Factors Associated with Treatment Compliance in a Population of Juvenile Sexual Offenders

John A. Hunter, Jr.1,2 and Aurelio José Figueredo2

Structural equation modeling was utilized to assess predictors of outcomes in a sample of 204 juvenile male sexual offenders participating in community-based treatment programming. Lower levels of client denial at intake predicted successful program compliance. Higher levels of denial were found in nonadjudicated youths. Although program attrition was high (50% in the first year), relatively few youths were expelled for sexual (4.9%) or nonsexual delinquency (6.6%) over a 12- to 24-month period. Program failure during years 1 and 2 was attributable largely to expulsion for failure to comply with attendance requirements and/or therapeutic directives. Youths failing to comply were found to have higher overall levels of measured sexual maladjustment and may be at greater long-term risk for sexual recidivism. Implications of the findings for clinical risk assessment, and directions for future research, are discussed.

KEY WORDS: cognitive distortions; denial; juvenile offenders; sexual offender treatment; treatment compliance.

INTRODUCTION

Consistent with an overall increase in violent crime committed by juveniles during the past decade, there has been a steady rise in the number of juveniles arrested for sexual offenses (Snyder & Sickmund, 1995). It is currently believed that juveniles, particularly adolescent males, are responsible for 30% to 60% of the cases of child sexual abuse, and 20% to 30% of the rapes, that are committed in this country each year (Brown, Flana-
gan, & McLeon, 1984; Fehrenbach, Smith, Monastersky, & Deishner, 1986). Incidence data, coupled with retrospective studies indicating that up to 60% of adult sexual offenders report a juvenile onset to the offending behavior (Abel et al., 1987), have provided impetus for the development of clinical intervention programs for this population. Presently, there are several hundred mental health providers offering services to youth ranging on a continuum of intensity from outpatient counseling to highly structured residential care (Safer Society, 1997).

Concurrently, there has arisen considerable political momentum in the United States in recent years to develop a stronger criminal justice system response to youth-perpetrated violence. As a result, the age at which juveniles can be tried as adults has been lowered in many states, mandatory sentencing guidelines have been developed, and increased local, state, and federal funding has been provided for the development of new correctional programming for youths (Office of Juvenile Justice and Delinquency Prevention, 1997).

Efforts to manage effectively the problem of juvenile sexual offending have led to debate over the relative value of treatment versus criminal justice sanctions in deterring this behavior. While the mental health and criminal justice movements have occasionally been at philosophical and political odds with one another, most public officials and professionals agree that some interface between the two systems is necessary to the development of sound public health policy (National Task Force on Juvenile Sexual Offending, 1993).

Of major current concern is how to determine the most appropriate disposition for any given juvenile sexual offender who enters the criminal justice system: Should this youth be incarcerated or placed in diversionary programming? Decision-making is made relatively complex by virtue of the heterogeneity of the juvenile offender population. Youthful offenders have been found to vary on a number of important dimensions, including: manifest level of delinquency/criminality (Davis & Leitenberg, 1987; France & Hudson, 1993); nature and extent of sexual maladjustment and deviancy (Hunter & Becker, 1994); overall psychological adjustment (Becker & Hunter, 1997; Cooper, Murphy, & Haynes, 1996); and capacity for, and interest in, forming and maintaining healthy interpersonal relationships (Carpenter, Peed, & Eastman, 1995; Ford & Linney, 1995). Furthermore, offending youth range from those with above-average intelligence to the borderline and mentally retarded, and traverse social class, economic, and racial boundaries (Barbaree, Hudson, & Seto, 1993; Stermac & Sheridan, 1993). While many of these youths appear amenable to treatment, others reflect core psychopathy and/or sexual deviancy and are refractory to intervention efforts (Awad & Saunders, 1989; Becker & Hunter, 1993; France
& Hudson, 1993). Still others appear to fail in treatment programs not because of underlying pathology but because they seem to lack motivation and proper familial support and supervision (Borduin, Henggeler, Blaske, & Stein, 1990).

Issues of community safety and finite public resources compound the difficulty of determining the most appropriate dispositions. Errors of judgment regarding placement of high-risk youths in community-based programs may result in further victimization of the public. Conversely, errors regarding commitment of low- to moderate-risk youths to correctional centers exacerbates the problems of overcrowding and the soaring public costs of operating those programs. Of additional concern, such misplacement may deprive these lesser-disturbed youths of normalizing familial and community socialization experiences and, ultimately, contribute to their delinquency by virtue of their confinement in an environment with predominantly antisocial individuals.

