A Discriminant Analysis of Factors that Predict Sex Offender Recidivism

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Introduction

The ability to predict with any degree of accuracy the outcome of a decision to release or to incarcerate a sex offender, or stated another way, the ability to screen for risk is an ability sought by many for a variety of reasons. Public policy makers, judges, parole boards, and therapists are some of the individuals whose decision-making powers could be improved given some probabalistic ability to predict which offenders might reoffend or what type of recidivism could be expected. This ability has become even more interesting to researchers of late because: (1) There has been an alarming increase in the frequency of sexual assaults to which the officials must respond in the most parsimonious way; (2) the impacts of these assaults on the public have been devastating and must be reduced; and (3) the financial burden associated with these offenses has devastated public budgets because of the resulting prison overcrowding, judicial costs, costs of supervision and treatment, and victim expenses.

More specifically, recent data reported by the Bureau of Justice Statistics indicates that forcible rape increased by over 600 percent per 100,000 residents from 1960 to 1993 (Bureau of Justice Statistics [BJS],1994). A comparison of arrest

data from 1984 to 1993 for sex offenses shows an alarming increase of 14 percent

for offenders under 18 years of age (BJS, 1994). The number of sex offenders in

state prisons across the nation has increased by 68 percent since 1986 during a

period in which the generic inmate population increased by 57 percent (Snell,

1991). The emotional, physical, financial, vocational, behavioral, and social impacts

of these crimes on the victims are only a few of the devastations which have been

documented by Conte (1988).

The rapid growth of sex offender treatment programs nationally has only

recently reversed itself (Freeman Longo et al, 1994). Only the most effective

programs have survived because of limited treatment dollars. The successful

treatment providers have demanded information on treatment components and

statistical and clinical variables which may help to predict the eventual outcome

with their clientele. The cost of sex offender treatment in an intensive residential

community setting for five years has been estimated at $27,500; and the cost of

incarceration without treatment for a similar period has been estimated at $132,

268 to $152,618 (Pithers, 1987). These cost differences demonstrate without

question that there is a need for effective predictive instruments.

A swell of violent crime by young offenders generally fuels a periodic

reactionary ▨get tough� penological philosophy. This has bestowed upon the

United States the dubious distinction of incarcerating more citizens per capita than

any country in the world. Ironically, severe prison overcrowding conditions

inevitably lead to more lenient policies that are necessary to: (1) free up space for

incoming offenders, and (2) protect institutions from lawsuits filed by inmates

claiming protection under the eighth amendment (Ellis, 1991; Anson and Hancock,

1992).

At the root of the controversy over the effectiveness of treatment is an

ongoing debate over the frequency and type of recidivistic activity for sex offenders

(Marques, Day, Nelson, & Miner, 1990). This debate is further complicated by the

fact that recidivistic activity can assume a variety of forms. For example, recidivism

may refer to reconviction for the same type of sexual offense, arrest or

investigation for the same type of offense without conviction, recommission of any

type of sexual offense, or recommission of any non-sex criminal offense. Recidivism

may also refer to parole and probation violations where a breach of agreement has

occurred but no law has been violated such as violation of curfew.

In a review of the literature on recidivism studies for offenders involved in a

variety of criminal offenses, Boone (1994) found wide disparity in the definition of

