoff of 1.2 than when it was defined by a cutoff of 1.0. That is, even a moderate number of psychopathic traits in combination with a marked degree of PPG deviant arousal was associated with the higher rate of general reoffending. One interpretation of this pattern is that when a high level of deviant sexual arousal is present only a moderate number of psychopathic traits is needed to generate antisocial and criminal behavior.

Newman (1997) has proposed that psychopaths have difficulty in using contextual cues to modulate or inhibit inappropriate behavior; arousal appears to exacerbate this difficulty. This raises the possibility that deviant sexual arousal in psychopaths serves to facilitate antisocial or violent acts. This might help to explain why psychopaths who exhibit deviant sexual behavior commit a wide variety of offenses, but not the reasons why deviant arousal occurs in the first place. Nor does it explain why psychopathy, sexual arousal, and violence occasionally are intertwined to produce extremely cruel and sadistic behavior (Dempster & Hart, 1996; Hare, Cooke, & Hart, 1999; Quinsey et al., 1995; Serin, Malcolm, Khanna, & Barbaree, 1994; Stone, 1998). A great deal more research is needed on the nature and causes of sexual sadism, the measurement of deviant sexual arousal, and their association with psychopathy.

We note that although all of the adolescents in the sample were designated as sex offenders, they were far more likely to commit a nonsexual than a sexual offense following release from custody. Even if we assume that they were better able to conceal sexual misbehavior than other forms of antisocial and criminal behavior, the possibility remains that many in our sample, and most of the psychopathic members, are not so much specialized sex offenders as they are general, versatile offenders. In many cases, their misbehavior—sexual and otherwise—presumably is a reflection of factors not specifically related to sexual behavior. For the psychopaths, these factors no doubt include a general propensity to violate social and legal expectations and to exhibit impulsive, self-gratifying behavior. The results of a

study by Porter et al. (2000) are consistent with this view. These authors found that, compared with other sex offenders, psychopathic sex offenders had many more convictions for nonviolent crimes and for nonsexual violent offenses but fewer convictions for sexual offenses. In this study, about two out of three of the adolescent offenders in each PCL:YV group had committed at least one other sexual offense prior to treatment, but those in the high PCL:YV group were far more likely than other offenders to have committed a previous nonviolent or nonsexual violent offense. We might argue that an index offense committed by an adolescent or adult psychopath reflects only part of a more general and pervasive pattern of callous, manipulative, and egocentric attitudes and actions that ignore the rights and well-being of others (Hare, 1998). A clear implication of this view is that interventions that target only factors related to sexual offending are likely to be limited in their effectiveness with psychopaths. The problem is not so much that they are sexual offenders but that they are psychopathic offenders. As such, they are difficult to treat with conventional institutional programs (Hare et al., in press; Ogloff, Wong, & Greenwood, 1990; Rice, Harris, & Cormier, 1992). Wong and Hare (in press) have provided guidelines for the institutional treatment of violent psychopaths. It remains to be seen whether these guidelines will be effective with psychopaths in general and with adolescent psychopaths in particular.

NOTE

1. Like the Hare Psychopathy Checklist–Revised, the Psychopathy Checklist: Youth Version (PCL:YV) is made up of two correlated factors (Forth, Kosson, & Hare, in press). Factor 1 reflects the interpersonal and affective features of psychopathy, whereas Factor 2 reflects the social deviance components of the disorder. Factor 2 was more strongly correlated with outcome (r_{pbi} = .21, .24, and .26 for general offenses, nonviolent offenses, and violent offenses, respectively) than was Factor 1 (r_{pbi} = .16, .12, and .06, respectively). This is a common finding in the predictive literature, at least for nonviolent offenses, although the differences between the predictive validity of Factor 1 and Factor 2 typically do not reach statistical significance (see Hare, Clark, Grann, & Thornton, in press; Hemphill, Hare, & Wong, 1998). Because we used only file information (no interviews) to complete the PCL:YV, it is possible that the assessment of Factor 1 items, as well as their predictive role, were compromised.

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