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Sexual Recidivism Among Child Molesters Released From a Maximum Security Psychiatric Institution

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The recidivism of 136 extrafamilial child molesters who had received phallometric assessment in a maximum security psychiatric institution from 1972 to 1983 was determined over an average 6.3-year follow-up. Fifty had participated in behavioral treatment to alter inappropriate sexual age preferences. Thirty-one percent of the subjects were convicted of a new sex offense, 43% committed a violent or sexual offense, and 58% were arrested for some offense or returned to the institution. Subjects convicted of a new sex offense had previously committed more sex offenses, had been admitted to correctional institutions more frequently, were more likely to have been diagnosed as personality disordered, were more likely to have never married, and had shown more inappropriate sexual preferences in initial phallometric assessment than those who had not. Behavioral treatment did not affect recidivism.

Despite great societal concern over child sexual abuse (particularly sadistic sexual assaults), the follow-up literature concerning child molesters is quite small and methodologically limited (for reviews, see Furby, Weinrott, & Blackshaw, 1989; Quinsey, 1986). From a social policy perspective, a limitation of this literature is its emphasis on the use of historical variables in the prediction of recidivism. Variables such as offense history are important in establishing the risk status of particular offenders or groups of child molesters but cannot be used to decide whether an offender's risk status has changed.

A further limitation is that very few variables have been clearly shown to predict recidivism. Indeed, other than offense history, few variables used in recidivism research discriminate child molesters from nonsexual offenders and nonoffenders in the first place. Unless a variable has that kind of discriminant validity, it has little hope as a predictor of recidivism among identified child molesters. Important exceptions to this observation are phallometrically derived indices of inappropriate sexual age preferences. Sexual age preferences have consistently differentiated extrafamilial child molesters from other offenders, other sex offenders, and normal males (for a review see Quinsey, 1986).

Despite the established discriminant validity of such phallometric measures, few studies have examined their relationship to recidivism. Quinsey, Chaplin, and Carrigan (1980) found that indices of inappropriate age preference (response to children divided by response to adults) obtained at the end of a behavioral laboratory treatment program were significantly related to whether 30 extrafamilial child molesters committed new sexual offenses over a 28-month period. Similarly, using a sample of 35 untreated child molesters, Barbaree and Marshall (1988) found significant correlations between inappropriate age preferences and recidivism. However, Marshall and Barbaree (1988) found that neither pretreatment deviance, posttreatment deviance, nor pre–post changes in deviance predicted recidivism in 126 treated and untreated child molesters.

Treatment programs can change many offender characteristics in addition to sexual age preferences, but there are few studies that permit a direct evaluation of the contribution of specific treatment programs to reductions in recidivism among child molesters. The basic problem in interpreting this literature is the lack of untreated control groups.

The purpose of the present study was to examine the long-term recidivism of extrafamilial child molesters referred for assessment or treatment in a maximum security institution and to compare the outcome of patients who had received behavioral treatment for inappropriate sexual age preferences with those who had not.

Method

Subjects

The 153 subjects were an exhaustive sample of all men who, upon admission to a maximum security psychiatric institution, had sexually molested a child from a family other than their own and had been released before December 31, 1983. Most (n = 104) had been sent for a pretrial psychiatric assessment. Others had been sent for treatment after being certified as mentally ill (n = 32), following a verdict of not guilty by reason of insanity (n = 9), or for another reason (n = 8). Fifty subjects participated in a behavioral program designed to alter sexual preferences (Quinsey, Bergersen, & Steinman, 1976; Quinsey et al., 1980), as well as in the regular institutional activities. Eleven subjects who did not participate in the behavioral program for sex offenders did

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participate in other programs in the institution. Thus, the behavioral treatment evaluated here was an additional, specialized treatment added to the institutional regime.

Fourteen men were excluded because they refused to participate in the laboratory assessment. Three were excluded because they were too psychotic or too intellectually limited to understand the laboratory assessment procedure, one because he refused to cooperate, and three others because their data were lost. All subjects gave informed consent for the laboratory assessment and treatment procedures.