recidivism. For example, Boone found nine studies that used technical violations as the definition of recidivism (Petersillia and Turner, 1993; Commonwealth of Virginia; Hairston, 1988; Jamison,1981; Murphy, 1981; and Fox, 1980). Boone noted that a number of studies use new arrest as the defining criterion for recidivism (Pertersilia and Turner, 1993; Chavaria, 1992; Jones, 1991; Cadigan, 1991; Schumacker, Anderson and Anderson, 1990; Glaser and Gordon, 1991; Irish, 1989; Corbo, 1988; Greenwood and Turner, 1987; Erwin and Bennett, 1987; Vito, 1986; Walsh, 1985; Arriessohn, 1981; Byles, 1981; Jamison, 1981; and Fox, 1981). Other studies restrict the definition of recidivism to new arrests resulting in conviction (Jones,1991; Hairston,1988; Erwin and Bennett,1987; Corbo, 1988; Vito, 1986; and Lichtman and Smock,1982). The absence of any clear cut standard for the definition of recidivism make comparison of study results and the development of valid predictive instruments very difficult if not impossible (Furby, Weinrott, & Blackshaw, 1989). Less than systematic methodological practices have left a somewhat muddled perspective as to the extent and type of recidivistic involvement of sex offenders; and they have confused and postponed the development of even a rudimentary ability to begin to statistically discriminate recidivists from non-recidivists.

As prison populations continue to increase, the issue of whom to release becomes a much more critical issue. For the reasons noted above, the ability to

accurately predict which sex offenders will recidivate would be of tremendous value. Regrettably, attempts at predicting the success or failure of sex offenders have been disappointing.

Prior Research

Only a few studies have been conducted that focused on identifying factors associated with recidivistic activity for sex offenders. A study conducted by Abel, Mittelman, Becker, Rathner, and Rouleau (1988), evaluated the effectiveness of an outpatient cognitive-behavioral treatment program for 192 pedophiles. All clients who were willing to participate were allowed into the program except those clients who were severely psychotic or brain damaged. The clients included violent offenders with long offense histories and a great range of paraphilias. Treatment included masturbatory satiation and covert sensitization, sex education/sex dysfunction, cognitive restructuring, social skills training, and assertiveness training. Re-offense data were based on the information provided by the patient. All participants were interviewed under the understanding that all information would be kept confidential. Recidivism was evaluated using structured clinical interviews at six and twelve month intervals. The lack of a minimum two year posttreatment follow-up makes it difficult to assess an actual success rate for the program.

At the end of the one year follow up period, 12.2 percent of the 98

pedophiles who were evaluated had recidivated. The results of a discriminant

function analysis indicated that molestation of both boys and girls, as well as

children and adolescents (expressed as a dichotomous variable), correctly classified

83.7 percent of all subjects. Abel et al. reported that in decreasing order of

statistical power the following five pretreatment factors correctly classified 85.7

percent of the offenders as successes or failures: (1) molested both males and

females, as well as children and adolescents, (2) failure to list increased

communication with adults as a treatment goal, (3) committed both "hands on"

and "hands off" offense behaviors, (4) divorced, and (5) molested familial and

non-familial victims. Age, race, education, socioeconomic status, religious

preference, motivation for seeking treatment, frequency of pedophilic acts before

treatment, number of prior offenses, number of victims, and patient's sense of

control over his pedophilic behavior were not significant factors in predicting

recidivism. Treatment dropout rate was 34 percent.

   Marshall and Barbaree (1988) evaluated the effectiveness of a

cognitive-behavioral treatment program for child molesters. Subjects were 68

treated child molesters and 58 untreated child molesters. Only those clients who

were actively psychotic or severely brain damaged were excluded from treatment.

Clients that had IQ scores below 68 were not accepted onto the program. The child molesters were further categorized into incest offenders, molesters of non-familial female children, or molesters of non-familial male children. The control group consisted of matched untreated child molesters who had admitted their crimes and expressed a desire to enter treatment. All of the molesters were assessed at the same time.

The treatment program included electrical aversion, self-administration of smelling salts to decrease deviant arousal patterns, masturbatory reconditioning, skills training, conflict resolution, and the constructive use of leisure time. The clients were also administered pre- and post- plethysmograph tests.

Data sources for recidivism included offender self reports, official police records which included charges (not just convictions) in the United States and Canada, and unofficial reports from child protection and police agencies. Recidivism results were based on the unofficial records which yielded higher rates of recidivism than did the official reports. Higher rates of recidivism for the unofficial reports are to be expected since they may have contained reports of re-offenses which may not have resulted in convictions in the legal system. The follow-up period was from one to eleven years. The recidivism rate for the treated molesters was 13.2 percent compared to a rate of 34.5 percent for untreated molesters.