Presently, there is not an empirically validated typology of juvenile sexual offenders or a means by which to profile objectively the risk that individual offenders represent for engaging in further sexual or nonsexual delinquency. Furthermore, there does not currently exist an objective method of assessing the likelihood of program failure due to poor motivation and/or familial noncompliance. As such, the judicial system is dependent on the subjective clinical assessment of amenability to treatment and appropriateness of community-based care.

The present study sought to identify variables predictive of client response to community-based alternative treatment programming for juvenile sexual offenders. Outcomes examined included successful program compliance or failure due to noncompliance or delinquency. Constructs assessed as predictors of outcomes included those related to sexual deviancy, general psychological maladjustment, psychopathy, attitudes toward treatment, and legal status. This study was seen as a preliminary step in the development of a comprehensive system for classifying juvenile sexual offenders at the point of intake, including their amenability to treatment, and the risk that they represent for further sexual and nonsexual delinquency.

METHOD

Participants

Participants in the study consisted of 204 male youths referred for community-based juvenile sexual offender treatment between 1991 and 1995. The racial composition of the studied population was 43% Caucasian,
53% African American, and 4% other minority groups (e.g., Hispanic, Asian). These youths ranged in age from 5 to 18, with the mean age being 14.3 at the time of evaluation. A juvenile court was involved in approximately 71% of the referrals, a Department of Social Services in 22%, and another agency (e.g., school) or individual in approximately 7% of the cases. At the time of referral, 73.9% were court-adjudicated, 11.8% under court advisement, and 14.3% without court involvement.

The reference offense for these youths was child molestation (≥3 years older than victim) in 76.0% of the cases, rape of a peer or older individual in 8.8% of the cases, and exposure in 2.9% of the cases. Approximately 12% of the youths were referred for engagement in some other form of sexual misbehavior (e.g., frottage). Of those referred for child molestation, 75% were referred for sexual molestation of a female child and 25% for a male child. Of the rapists, nearly 78% were referred for victimization of a female, with approximately 22% having a male victim. All of the victims of youths referred for exposure were female. Approximately 95% had acted alone in the commission of the reference offense.

The developmental histories of these youths revealed a moderate to high level of maltreatment and previously existent emotional and behavioral disturbances. Over 42% had a previous arrest record for a nonsexual offense, with slightly less than 10% having been previously arrested for a sexual offense. A personal history of child sexual abuse was reported by 55.5% of these youths. A history of substance abuse was indicated at the following frequencies: none, 61.3%; some (1–3 times per month), 19.7%; and frequent (more than 3 times per month), 19.0% of the cases. A history of suicidal ideation and/or gesturing was present as follows: none, 58.7%; some (history of 1–3 episodes), 31.5%; and frequent (history of more than 3 episodes), 9.8% of the sample.

**Description of Assessment Procedure**

Data were drawn from the Regional Juvenile Sex Offender Program (RJSOP) operated by the Pines Treatment Center in Portsmouth, Virginia. This program was developed, with the support of a demonstration grant from the Virginia Department of Criminal Justice Services, to provide specialized alternative intervention to less chronically and severely disturbed juvenile sexual offenders in the Tidewater, Virginia, area. Youths accepted into the program were typically referred from one of three participating agencies in each of the region's cities: the juvenile court, the Department of Social Services, or a school system.
Each referred youth was comprehensively evaluated for placement in the program prior to the initiation of treatment. Acceptance decisions were based upon two sets of criteria: amenability to treatment (judged by on attitudes of responsibility and accountability) and level of sexual and psychiatric maladjustment. With regard to the former, those individuals who completely denied having engaged in any sexual misbehavior (reference offense or other), or having a potential for the same, were generally not accepted. A decision was made during the course of program operation to accept some youths for treatment who were in total denial when there appeared to be a potential to break through the denial with continued counseling. However, these youths did not remain in the program if some level of problem acknowledgment was not achieved in 6 weeks. With regard to the latter, those youths that were judged as too psychosexually, and/or psychiatrically, impaired to be safely and effectively treated on a community-based level were not accepted. Those deemed as not appropriate for admission were referred back to the agency of referral with recommendations for alternative disposition (e.g., correctional placement, residential care).