Following Quinsey (1977), patients were child molesters if, according to their records, they had had physical sexual contact with a girl under 14 when they were at least 5 years older than the victim or (following Barbaree & Marshall, 1988) with a boy under 16 when at least 5 years older than the victim. Men whose only victims were their immediate biological relatives or were children for whom they served as surrogate fathers were excluded because they were not candidates for the treatment described in this article. Usually the patient had criminal charges; however, in 11 cases the patient had never been charged even though there was convincing evidence on file of at least one offense.

Variables

A complete list of study variables for which adequate interrater reliability was attained is shown in Table 1. All variables except the outcome variables and the sexual assessment variables were coded from institutional files. These files were exceptionally detailed and included information from many sources (psychosocial histories, information from other institutions, police reports, psychological test reports, questionnaires from patients' families, etc.). Outcome data were obtained from the Lieutenant Governor's Board of Review, the Royal Canadian Mounted Police (RCMP), the National Parole Service of Canada, and our own institutional files (for patients who returned during the follow-up period). For budgetary reasons, the primary data for patients who were not readmitted came from the Fingerprint Service of the RCMP, and other sources were consulted only if clarification was required as to whether particular convictions were for postrelease offenses or, in the case of homicide convictions, whether the offense was sexually motivated.

To evaluate interrater reliability, a randomly chosen 20 subjects from a larger study that included rapists as well as child molesters were independently coded by two research assistants. Interrater reliabilities were determined by calculating Pearson product–moment correlations for continuous variables and the kappa statistic for categorical variables. All variables retained had a reliability of .85 or greater with the exception of occupation (kappa = .76). Also, because raters occasionally disagreed about the exact sex of victims, numbers of victims, or both, reliabilities (Pearson *r*s) were .30 for number of offenses against male children, .55 for number of offenses against female children, and 1.0 for the remaining categories. However, the raters agreed in at least 85% of the cases, and because of the importance of these sexual history variables, they were retained.

Sexual assessment measures. Penile circumference was measured with a mercury-in-rubber strain gauge placed around the shaft of the penis. The 1970s version of the laboratory and testing procedure is described in Quinsey, Steinman, Bergersen, and Holmes (1975) and the 1980s version in Quinsey and Chaplin (1988). A standard array of slides was presented consisting of two slides in each of the following categories: adult women, adult men, pubescent girls, pubescent boys, female children between 6 and 11 years, male children between 6 and 11, female children under 5, male children under 5, explicit heterosexual activity, and landscapes.

Penile responses were converted to *z* scores for each subject and each assessment session separately. Mean *z* scores were then calculated for each stimulus category. The "preference for children index" was the difference between a subject's highest average response to an adult category and his highest average response to a child category. No minimum criterion of penile response magnitude was used; however, the effects of excluding subjects whose phallometric data were of questionable validity were examined in supplementary analyses.

Prior to phallometric assessment, subjects were shown a series of photographs of persons of varying ages and sex and asked to rank order their preferences. Men whose mean ranking for any child category was higher than their mean ranking for either adult category received a score of 1 for "self-reported preference for children"; otherwise, they received a score of 0. Subjects also completed the Bentler Inventory of Heterosexual Activity (Bentler, 1968). A high score indicated greater sexual experience with adult women.

Following treatment, the self-report photograph sort and the phallometric assessment were readministered. A final preference for children index and a final self-reported preference for children score were calculated by using the posttreatment scores for treated subjects and the initial assessment scores otherwise.

Treatment variables. "Treated" men were those who received a laboratory-based aversion therapy treatment designed to alter sexual age preferences. Briefly, during all treatment sessions the patients viewed slides of adults and children while penile responses were monitored. Treatment followed one or two of three paradigms. In classical conditioning, patients (n = 18) received self-selected painful (but harmless) electrical shock to the arm during the last seconds of a randomly determined 80% of the child slides. In biofeedback, patients (n = 32) received feedback by means of different colored lights whenever penile circumference exceeded preset criteria for deviant and appropriate stimuli. Finally, in signaled punishment, patients (n = 28) were administered shock for the deviant slides on a random schedule when they responded above a preset level, and the lights were used as in the biofeedback sessions. All but four patients received one of the electrical aversion paradigms. All treatment sessions lasted approximately 1 hr, and, on average, the total number of treatment sessions was 20.