Marshall and Barbaree (1990) reported that age of the offender and type of sexual contact predicted recidivism. However, these factors were not consistent across offense categories. Being under age 40 was a powerful predictor of recidivism between the two groups of non-familial child molesters but age did not differentiate between incest offenders who re-offended and those that did not. Offenders that had genital-genital or genital-anal contact with their victims and, had molested female children (familial or non-familial females), were more likely to re-offend. Socioeconomic status, number or prior offenses, age of victim, intelligence level, and pre- and posttreatment indices of deviant sexual interests were not related to treatment outcome.

Rice, Quinsey, and Harris (1991) examined the recidivism of 136 non-familial child molesters who participated in a behavioral treatment program in a maximum security psychiatric institution. Treatment consisted of a laboratory-based aversion therapy designed to alter sexual age preference. Penile plethysmography measurements were obtained pre- and post-treatment.

Recidivism was defined as a new sexual offense conviction, being arrested or returned to the facility for any violent offense, an arrest or conviction for any offense, or the return to the institution for any reason. The average follow-up time was 6.3 years. Recidivistic activity was verified from various official correctional

facilities (Lieutenant Governor's Board of Review, the Royal Canadian Mounted

Police, and the National Parole Service of Canada) and institutional files.

Results indicated that 31 percent of the clients were convicted of a new sex offense,

43 percent committed a violent offense, and 56 percent were arrested for a new

criminal offense. Factors associated with recidivism included number or prior

sexual offenses, previous property convictions, the selection of male victims,

diagnosis of a personality disorder, not being married, and more inappropriate

sexual preferences in the initial plethysmograph results. Neither post-treatment

phallometric measures of age preferences or pre-post treatment changes in

phallometric measures of age preference predicted recidivism.

There has been uncertainty related to the use of clinical versus actuarial data

in predictive situations (Gottfredson, 1979; Wormith, 1984). Clinicians have used a

variety of questionnaire measures to attempt to differentiate offenders from

non-offenders, recidivists from non-recidivists (Hanson, 1991). Most of the

available instruments have shown little utility for predicting or differentiating with

the exception of history and interest measures with obvious face validity. McGrath

(1991) reviewed a large number of studies which investigated factors associated

with the risk to recidivate. The methodology which was used to demonstrate

predictive validity was often lacking in the studies that were reviewed. However,

some of the variables which were associated with recidivism were as follows:

unemployed or low socio-economic status, prior sexual offense convictions, male

victims, forced used, unmarried, deviant plethysmographic assessment, multiple

paraphilias, and unrelated to victim. McGrath (1992) pointed out that offense type

is perhaps the most predictive variable which is related to re-offense. Exhibitionists

are the most likely to reoffend and incest offenders are the least likely to reoffend.

He also listed multiple prior convictions, psychopathy, and deviant sexual arousal

as other important variables that are related to recidivism. The current study

attempts to address some of the methodological problems found in the previous

research. Strengths of the study are as follows: (1) examines the recidivistic activity

of a large number convicted sex offenders(N=408); (2) uses a large number of

variables (32) from several categories including: demographic, historical, behavioral,

and legal; (3) multiple definitions of recidivism were used (N=13) and four

categories of recidivism were constructed; and (4) Offenders were tracked up to ten

years following release.

Methodology

Subjects

The study population consisted of 408 sex offenders who had received some

10

sex offender specific treatment in a community correctional center. Two hundred

twenty-one offenders had been released on parole (53 percent) and one hundred

eighty-eight had been released on probation (45 percent). Five offenders were on

inmate status (1 percent). Two offenders (0.4 percent) were not under any form of

supervision. The legal status at the time of their treatment of eleven offenders

treated more than ten years ago (2.6 percent) was unavailable. All offenders

received at least some treatment at one of three community centers. The

time-at-risk or the length of the follow-up was as long as ten years with a mean

of four years (standard deviation 2.4 years), and a median of three years. However,

149 actively failed treatment, 117 passively failed to complete the

treatment for a variety of reasons, and 184 offenders completed treatment as

described in the Procedure Section below.