Clinical assessment typically included record review, clinical interviewing, and administration of objective measures of psychosocial and psychosexual functioning, including the Minnesota Multiphasic Personality Inventory (MMPI or MMPI-A) and the Multiphasic Sex Inventory (MSI). Measures were administered consistent with publisher standardization guidelines, including client age and reading ability. Both measures were administered to adolescents 13 years of age or older that evidenced sufficient reading ability (based on record review and observation). The MMPI was available in 57.5% (n = 117) of the cases, and MSI data in 65.2% (133) of the cases. The MMPI protocols were further subjected to validity assessment (see Archer, 1997); this resulted in 88.0% (103) being judged valid for interpretation. Because these researchers were of the opinion that validity criteria have not yet been well established for the MSI, no such validity assessments were conducted on these protocols.

The MMPI (Hathaway & McKinley, 1942) is an objective personality inventory designed to provide descriptions of personality functioning on 3 validity and 10 clinical scales: Lie, F, K, Hypochondriasis, Depression, Hysteria, Psychopathic Deviate, Masculinity-Femininity, Paranoia, Psychasthenia, Schizophrenia, Mania, and Social Introversion. Recently, a version of this instrument was developed specifically for adolescents (MMPI-A) (Butcher et al., 1992).

The MSI (Nichols & Molinder, 1984) is a specialized instrument for assessing juvenile and adult sexual offenders. It has 21 clinical scales, including those differentiating subtypes of offenders (e.g., rapist, child mo-
lester, exhibitionist) and those which measure sexual obsessions and paraphilic interests. This instrument also has four validity and three accountability scales.

Youths accepted into the program were generally placed in a treatment protocol that consisted of weekly specialized group therapy, biweekly family therapy, and weekly individual therapy. The program addressed areas of therapeutic focus outlined by Becker and Hunter (1997). Specifically, attention was given to values clarification, sexual education, social skills training, anger management, correction of cognitive distortions, improvement of impulse control and judgment, empathy enhancement, and relapse prevention. An advisory board that consisted of representatives from key referral agencies in the Tidewater area oversaw the program's operation.

Procedures

Data were coded for analysis from an extensive record review of the 204 participants. Trained research assistants, using a data-coding instrument designed by the authors, conducted these reviews. The clinical records from which data were coded were generally comprehensive and included reason for referral, background information, presenting clinical characteristics, and disposition. For those youths accepted for treatment, the charts also included clinical progress notes and information about the client's status at the time of review or discharge.

The coded data instrument used in the study included: type of sexual offense leading to referral; source of referral and client's legal status at intake; background information related to maltreatment experiences and history of emotional, behavioral, and academic problems; and familial history. The coding instrument also provided criteria for determining categorization of clinical outcome for the program participants. Five categories of clinical outcome were defined a priori: satisfactory program compliance or completion; expulsion for failure to comply with attendance and/or therapeutic directives; expulsion for engagement in nonsexual delinquency; expulsion for engagement in sexual delinquency; and expulsion from the program for reasons extraneous to the attitude and/or behavior of the youth (e.g., family moved out of area).

Prior to the initiation of formal data collection, interrater reliability was established by having the two research assistants independently code data from 20 randomly selected files. This resulted in 83.8% agreement between the raters on the scoring of multiple selected variables.

Charts that contained missing data essential to the completion of coding activities were reported to the clinical supervisor of the outpatient treat-
ment program who then ensured that the missing documentation was provided. In a few instances, this involved the clinical caseworker reporting the information to the research assistant.

The first author reviewed all coded data before they were entered into the computerized database. These reviews were conducted to ensure that chart coding was complete and that the case met criteria for inclusion in the study. Inclusion criteria centered on gender of client (male), completion of a clinical intake interview, and an elapsed period of ≥12 months following intake.

Psychometric assessment data from the MMPI and the MSI were also loaded into the database as they were available. These data were included so as to permit an analysis of their contribution to the prediction of various clinical outcomes.

The outcome measures were coded as a system of 3-point scales representing the various outcomes and how, and in what circumstances, each study participant either failed or successfully complied with treatment. For easy reference, we apply the convention throughout this paper that the letter X represents an exogenous (independent) variable and the letter Y designates an endogenous (dependent) variable. These alternative outcomes were ranked and numbered in decreasing order of severity.

Y1. Expelled from program for sexual recidivism
Y2. Expelled for engagement in delinquent behaviors of a nonsexual nature
Y3. Expelled due to noncompliance with attendance requirements and/or therapeutic directives
Y4. Discharged from program due to circumstances unrelated to behavior of the youth (e.g., the family moved out of the area)
Y5. Remained in and/or completed treatment program.