"Successfully treated" men made a statistically significant improvement in pretreatment to posttreatment phallometric assessments of sexual age preference (see Quinsey et al., 1980).

Outcome variables. Recidivism was defined in three different ways: The first and most conservative, "sexual conviction," referred to whether the subject was convicted of a new sexual offense during the follow-up period. The offenses included rape, attempted rape, sexual assault, aggravated sexual assault, indecent assault, and, where appropriate, attempted murder and murder (when it was determined that the offense was sexually motivated). A few additional convictions were coded as sexual because it could be ascertained beyond doubt that the offense was sexual.

"Violent failure" involved being arrested or returned to the maximum security institution for any violent offense during the follow-up. These offenses were all serious inasmuch as they involved offenses against persons (sexual offenses were included as violent offenses). Because of plea bargaining, lack of sufficient evidence, and so forth, we frequently found, in cases where we could verify what happened, that persons would be charged with a violent offense but that the offense was actually also sexual in nature. Of course, not all violent offenses were sexual or could be identified as such. Also included were incidents that occurred while the subject was in another facility and for which he was not formally charged if the incidents were deemed by the raters to have been sufficiently serious that, had charges been made, they would have qualified as violent. The final "failure" category in-

cluded subjects who had been arrested or convicted of any offense in the follow-up period or who had been returned to the maximum security institution for any reason.

"Follow-up time" referred to the time elapsed from the date the patient was first at risk until the last follow-up information was received. "Months of opportunity to reoffend" referred to the time elapsed from the date the patient was first at risk until the time of the last follow-up (for successes) or the time until the first failure for a sex offense (for failures) with time served for nonsexual offenses subtracted. Patients were considered to be at risk when they reached at least an open psychiatric setting or when they were released from a correctional institution. When the exact time served in a correctional institution could not be determined, it was estimated by assuming that the subject served the usual two thirds of sentence before release on mandatory supervision. Three additional failures discovered after the end of the follow-up were included to increase the accuracy of subject assignment to outcome category.

Results

Subsequent Sexual Offenses

A total of 136 subjects had an opportunity to fail. Of these, 42, or 31%, had a subsequent conviction for a sexual offense. For the violent failure measure, the recidivism rate rose to 58 (43%). Finally, 77 subjects (56%) failed by being arrested for any offense or by being returned to the maximum security institution for any reason. Convictions for a sex offense correlated .775 with violent failure and .702 with failure; the latter two categories correlated .568 with each other. Table 1 shows how subjects who had no subsequent sexual convictions differed from subjects who did. The results for violent failure and failure of any kind were similar and are not presented.

Multiple regression analyses were used to determine the accuracy with which linear combinations of study variables could have predicted outcome. Variables from each of the sets shown in Table 1 were entered into separate stepwise regression analyses where alpha to enter or remove was set at .25. Separate series of analyses were conducted for each outcome measure. From each variable set, up to three variables were selected for a final stepwise regression analysis for each outcome measure. The variables selected from each set, the corresponding setwise multiple *r*s for subsequent sexual conviction, and the variables included in the final stepwise solution are also shown in Table 1.

The final stepwise regression yielded a multiple r of .513, $F(7, 127) = 6.48$, $p < .001$, for subsequent sexual convictions; .413, $F(6, 128) = 4.39$, $p < .001$, for subsequent violent offenses; and .384, $F(7, 113) = 2.79$, $p < .01$, for subsequent failures. For each outcome measure, the resulting regression equation was used as a multiple discriminant function (where the selection ratio was equal to the base rate). For subsequent sexual conviction, the results yielded an 80% correct classification rate and a relative improvement over chance (RIOC; Loeber & Stouthamer-Loeber, 1986) of 55%, $p < .001$. For subsequent violent offense, 67% of the subjects were correctly classified for an RIOC of 34%, $p < .001$. Finally, for subsequent failure of any type, 69% of the subjects were correctly classified for an RIOC of 35%, $p < .001$.