The offenders were predominantly Caucasian (92.4 percent). The mean

offender age was 33 and the median was 32 years of age. The range was 17 to 73

years of age. The offender I.Q. distribution was roughly normal with a mean of

102.8 and a standard deviation of 20.48. The mean number of years of education

was 11.76. The distribution of marital status was as follows: married 33 percent,

divorced 31 percent, separated 9 percent, never married 27 percent. The mean age

of first arrest was 27.62. However, the modal age of first arrest was 17-20 years of

age. The latter group accounted for 25 percent of the offenders studied. The mean

number of arrests was 3.6 with a range of one to sixty-three. Forty-seven percent of

the population had only one arrest. Fifty-seven percent of the population was not

arrested for a non-sex offense. The mean number of non-sex arrests was 2.09.

Eighty percent of the population studied were arrested for only one sex offense,

12.3 percent were arrested for two sex offenses, and eight percent were arrested

for three or more sex offenses. Juvenile arrests for sex offenses were not available

and are not counted in these numbers. Fifty-eight percent of the population were

arrested for Sexual Abuse of a Child, followed by Forcible Sexual Abuse (16.1

percent), Rape (6.6 percent), and Forcible Sodomy (3.5 percent). Other

offenses included Unlawful Intercourse, Sodomy, Aggravated Sexual

Assault, Rape of a Child, Sodomy on a Child, Lewdness on a Child,

Incest, Sexual Exploitation of a Minor, and Molesting. Forty-five

percent reported that they had been molested as a child. For the current offense,

74.2 percent of the offenders had one victim of record, 17 percent had two victims

of record, and 9 percent had three or more victims of record. Verbal manipulation

was used in 78.5 percent of the offenses, physical violence was used in 18.4 percent

of the offenses, and the threat of physical violence was used in 3.1 percent of the

offenses.

Offending behaviors

The offenses committed involved the following behaviors and frequencies:

fondling of child●s unclothed genitals 76.7 percent, touching of child●s genitals

61.6 percent, exposure of adult genitals to child 61.6 percent, digital penetration

44.1 percent, vaginal intercourse 39 percent, adult contact with child●s genitals

35.7 percent, child masturbates adult 30.2 percent, child instructed to have contact

with another child●s genitals 28.2 percent, child instructed to expose genitals 23.3

percent, simulated intercourse 20.8 percent, anal rape 9.1 percent, child forced to

view explicit materials 8.2 percent, exhibitionism 8.2 percent, adult rape 5.8

percent, child forced to participate in pornographic films 1.6 percent, obscene

phone calls 0.7 percent. A controlled substance was used at the time of the offense

in 13.1 percent of the cases, and alcohol was used at the time of the offense in 20.4

percent of the cases.

Procedure

The treatment of all offenders included in this study occurred in one of three community correctional centers. The capacity of the centers was 15, 30, and 60 residents, respectively. The offenders lived on site and may have maintained employment for a certain number of hours per day which depended on the program level achieved. The program which the offenders completed was generally consistent over the ten year period of the study. It consisted of an assessment phase and a treatment phase with a behavioral assessment system used for most subjects to track performance over time throughout the program.

During the assessment phase each subject received a battery of psychological and sex specific tests including phallometric testing for most subjects. Initial behavioral assessment data were collected. The behavioral assessment data included observations on social skill production, performance in group and individual therapy sessions, deviance ratio scores, and productivity in required class work.