For the first four outcomes (Y1–Y4), the 3 points on each scale were used to represent whether and when each particular mode of treatment failure occurred. The numerical scores for these four unfavorable outcomes were ranked from best to worst within each category based upon whether each mode of treatment failure either (0) never took place during the entire length of treatment, (1) took place some time after the first 12 months of treatment, or (2) took place some time during the first 12 months of treatment. The fifth scale (Y5), representing relative treatment success, was ranked from least to most favorable outcome based upon whether the participant (0) did not either remain in or complete at least 12 months of treatment, for whatever reason, (1) remained in or completed 12 months of treatment, and (2) remained in or completed more than 12 months of treatment. Because these five scales represented alternative causes for
either favorable or unfavorable outcomes of treatment, they were necessarily mutually exclusive categories for all study participants that were accepted into the program and provided treatment.

However, there was also a residual category of those who were initially rejected for treatment. This final category was needed to distinguish between those initially accepted for but not completing treatment, for whatever reason, and those not even initially accepted for treatment. As a group, the rejected individuals were coded \([0,0,0,0,0]\), representing the only class of cases where a \([0]\) on the fifth outcome scale (Y5) was not associated with either a \([1]\) or a \([2]\) on any of the first four outcome scales (Y1–Y4). For example, a youth who was expelled for a nonsexual offense within the first 12 months of treatment would be coded \([0,2,0,0,0]\) and a youth who was expelled for sexual recidivism after the first 12 months of treatment would be coded \([1,0,0,0,0]\). Thus, a study participant was coded as having been initially rejected for treatment if that individual was coded as not having remained in or completed treatment but was not coded as either expelled or discharged from treatment for any particular reason.

**Data Analytic Strategy**

In addition to descriptive data analysis, multivariate statistical analyses were performed using the SAS (SAS Institute Inc., 1989) and EQS (Bentler, 1989) software packages. Covariance matrices were constructed using the SAS CORR procedure; confirmatory factor analyses were performed and related factor analytic structural equation models were developed using the EQS causal modeling program. A factor analytic structural equations model consists of two major components: (1) a measurement model and (2) a structural model:

_The Measurement Model._ This model is a confirmatory factor analysis in which a number of directly measured items (manifest variables or indicators) are related to a smaller set of hypothetical constructs (latent variables or common factors) presumed to underlie the correlations between them.

Because many of these measures are colinear, two common factors were constructed for the hypothetical constructs relating to psychopathology (using subscales of the MMPI) and sexual maladjustment (using subscales of the MSI). The Social Sexual Desirability (SSD) scale of the MSI was used as an additional predictor of the various subscales of both the psychopathology (MMPI) and the sexual maladjustment (MSI) factors in order to control statistically for this potential source of bias among these self-report measures. This ensured that the common factor variance forming the psychopathology and sexual maladjustment factors were not attrib-
utable to spurious correlations between measures that might have been caused by SSD.

The Structural Model. The structural component of the model is essentially a path analysis between the latent constructs that were produced by the factor analysis. Path analysis, or structural equations modeling, consists of imposing a restricted set of causal pathways, also specified *a priori*, and testing them against the correlations among constructs. Structural equation modeling permits the modeling of factor intercorrelations by any combination of direct effects, indirect effects, spurious effects, and residual effects (James, Mulaik, & Brett, 1982).

Path analysis was needed in this study because we were dealing with several mutually exclusive outcomes, which were, by definition, highly intercorrelated. Therefore, the various causes of each discrete outcome had to be discriminated from each other by statistically controlling for the possible indirect effects of the model predictors through each of the other outcomes. This was done hierarchically by first ranking the outcomes in order of severity and then including each of the causally prior outcomes as covariates in each successive structural equation. Using \([X_1, X_2, X_3, \ldots]\) to represent our set of model predictors, this analytical strategy can be represented schematically as follows.

\[
Y = X_1 X_2 X_3; \\
Y_2 = Y_1 X_1 X_2 X_3; \\
Y_3 = Y_2 Y_1 X_1 X_2 X_3; \\
Y_4 = Y_3 Y_2 Y_1 X_1 X_2 X_3; \\
Y_5 = Y_4 Y_3 Y_2 Y_1 X_1 X_2 X_3. 
\]

Thus, each successive endogenous variable statistically controlled for the effects of all prior endogenous variables and, therefore, any indirect effects of the exogenous variables that might have been causally mediated through the former. The fundamental logic of this procedure is essentially equivalent to that of sequential canonical analysis, which Gorsuch and Figueredo (1991) have extended and applied to the design of exploratory path analysis (Cohen & Cohen, 1983).