The phallometrically derived initial preference for children index significantly differentiated subjects who were convicted of a new sex offense from those who were not, $t(126) = 1.76$, $p < .05$, one-tailed. In order to assess the possible effects of including subjects from the phallometric data set who were low responders or who produced suspect records, the records of 20% of the 136 subjects were examined in greater detail. Of these 34 records, 2 (from the earliest subjects) were incomplete because the level of magnification was unrecorded. Phallometric data were suspect if the mean response to neutral stimuli was greater than half of the largest mean response to another category ($n = 2$) or if the largest single response was less than .5 mm ($n = 5$). The preference for children index–outcome relationship was identical when calculated with and without removing the 7 suspect records.

Table 1 shows that neither laboratory treatment nor successful treatment was related to recidivism. The correlations between the study variables and whether the subject was treated are also shown in Table 1. In order to explore the effect of treatment further, treated and untreated subjects were matched on total previous arrests and convictions for sexual offenses and on the phallometric preference for children index. Twenty-nine pairs could be matched, and the mean numbers of total arrests and convictions were .586 ($SD = 1.09$) and .621 ($SD = 1.47$) for these treated and untreated subjects, respectively. The mean preference for children indices at initial testing were −.820 ($SD = .882$) and −.832 ($SD = .901$) for the treated and untreated subjects, respectively. Treated and untreated subjects were equally likely to be convicted of a sexual offense (11 of 29 and 9 of 29, respectively), $\chi^2(1) < 1$. There was also no significant difference in the number of months of opportunity to reoffend until first conviction, 45.7 ($SD = 45.8$) months versus 30.3 ($SD = 21.1$) months for the treated and untreated subjects, respectively, $t(64) < 1$. Similar results were obtained when 18 successfully treated subjects were matched with untreated subjects.

In addition to the laboratory-based treatment, 16 of the treated subjects participated in behavioral heterosocial skills training, 26 participated in a sex education course, and 12 of these 42 subjects received both (Quinsey, Chaplin, Maguire, & Upfold, 1987). These treatments did not appear to affect recidivism: 31% of those who received social skills training, 46% of those who received sex education, and 33% of those who received both were convicted of a new sexual offense.

Discussion

Sexual recidivism among child molesters was moderately well predicted by using a multivariate equation including whether the offender had ever been married, previous admissions to correctional institutions, previous property convictions, previous sexual convictions, a diagnosis of personality disorder, and a phallometric sexual age preference index. Of course, the amount of variance accounted for would be expected to shrink upon cross-validation, and, because of the number of comparisons, the univariate results should also be interpreted cautiously. Nevertheless, the results are, in most cases, in accord with previous findings. Similar to previous studies of sexual offenders (Quinsey, 1986), number of previous

Table 1
Description of Subjects With or Without a Subsequent Conviction for a Sexual Offense and Correlations of Study Variables With Treatment