During the treatment phase the required classes included: Victim Empathy, Social and Assertive Skills, Criminal Thinking, Cognitive Restructuring, and Human Sexuality Education. Required therapy groups included Relapse Prevention Group,

Multi-family Group and Sex Modification Group. Each offender generally

participated in groups and classes for a minimum of four nights per week for one to

three hours per night. The Sex Modification Group format included the completion

of sex conditioning trials every other day for a period of several months prior to

additional phallometric testing. Other groups and classes required the completion

of written assignments such as, victim impact statements, apology letters, thinking

error essays and coping papers, as well as daily thinking reports on the cognitive

processing of upsetting events and relapse prevention scripts. A behavioral

assessment was completed on most offenders monthly by all clinical, instructional,

and correctional staff. Means and standard deviations were computed and plotted

over time and maintained on file for subsequent analysis. Program levels and

privileges as well as program completion were granted based on the behavioral

assessment scores. The behavioral assessment data were coded and served

subsequently as the primary source of behavioral data on the subjects included in

this study.

A standard offender database system maintained by the Department of

Corrections also provided some demographic information. Recidivism data were

gathered from the following sources: the Utah Department of Corrections, the Utah

Bureau of Criminal Identification (UBCI), and the National Crime Identification

Center (NCIC). Thirty two variables which included demographic, historical, behavioral, and recidivism data were coded for each subject. Table 1. contains 13 definitions of recidivistic activity for which the offenders were tracked. In cases where multiple recidivistic acts occurred, the most severe form of recidivism was coded. For example, if an offender had been arrested for a misdemeanor sex offense (but not convicted) and, at a later date convicted of a felony non-sex offense, the offender was coded as having been convicted of a felony non-sex offense.

Table l.

Definitions of recidivistic activity

No recidivism	Convicted misd. non-sex offense
Probation revoked	Convicted misd. sex offense
Parole revoked	Reaarested felony non-sex offense
Warrant issued non-sex offense	Rearrested felony sex offense
Warrant issued sex offense	Convicted felony non-sex offense
Rearrested misd. non-sex offense	Convicted felony sex offense

Rearrested misd. sex offense

For purposes of analysis the following four categories of recidivism were constructed based on the above definitions: Technical violations (probation violations, parole violations); Real or suspected non-sex offense (warrant issued non-sex offense, rearrested misd. non-sex offense, convicted misd. non-sex offense, rearrested felony non-sex offense, convicted felony non-sex offense); Real or suspected sex offense (warrant issued sex offense, rearrested misd. sex offense, convicted misd. sex offense, rearrested felony sex offense, convicted felony sex offense); No recidivism v recidivism (no recidivism v all other definitions of recidivism). Discriminant analysis was used to determine: (1) the relative strength of the variables to predict post release recidivistic success or failure and, (2) accuracy of classification based on the discriminant functions generated.

Table 2 represents codes for the variables used in the study and their respective descriptions.

Table 2.

<u>Variable codes with descriptions</u>

Variable	Description	Variable	Description
ABUSEKID	Abused as a child	FORCE1	Type of force used on victim

AGEFIRST	Age at first arrest	INTOX1	Intoxicated at time of offense
ARSTJUV	Number of juvenile arrests	LENCUST1	Amount of time in prison
ARSTNSX	Number arrests-non-sex offenses	MALEVIC1	Number of male victims
ARSTSX	Number arrests-sex offenses	MARITAL1	Marital status
ARSTTT	Total number of arrests	MISCONV	Number of misd. convictions
CONJUV1	Number of juvenile convictions	MISDARR	Number of misd. arrests
CONVNSX	Number of convictions-non sex offenses	NUMINST1	Number of institutionalizations
CONVSXX	Number convictions-sex offenses	NUMPARV1	Number of parole revocations
DRGTIME	Drug use at time of offense	NUMPROB1	Number of probation violations
DRUGUSE	Prior history of drug abuse	NUVIC1	Number of victims
EDUCATE1	Level of education	PRIORSEX	Number of prior sex offenses
FELARRST	Number of felony arrests	RELMTHS1	Number of months since release from prison
FELCONV	Number of felony convictions	REVIC1	Relationship to victim

| FINISHED | Completed treatment | VICAGE1 | Victim age |
| FMVIC1 | Number of female victims | | |