Structural equation models were evaluated by the use of the statistics chi-square, the Bentler–Bonnett Comparative Fit Index (CFI), the Bentler–Bonnett Normed Fit Index (NFI), and the Bentler–Bonnett Nonnormed Fit Index (NNFI) (Bentler & Bonnett, 1980). Chi-square measured the statistical goodness-of-fit of the covariance matrix observed to that reproduced by the factor model. A significant chi-square is therefore grounds for rejection of the factor model specified, and a nonsignificant chi-square is grounds for its tentative acceptance. The CFI, NFI, and NNFI are measures of practical goodness-of-fit for large sample sizes. With large samples, a small effect will
result in a statistically significant lack of fit. However, with such large samples, the CFI, NFI, and NNFI values should be greater than .90 to be considered as satisfactory levels of practical goodness-of-fit, even if significant chi-square values are obtained (Bentler & Bonnett, 1980; Bentler, 1989).

RESULTS

Clinical Outcomes

Of those youths referred to RJSOP for assessment and treatment, 59.6% \((N = 121)\) were accepted into the program. Of those youths, 50.4% remained in the program for at least 12 months and were deemed to be making satisfactory progress at the end of the first year of treatment. Of the remainder, 22.6% were expelled due to noncompliance with attendance requirements and/or therapeutic directives, 3.4% were expelled for engagement in delinquent behavior of a nonsexual nature, 3.4% were expelled from the program for sexual recidivism; and 20.2% were discharged from the program due to circumstances unrelated to the behavior of the youth. It is noted that judgments regarding apparent therapeutic progress were based on clinical observation and agency and parental feedback and should not be construed as reflective of treatment effectiveness, \textit{per se}.

For those remaining in treatment at the end of the first 12 months \((n = 60; 29.4\%)\), 46.7% \((28)\) had completed the program at the time of the current study. The average length of time required for program completion was 21.9 months. Of the remaining youths, 16.7% \((10)\) were still in treatment at the time of the current study, and 36.7% \((22)\) had been discharged as unsuccessful in fulfilling program requirements. Of those discharged as not successfully completing the program, 59.1% \((13)\) were dismissed for noncompliance, 18.2% \((4)\) for nonsexual delinquency, 9.1% \((2)\) for sexual recidivism, and 13.6% \((3)\) for reasons extraneous to the attitude or behavior of the youth.

The Measurement Model

The two hypothesized common factors for general psychopathology (MMPI) and for sexual maladjustment (MSI) were confirmed. Furthermore, there was no significant factor intercorrelation between these two latent constructs. As predicted, SSD was a statistically significant and strong predictor of all of the measures used for both of these latent constructs. Nevertheless, all but one of the hypothesized factor loadings were found statistically sig-
Table I. Factor Pattern (Standardized Regression Coefficients) for Sexual Maladjustment (MSI) and General Psychopathology (MMPI), Controlling for Social Sexual Desirability (SSD)

<table>
<thead>
<tr>
<th>Subscale</th>
<th>SSD</th>
<th>MSI</th>
<th>MMPI</th>
</tr>
</thead>
<tbody>
<tr>
<td>JUS</td>
<td>.513*</td>
<td>.509*</td>
<td></td>
</tr>
<tr>
<td>TXTATT</td>
<td>.704*</td>
<td>.328*</td>
<td></td>
</tr>
<tr>
<td>SEXOB</td>
<td>.708*</td>
<td>.426*</td>
<td></td>
</tr>
<tr>
<td>CDIM</td>
<td>.707*</td>
<td>.332*</td>
<td></td>
</tr>
<tr>
<td>CM</td>
<td>.697*</td>
<td>.457*</td>
<td></td>
</tr>
<tr>
<td>RAPE</td>
<td>.365*</td>
<td>.888*</td>
<td></td>
</tr>
<tr>
<td>EXH</td>
<td>.476*</td>
<td>.600*</td>
<td></td>
</tr>
<tr>
<td>PAR</td>
<td>.402*</td>
<td>.815*</td>
<td></td>
</tr>
<tr>
<td>SEXDYS</td>
<td>.338*</td>
<td>.786*</td>
<td></td>
</tr>
<tr>
<td>SEXKNO</td>
<td>.861*</td>
<td>.069*</td>
<td></td>
</tr>
<tr>
<td>PD</td>
<td>.633*</td>
<td>.737*</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>.594*</td>
<td>.765*</td>
<td></td>
</tr>
<tr>
<td>PT</td>
<td>.624*</td>
<td>.772*</td>
<td></td>
</tr>
<tr>
<td>SC</td>
<td>.609*</td>
<td>.785*</td>
<td></td>
</tr>
<tr>
<td>MA</td>
<td>.621*</td>
<td>.750*</td>
<td></td>
</tr>
<tr>
<td>SI</td>
<td>.618*</td>
<td>.758*</td>
<td></td>
</tr>
</tbody>
</table>

*p < .05.