Variable	No reoffense		Reoffense			
	M	*SD*	*M*	*SD*	*r* (C)	*r* (T)
Personal characteristics					**.212****	
Age at release	32.2	10.3	30.2	10.5	−.089	—
IQ	96.8	15.2	95.0	16.0	−.055	—
Highest grade	7.81	3.10	7.17	3.48	−.092	−.197**
Time with parents[a]	1.76	1.23	1.38	1.27	−.139	−.220**
Ever married (%)	46.8		28.6		−.171*[b]	−.266***
Any occupation (%)	39.4		33.3		−.058	−.181*
Psychiatric					**.233****	
Psychiatric admissions	1.29	2.79	1.36	1.48	.012	—
Admissions to Oak Ridge	0.097	0.363	0.262	0.544	.178*	—
Months in hospital (current)	16.1	33.2	13.2	27.7	−.043	.448***
Personality disorder (%)	52.1		71.4		.181*[b]	—
Admitted for assessment (%)[c]	64.9		64.3		−.066	−.649***
Criminal history—nonsexual offenses					**.330*****	
Admissions to corrections	0.849	1.37	2.05	2.75	.282***[b]	—
Previous violent convictions	0.266	0.721	0.762	1.86	.190*	—
Previous property convictions	1.81	3.27	1.24	2.38	−.088[b]	−.216**
Other nonsexual convictions	0.436	1.07	0.881	2.47	.126	—
Criminal history—sexual offenses					**.300*****	
Sexual convictions	0.457	1.06	1.67	3.26	.270***[b]	—
Female victim (%)[d]	17.0		31.0		.157*	—
Male victim (%)	12.8		28.6		.192*	—
Child victim (%)	22.3		42.9		.210**	—
Adult victim (%)	2.13		9.52		.166*	.164*
Prior sexual misbehaviors (and attempts)[e]						
Rapes of female adults	0.152	0.645	0.366	1.11	.121[b]	−.207**
Rapes of adult males	0.020	0.146	0		−.082	—
Sexual acts vs. child females	1.42	2.13	1.42	1.84	0	—
Sexual acts vs. child males	0.528	1.15	1.24	2.79	.180*	—
Nonrapes of female adults	1.05	5.51	0.658	1.68	−.039	—
Most serious victim injury[f]	2.02	1.66	1.73	1.24	−.087	.201**
Sexual assessment measures					**.155***	
Initial						
Preference for children index	−0.421	1.28	−0.824	0.918	−.155*[b]	−.347***
Self-reported preference (%)[g]	44.8		57.9		.120	.299***
Bentler Inventory of Heterosexual Activity score	11.5	2.08	10.6	7.33	−.061	−.202**
Final						
Preference for children index	0.141	1.24	−0.079	1.26	−.056	.163*
Self-reported preference (%)[g]	32.2		44.7		.119	—
Laboratory treatment					**.183****	
Treatment (%)	31.9		47.6		.150	—
Significant improvement (%)	18.1		19.0		−.011	—
Outcome variables						
Follow-up time (months)	72.8	32.7	79.9	34.7	.098	—
Months of opportunity to reoffend	70.7	32.8	54.2	34.6	−.225***	—
Subsequent convictions						
Property offenses	0.777	4.08	1.88	6.52	.103	—
Nonsexual violent offenses	0.074	0.264	0.548	1.64	.230***	—
Other nonsexual offenses	0.223	0.735	0.595	1.04	.202**	—
Sexual offenses[d]						
Female victim (%)	—		59.5		—	—
Male victim (%)	—		35.7		—	—
Child victim (%)	—		64.3		—	—
Adult victim (%)	—		26.2		—	—
Most serious victim damage	—		1.82	1.65	—	—

Note. C = conviction; T = treatment. Numbers under the headings No reoffense and Reoffense are means accompanied by standard deviations for continuous variables (variables without % signs beside the variable name) and percentages for categorical variables (variables indicated by % signs) for the two outcome groups, respectively. Under *r* (C) and *r* (T), respectively, are correlations with dichtomous recidivism (1 = *subsequent sexual*

sexual offenses and selection of male victims were found to predict outcome. Also, the findings regarding the importance of marital status, diagnosis of personality disorder, admissions to corrections, and previous criminal history are in agreement with other follow-up studies of offenders in a variety of samples, and, more particularly, with previous follow-ups of patients released from a secure psychiatric setting (e.g., Harris, Rice, & Cormier, 1989).

Inappropriate sexual age preferences as measured phallometrically were related to convictions for new sexual offenses, but patients' self-reports of their sexual preferences were not. However, the relationship between the phallometric assessment results and the follow-up data was smaller than that reported by Barbaree and Marshall (1988). The magnitude of the relationship found in this study was probably attenuated by the inclusion of many men who were referred for pretrial assessments and who would thus have had cause to fake normal sexual age preferences in the phallometric assessment. Second, the decision to include only extrafamilial child molesters meant that the range of scores on the phallometric assessment was restricted compared with a sample that included incestuous offenders or non-sex offenders who exhibit more appropriate sexual age preferences. Third, the criterion variable measured convictions for sex offenses in general instead of sexual crimes directed at children.

This study has some important strengths. A relatively large homogeneous sample of serious sex offenders was followed up for a long period; opportunity to reoffend was controlled; data from a national police force were obtained; various definitions of recidivism were used; demographic, clinical, self-report, and phallometric data were used as predictors in multivariate analyses; discriminant validity data were available for the phallometric measures; and treatment data from a well-described behavioral program were included as predictors.