Results

 Analysis was conducted using four models based on various combinations of the definitions of recidivism. Preliminary analysis for each set of recidivism conditions was conducted using stepwise discriminant analysis. Successive forms of analysis were conducted for each set until the most parsimonious set of variables at <.05 or lower level of significance were identified. A GLM regression procedure was then used to estimate the total amount of explained variance for each model and parameter values for individual variables. Discriminant analysis was then conducted for each model to determine classification accuracy based on the derived discriminant coefficients. Parameter estimates, R^2 coefficients and classification results are reported for each model. Variables are listed in the tables in accordance with their power to discriminate between recidivism and non-recidivism.

Model 1: Technical Violations

 This model was created to evaluate the likelihood of an offender committing a probation or parole violation after release. For purposes of this analysis, recidivism was defined as number of probation and parole violations. Tables 3 and 4 present the results of this analysis.

Table 3.

Variables associated with predicting technical violations.

Variable	Estimate	T for Ho	Significance
Finished	-.3231	-.678	.0001
Numparv1	0.1037	3.47	.0006
Lencust1	0.0266	3.15	.0018
Force1	-.1303	-2.17	.0306
Convnsxx	0.5314	3.89	.0001
Misconv	-.0614	-3.44	.0007
Drgtime	-.1662	-2.20	.0286
Abusekid	0.0900	1.98	.0485

R^2 =.3002

Table 4.

Results of classification analysis for technical violations.

	No recidivism	Recidivism	Total
No Recidivism	163 (77.25%)	48 (22.75%)	211 (100%)
Recidivism	19 (19.39%)	79 (80.61)	98 (100%)
Total	182(58.90%)	127 (41.10%)	309 (100%)

As indicated in table 3, the variable with the most discriminating value between offenders who recidivated v offenders that did not was Finished. This variable indicates if offenders had completed treatment, passively failed treatment, or failed treatment outright. The negative sign associated with the parameter estimate indicates that recidivism is more likely to occur for those offenders that did not complete treatment. The results also indicate that the probability for recidivism increased for offenders that had a greater number of parole violations, served longer prison sentences, used physical forms of force on their victims (as opposed to verbal and non-physical coercive forces), had a greater number of convictions for sex offenses, had a fewer number of misdemeanor convictions, reported that they did not use drugs, and were abused as children. Table 4 represents the results of the classification analysis. The model correctly predicted

that no recidivism would occur in approximately 77 percent of cases and that

recidivism could be accurately predicted for approximately 81 percent of the cases.

The model had an overall error rate of approximately 21 percent. Classification

results suggest that it is slightly more difficult to predict non-recidivistic behavior as

opposed to recidivistic behavior and that moderate improvement is gained in

prediction as a result of using the model as specified.

Model 2: Recidivism for non-sex offenses

Analysis was conducted to determine to what extent recidivism for non-sex

offenses could be predicted. Recidivism was defined as any warrant, arrest, or

conviction for any misdemeanor or felony that was not a sex offense and included

the following definitions: warrant issued non-sex offense, rearrested misdemeanor

non-sex offense, convicted misdemeanor non-sex offense, rearrested felony

non-sex offense, convicted felony non-sex offense. Tables 5 and 6 represent the

results of this analysis.

Table 5.

Variables associated with predicting recidivism for non-sex offenses

Variable	Estimate	T for Ho	Significance

Misdarr	0.0639	6.44	.0001
Agefrst	-.0068	-3.42	.0007
Arsttt	-.0688	-3.80	.0002
Numparv1	0.0926	3.78	.0002
Numinst1	0.1393	2.73	.0168
Relmths	0.0016	2.67	.0082
Arstnsx	0.0470	2.54	.0115
Force1	0.1157	2.44	.0474
Marital1	-.0522	-2.29	.0225

R^2=.3298

Table 6.