Factors Associated with Treatment Compliance

The structural model, including the measurement and structural components, was statistically rejectable ($\chi^2(435) = 891.037, p < .001$), as is usual for large sample sizes. Nevertheless, the model was acceptable by the parsimonious practical indices of fit (NFI = .871, NNFI = .895, and CFI = .927), indicating that the model does successfully summarize the empirical data with few structural parameters. The structural coefficients representing the necessarily inverse correlations of the alternative treatment outcomes (Y1-Y5) with each other were omitted from any detailed discussion for clarity and brevity of exposition. These coefficients were left in the structural equations for the purpose of statistical control of indirect effects, regardless of statistical significance, and are presented in Table II for easy reference.
Table II. Standardized Structural Coefficients Between Successive Endogenous Outcome Variables (Y1–Y5)

<table>
<thead>
<tr>
<th></th>
<th>Y1</th>
<th>Y2</th>
<th>Y3</th>
<th>Y4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y2</td>
<td>-.038</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y3</td>
<td>-.069</td>
<td>-.113</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y4</td>
<td>-.076</td>
<td>-.122</td>
<td>-.210*</td>
<td></td>
</tr>
<tr>
<td>Y5</td>
<td>-.124*</td>
<td>-.175*</td>
<td>-.334*</td>
<td>-.380*</td>
</tr>
</tbody>
</table>

*p < .05.

Table III. Standardized Structural Coefficients Between Psychometric Common Factors and Successive Endogenous Outcome Variables (Y1–Y5)

<table>
<thead>
<tr>
<th></th>
<th>SSD</th>
<th>MSI</th>
<th>MMPI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y1</td>
<td>-.030</td>
<td>-.039</td>
<td>.036</td>
</tr>
<tr>
<td>Y2</td>
<td>.171*</td>
<td>.056</td>
<td>-.009</td>
</tr>
<tr>
<td>Y3</td>
<td>.097</td>
<td>.227*</td>
<td>.013</td>
</tr>
<tr>
<td>Y4</td>
<td>.181*</td>
<td>-.075</td>
<td>-.017</td>
</tr>
<tr>
<td>Y5</td>
<td>.182*</td>
<td>-.041</td>
<td>.066</td>
</tr>
</tbody>
</table>

*p < .05.

The effects of the two psychometric common factors, representing general psychopathology (MMPI) and sexual maladjustment (MSI), were also tested. Only one of the direct effects of either of the two latent common factors was statistically significant: that of sexual maladjustment (MSI) upon expulsion due to noncompliance (Y3). The remaining coefficients were also left in the structural equations because of their conceptual importance regardless of statistical significance and are shown in Table III. Although MMPI and MSI were already adjusted for SSD, this variable was also retained in the structural equation regardless of statistical significance to control for any self-report biases in the remaining predictors (Cohen & Cohen, 1983). These effects are also shown in Table III. SSD, which was originally conceived as merely a control variable, produced several significant direct effects of its own upon the treatment outcomes. The interesting implications of this finding are considered further in the discussion below, in conjunction with those of the other predictors that were also found significant.

The statistically significant direct effects of all other self-report predictors are shown in Table IV. The risk of expulsion for sexual recidivism (Y1) was somewhat elevated if the presenting offense at intake was initially for sexual exposure (EXPSR). The risk of expulsion for nonsexual delinquency (Y2) was elevated by the participant's self-reported lack of accountability (NOACCNT) for his own behavior but was reduced by...
approximately the same amount if the participant’s ethnicity was African-American (AFRO). The risk of expulsion for noncompliance (Y3) was not predicted by anything other than sexual maladjustment (MSI), which elevated it substantially. The risk of discharge for behaviorally unrelated circumstances (Y4) was mysteriously reduced by the participant’s self-reported level of defensiveness (DENIAL). Because this direct effect was statistically adjusted for other causes of expulsion, it casts a certain degree of suspicion on the purportedly unrelated nature of the discharge. Finally, the participant’s chances of remaining in or completing the program were also systematically reduced by the participant’s self-reported level of defensiveness (DENIAL). None of the other hypothesized predictors of the various treatment outcomes was found statistically significant.