The study also has some important limitations. Because detailed descriptions of reoffenses were not always available, the principal analyses focused on a very conservative (and nonspecific with regard to such relevant victim details as age) but highly reliable definition of sexual recidivism. Random assignment of patients to treatment and nontreatment conditions was not attempted. Unlike most of the untreated subjects, those who received behavioral treatment also participated in other institutional programs. Treated patients differed from untreated patients on many of the variables studied so that, even after matching subjects on variables on which the groups differed, doubts remain about the comparability of the groups. Our results suggest that, in future studies, assignment of child molesters to treatment and control groups is both ethically defensible and scientifically necessary. Furthermore, it is unknown what proportion of both treated and untreated patients subsequently received treatment in other settings.

Although the data bearing on the effectiveness of behavioral treatment cannot be construed as coming from a rigorous program evaluation, it seems very unlikely that the present intervention had any effect in reducing recidivism rates. This result was very disappointing, especially because the program targeted inappropriate sexual age preferences, which have been shown, both in this study and elsewhere, to be related to recidivism among child molesters. One might argue that the treatment was not sufficiently potent: The treatment significantly improved the sexual age preferences of only one half of the men who participated. This low success rate, however, explains neither the failure of posttreatment phallometric data to predict recidivism nor the lack of a difference in recidivism between subjects whose preferences were significantly altered and those who were not. Nor can it be argued that, although statistically significant improvements were made by some treated subjects, the improvements were not clinically significant. In fact, the average posttreatment preference for children index for those subjects we called treatment successes was well within the normal range (see Quinsey et al., 1976). Moreover, subjects who participated in either heterosocial skills training or sex education or both, in addition to the laboratory treatment, were no less likely to recidivate than other subjects.

Our treatment evaluation data are similar to those from another behavioral program that found that neither pre–post treatment changes in phallometric measures of sexual age preference nor posttreatment phallometric measures of sexual age preference predicted recidivism (Marshall & Barbaree, 1988). Contrary to the present results, however, no relationship between pretreatment phallometric measures of sexual age preference and recidivism was found in that study, and a lower recidivism rate was obtained for treated as opposed to untreated clients. In addition, other investigators (Abel, Mittelman,

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conviction, 0 = *not*) and treatment (1 = *treated*, 0 = *not*) variables. Under *r* (C) are also shown the setwise multiple correlations, in boldface type. Under *r* (T) only statistically significant relationships are shown.

[a] Rated on a scale of 0–3 where 0 was given if patient never lived with both natural parents and 3 was given if patient lived with both natural parents until age 16.

[b] This variable contributed to the final multiple discriminant function to predict subsequent sexual conviction.

[c] Patients not admitted from the court for a psychiatric assessment were civilly committed or were persons adjudicated not guilty by reason of insanity or unfit to stand trial.

[d] The percentages shown refer to subjects who were known to have had at least one victim in the designated class. They are underestimates because there were many cases where the victim information was unknown.

[e] Number of offenses that raters believed, on the balance of information in patient records, to have occurred up to and including the index offense (including arrests, convictions, and other cases for which convincing information appeared on file).

[f] Amount of physical injury to most seriously injured victim from all previous sexual offenses (including index offense), rated on a 7-point scale (Quinsey & Chaplin, 1982).

[g] Proportion who reported that they preferred children as sexual targets.

* $p < .05$. ** $p < .01$ *** $p < .001$. All tests were one-tailed.

Becker, Rathner, & Rouleau, 1988; Maletzky, 1980) have reported lower recidivism rates for behaviorally treated child molesters than those found in the present study. There are, however, several differences between the treatment program of this investigation and those that have reported more favorable results: The present study involved maximum security psychiatric patients, many of whom had very serious offense histories; no incestuous offenders were included; and there was no extension of the treatment program into the community. The provision of a very brief intervention involving no aftercare or clinical follow-up for serious offenders in the present research may be sufficient to explain the differences in outcome between this and other studies. If so, then the increasing shift in clinical practice toward a relapse prevention model in which the focus is on avoiding and coping with risk in the community (e.g., Laws, 1989) is a step in the right direction. Future research will be required, however, to substantiate such optimism.

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