Results of classification analysis for non-sex offenses

	No recidivism	Recidivism	Total
No Recidivism	179 (84.83%)	32 (15.17%)	211 (100%)

Recidivism	6 (26.09) 71%)	17 (73.91)	54 (100%)
Total	194 (73.21%)	71 (26.79%)	265 (100%)

Number of misdemeanor arrests was the most powerful discriminator between recidivists and non-recidivists. Following this variable, offenders that recidivated had the following characteristics: were younger when first arrested, had fewer total arrests, had a greater number of parole revocations, had an increased number of institutionalizations, were out on release for a greater period of time (time at risk), had a greater number of arrests for non-sex offenses, used physical forms of force on their victims, and were more likely to be single, separated, or divorced at time of arrest.

Model 2 correctly predicted non-recidivism approximately 85 percent of the time and recidivism approximately 72 percent of the time. The overall error rate for model 2 was approximately 21.5 percent. Results of this analysis indicated that it is somewhat more difficult to predict recidivistic activity than non-recidivistic activity. The model as specified showed moderate gains in prediction accuracy over chance.

Model 3 was limited to recidivistic activity involving sex offenses including: warrant issued sex offense, rearrested misdemeanor sex offense, convicted

misdemeanor sex offense, rearrested felony sex offense, convicted felony sex

offense. Results are detailed in tables 7 and 8.

Table 7.

Variables associated with predicting recidivism for sex offenses

Variable	Estimate	T for Ho	Significance
Felconv	0.0868	3.48	.0006
Arstsx	0.1275	3.65	.0003
Arsttt	-.0633	-2.75	.0064

Arstnsx	.0515	2.25	.0256
Felarrst	.0396	2.04	.0423
Finished	-.1001	-2.27	.0244

R^2=.1902

Table 8.

Results of classification analysis for sex offenses

	No recidivism	Recidivism	Total
No Recidivism	175 (82.94%)	36 (17.06%)	211 (100%)
Recidivism	18 (40.00%)	27 (60.00%)	45 (100%)
Total	193 (75.39%)	63 (24.61%)	256 (100%)

Total number of felony convictions was the strongest predictor of recidivism involving sex related offenses. In order of magnitude, characteristics that followed this variable were: greater number of arrests for sex offenses, fewer number of total arrests, increased number of arrests for non-sex offenses, greater number of felony arrests, and failure to complete a treatment

Results of the classification analysis indicated that the model correctly

predicted no recidivism approximately 83 percent of the time and recidivism

approximately 60 percent of the time. The combined overall error rate for model 3

was approximately 29 percent. The model as specified resulted in moderate gains

over chance for predicting non-recidivism but only marginal gains in accuracy in

predicting recidivism.

Model 4: All definitions of recidivism.

All definitions of recidivism were combined and compared against offenders

that did not recidivate for the construction of model 4. Tables 9 and 10 depict the

results of this analysis.

Table 9.

Variables associated with predicting recidivism (all definitions)

Variable	Estimate	T for Ho	Significance
Finished	-.2461	-5.04	.0001
Numparv1	0.0867	3.62	.0003
Convsxx	0.0276	2.34	.0195

R^2=.13333

Table 10.

Results of classification analysis using all definitions of recidivism

	No recidivism	Recidivism	Total
No Recidivism	116 (54.98%)	95 (45.02%)	211 (100%)
Recidivism	50 (25.38%)	147 (74.62%)	197 (100%)
Total	166 (40.69%)	147 (74.62%)	408 (100%)

Only three variables proved to be significant discriminators between recidivists and non-recidivists when all definitions of recidivism were considered. The strongest factor associated with recidivists was failure to complete treatment (Finished) followed by an increased number of parole revocations and a greater total of convictions for non-sex offenses.