**Outcomes by Denial**

Table V shows successful program compliance status by level of denial/defensiveness at intake. For simplicity, these tables show the relationship between selected predictive variables and outcomes at 12 months. Outcomes at 12 months were predicted by the same variables as outcomes beyond 12 months. The former was chosen for illustrative purposes because it was an elapsed period of time common to all participants. Given the previously discussed ambiguity associated with being discharged for behaviorally unrelated circumstances, these cases were omitted from the tables. As illustrated, nearly 75% of those youths who showed no denial at intake successfully complied with program requirements for at least 12 months. Only slightly over 25% of those in complete denial at intake successfully complied with the program over the ensuing 12 months. Significant correlations between denial and other variables are displayed in Table VI.
DISCUSSION

As data from the current study reflect, there is often a high rate of attrition in juvenile sexual offenders accepted for treatment: only about one-half of the youths accepted into the treatment program remained 12 months later. Approximately 20% of these youths were discharged for reasons extraneous to their behavior and attitudes (e.g., parental move from the area, etc.); nearly 33% were expelled from the program as treatment failures. However, of the latter group, sexual recidivism accounted for only 11.4% of the treatment failures. Over 75% of the treatment failures were accounted for by youths who were discharged from the program for being noncompliant with attendance and/or therapeutic directives. Record review suggested that these were youths who were generally uncooperative, oppositional, and inconsistent in their at-

Table V. Percentages of Program Compliance x Level of Denial at Intake

<table>
<thead>
<tr>
<th>Program compliance</th>
<th>Level of denial</th>
<th>None</th>
<th>Some</th>
<th>Complete</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td></td>
<td>27.4</td>
<td>48.5</td>
<td>71.4</td>
</tr>
<tr>
<td></td>
<td>(n = 14)</td>
<td>(n = 16)</td>
<td>(n = 5)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td></td>
<td>72.6</td>
<td>51.5</td>
<td>28.6</td>
</tr>
<tr>
<td></td>
<td>(n = 37)</td>
<td>(n = 17)</td>
<td>(n = 2)</td>
<td></td>
</tr>
</tbody>
</table>

*At 12 months.

Table VI. Significant Correlations Between Denial/Defensiveness and Other Predictor Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Degree of denial/defensiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjudication status</td>
<td>-.20**</td>
</tr>
<tr>
<td>(n = 196)</td>
<td></td>
</tr>
<tr>
<td>Number of perpetrators in reference offense</td>
<td>.16*</td>
</tr>
<tr>
<td>(n = 196)</td>
<td></td>
</tr>
<tr>
<td>Perpetrator race = Caucasian</td>
<td>.15*</td>
</tr>
<tr>
<td>(n = 197)</td>
<td></td>
</tr>
<tr>
<td>Level of accountability</td>
<td>.52***</td>
</tr>
<tr>
<td>(n = 193)</td>
<td></td>
</tr>
<tr>
<td>Number of previous arrests for nonsexual offense</td>
<td>.29**</td>
</tr>
<tr>
<td>(n = 141)</td>
<td></td>
</tr>
<tr>
<td>History of school truancy</td>
<td>.18*</td>
</tr>
<tr>
<td>(n = 138)</td>
<td></td>
</tr>
</tbody>
</table>

*p < .05.
**p < .01.
***p < .001.
tendance. The above data trends, high attribution for noncompliance and low sexual recidivism, continued in the second year.

While the fate of youths discharged for noncompliance could not be determined from the present data set, data from this and other studies suggest that they may have a relatively high long-term risk of sexual and nonsexual delinquency (Marques, Day, Nelson, & West, 1994). In the current study, youths expelled for noncompliance showed higher levels of sexual maladjustment on the MSI. Previous studies have shown that offenders who fail to complete treatment programs have higher long-term rates of recidivism than their more compliant counterparts (Marques et al., 1994). Elevated risk in such individuals may be linked not only to the absence of therapeutically acquired skills, but also to attitudes that help justify socially irresponsible or exploitive behavior. In this regard, at least two previous studies suggest that cognitive distortions about client accountability (i.e., higher levels of victim blame) are associated with increased offense rates in juvenile offenders (Kahn & Chambers, 1991; Schram, Milloy, & Rowe, 1991).

Attitudes of denial at the time of referral proved to be predictive of who successfully complied with treatment over the ensuing 12 to 24 months following program acceptance. Youths who acknowledged complicity at intake were almost three times more likely than those in complete denial, and nearly 50% more likely than those manifesting partial denial, to be in successful compliance with program expectations one year later.

As expected, attitudes of denial appeared to be closely related to degree of client accountability. Those youths with high denial were also those who took less responsibility for their sexual misbehavior. However, neither client denial nor accountability was closely related to level of sexual deviancy, overall psychopathology, or psychopathic deviance as measured by the MMPI. Instead, client denial and accountability appeared to be related to circumstantial variables such as adjudication status. While the majority of those who were fully adjudicated completely acknowledged their offense, relatively few of those who had no court involvement did so. Similarly, most fully adjudicated youths were judged as taking full responsibility for their sexual misbehavior, in contrast to few of the nonadjudicated youth.

The data from this study clearly point to the potential value of court involvement in increasing client accountability and receptivity to intervention. This finding is consistent with clinical observations that adjudicated youths are frequently more motivated for treatment than those not involved with the criminal justice system and less resistant to therapeutic directives (National Task Force Report, 1993). However, it should be noted that while adjudication status appeared to be associated with attitudes toward treatment, it did not directly predict treatment outcomes. Therefore, it appears
that the influence of adjudication is on improving readiness for treatment, as opposed to being a deterrent to delinquency.

The above data suggest that client defensiveness may be more a circumstantial than a trait variable. However, denial does not appear to be directly related to affective state as measured by the MMPI. Instead, it appears to be an attitudinal state independent of level of psychopathology or sexual adjustment. It cannot be determined from the present data whether defensiveness regarding one's sexual offense is independent of, or linked to, general psychological defensiveness. Likewise, these data do not preclude the interpretation that attitudes of denial and defensiveness may be linked to psychopathy, at least in some cases. While there was no apparent relationship between psychopathic deviance as measured by the MMPI and denial of sexual wrongdoing, denial did appear related to variables indicative of psychopathy. Specifically, those individuals who were high in denial were those who were more likely to have been previously arrested for a nonsexual offense and those who were more likely to have a history of school truancy. While it may be that most youths who manifest denial are not highly psychopathic, and that their denial may be more a function of circumstance than psychological style (no court or familial pressure to admit), it is likely that some of them habitually take little responsibility for their behavior.

Denial and defensiveness, even though most likely associated more with circumstance than character, may well remain stable over time. Although changes in these attitudes were not specifically assessed in the current study, the fact that such attitudes at intake predicted outcomes of 1 to 2 years later strongly suggests their temporal stability. If, as it appears, such attitudes are linked to external contingencies (e.g., legal circumstance), then they may well not change unless the circumstances that gave rise to them change. The above interpretation would be consistent with clinical observations that youths in denial often do not admit their offense unless, and until, legal and/or parental pressure is brought to bear.

The influence of SSD on the prediction of outcomes appears to be related to attitudes of openness and willingness to disclose. This scale has been found to be associated with honesty and a lack of embarrassment in acknowledging normal sexual interests (Nichols & Molinder, 1984). In the current study, individuals who scored high on this scale appeared more willing to acknowledge the presence of sexual problems and had a positive attitude toward receiving help. While the scale's positive association with an increased likelihood of nonsexual delinquency is not clear, it may simply reflect the individual's greater willingness to admit to having violated the terms of probation or behaved in a manner inconsistent with therapeutic directives. However, it is also possible that high scores on this scale were
associated with higher levels of impulsivity. This possibility is raised because of the positive correlation between scores on this scale and the number of previous victims, heightened level of deviant sexual interest as measured by the MSI, and history of suicidal ideation and/or gesturing. A more complete explication of the scales linked with both positive and negative treatment outcomes will have to await further research.

**Summary and Recommendations**

Overall, the results of this study suggest that clinical assessment and risk profiling efforts which focus primarily on the client's immediate potential for reoffending may be somewhat misguided. Most youths in the present study who failed to complete treatment were those who were non-compliant with therapeutic requirements rather than those who engaged in sexual or nonsexual delinquency. Attitudes of openness and accountability proved to be the best predictors of a positive treatment outcome. These attitudes appeared to be more closely related to external contingencies (e.g., legal circumstances) than underlying psychopathology, although more research in this area is needed.

While attitudes of denial and accountability appear to be important to understanding the juvenile's response to clinical intervention, they do not by themselves completely explain the treatment outcome process. Other variables must be identified which either directly or interactively contribute to determining whether treated youths are able to comply with program requirements and avoid engagement in recidivistic behaviors. Furthermore, the present data do not provide full insight about the origins of attitudes toward treatment and their malleability. Future research should more fully explore the etiology of attitudes toward professional help and the efficacy of innovative systemic strategies for maximizing positive client engagement in prescribed rehabilitative programming.

**REFERENCES**


Factors Associated with Treatment Compliance