The model predicted non-recidivism only slightly better than chance in accurately classifying only 55 percent of the cases. Prediction of recidivistic activity as compared to non-recidivistic activity showed noticeable improved with an accuracy rate of approximately 75 percent. The model had an overall combined

error rate of approximately 35 percent.

Discussion

The business of who and when to release offenders convicted of sex offenses has been, up to this point been, predominantly based on guess work. The need for a valid and reliable instrument that would provide clarity to this enigma is obvious. Our results suggests that the accuracy of predicting recidivistic activity of sex offenders can be moderately improved over chance by relying on certain variables and the specification of certain models.

The results on predicting recidivism as compared to no recidivism are mixed. Results indicate that it is easier to predict recidivism for offenders who are involved in both sex related and non-sex related offenses (models 2 and 3). However, non-recidivism is more successfully predicted for offenders arrested for technical violations and when all recidivistic activity is compared with all non-recidivistic activity (models 1 and 4).

Variables indicative of past criminal involvement such as Number of Parole Revocations, Amount of Time in Prison, Number of Misdemeanor Arrests, Age At First Arrest, and Total Number of Arrests are valuable indicators of future recidivistic activity. One variable that stands out that is not grouped under the

traditional legal category of variables is ▨Completion of Treatment.✕ This variable

was the most influential factor in discriminating between recidivistic and

non-recidivistic activity for all definitions considered as a whole and, more

specifically, technical violations. This finding should come as some gratification to

clinicians who have suspected, but have never been able to prove, that offenders

who complete treatment are much better risks for release than candidates that

never entered treatment or dropped out prematurely.

     Some of our findings are supported by previous investigations. Studies

conducted by Abel et. al (1988), and McGrath (1991) point to importance of marital

status of the offender. Our results, as well as theirs, suggest that offenders that are

single, divorced or separated are at an increased risk of recidivism as compared to

offenders that are married. The importance of prior number of sex convictions and

total number of convictions as confirmed by our study is also supported by findings

of other studies (Rice, Quinsey, and Harris, 1991; McGrath, 1992). This finding is

also bolstered by the importance we identified of the ability of similar variables

such as Number of Misdemeanor Arrests, Number of Misdemeanor Convictions,

Number of Felony Arrests, Number of Felony Convictions, Number of Arrests for

Non-Sex Offenses, and Number of Arrests for Sex Offenses. However, this is

contrary to findings of Abel et. al. (1988) and Marshall and Barbaree (1988) which

failed to identify Number of Prior Offenses as a significant factor in predicting

recidivism. Our results also suggest that type of force used on the victim is a

significant factor in predicting recidivism as similarly identified McGrath (1991).

Perhaps the most glaring observation of our research is that only about 50

percent of sex offenders engaged in any recidivistic activity of any form as can be

clearly seen from table 10. Our findings do not support the all to common

presupposition that recidivism for sex offenders has a high probability of occurring.

An analysis of this same data set (Kramer, Bench, and Erickson, 1996) indicates that

only six percent of the offenders went on to commit felony sex offenses for which

they were convicted.

In comparison to other offenders, sex offenders appear to be better than

average candidates for release. In general these offenders are older, better

educated, come from higher socio-economic backgrounds, and are more

compliant. Given the rather low recidivism rate of sex offenders in general and

certain sub groups of offenders, most of these offenders could be placed on

probation or parole with only minimal risk for reoffending. As noted earlier, the

cost of treatment pales in comparison to the exorbitant costs associated with the

vicious cycle of offending-release-reoffending.

Research on the development of risk assessment instruments remains limited. Development in this area has been hampered by adherence to rigorous methodological designs, small samples, inadequate data, and a lack of prioritization. The increasing population pressures on prisons coupled with the predicted increased in criminal activity in all areas, mandates that prison space only be reserved for those for which there is no other solution. Continued research in the areas of sex offender recidivism and the development of risk assessment instruments is mandatory if behavior by sex offenders is to be treated, rather than simply scorned, and that costly prison space is used judiciously.

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35

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