

Rec'd 4-9-01
Grant # 98-JU-FK-0008

Juvenile Sex Offender Typology Pilot Study: Final Report (Revised)

John A. Hunter, Ph.D.

University of Virginia

Aurelio Jose Figueredo, Ph.D.

University of Arizona

Neil Malamuth, Ph.D.

UCLA

Judith Becker, Ph.D.

University of Arizona

Abstract

A combination of archival and prospective data was successfully collected on 182 adolescent males with institutionally documented histories of sexual offending. Structural equation modeling was used to assess theorized relationships between developmental risk factors, personality mediators, and sexual offense characteristics in predicting whether sexual offenses were committed against pubescent females or prepubescent children. Follow-up univariate regression analyses were conducted in support of more refined assessment of differences between the studied offender groups. Consistent with study hypotheses, offenders of children showed greater deficits in psychosocial functioning than offenders of pubescent females, were less aggressive in their sexual offending, and were more likely to offend against victims to whom they were related. Psychosocial Deficits played an important mediating role in explaining the effect of exposure to violence against females on both sexual aggression and non-sexual violence and delinquency. Physical abuse by a father or stepfather, and exposure to violence against females, contributed to the prediction of co-morbid anxiety and depression, while non-coercive childhood sexual victimization by a male non-relative predicted adolescent sexual perpetration against a male child.

Overview

The number of juveniles arrested for sexual crimes steadily increased from the mid-1980's through the mid-1990's and has been linked to an observed rise in juvenile perpetrated violence in the United States during the past decade. It is estimated that juveniles account for one-fifth of the rapes, and one-half of the cases of child sexual molestation, committed in the United States each year (Fehrenbach, Smith, Monastersky, and Deisher, 1986). Adolescent males are responsible for the majority of these assaults (Hunter and Becker, 1999).

Increased public and professional cognizance of the problem of juvenile sexual offending has spawned a proliferation of treatment programs for this population and provided impetus for an array of new legislation designed to raise the level of accountability of juveniles in the criminal justice system (Hunter & Lexier, 1998). In response to increased juvenile perpetrated violence, substantive changes have been made in legal statutes, or regulatory policy, in over 90% of the states. This reform includes change related to the following: juvenile court waivers, sentencing guidelines, record confidentiality, community notification, registration requirements for sex offenders, and correctional programming.

It is the consensus of experts that the successful management of juvenile sex offenders necessitates both criminal justice and mental health interventions (The National Task

Force on Juvenile Sexual Offending, 1993). Youths need to be held legally accountable for their behavior, but also afforded opportunities for rehabilitation. The latter, however, cannot occur at the expense of public safety. While younger and less disturbed youths may be appropriate for community-based programming, more dangerous and predatory youths require placement in secure settings.

The importance of maintaining public safety, and prudently managing limited community resources, adds gravity to judicial and clinical decision-making on juvenile sexual offenders. Decisions regarding disposition are complicated by the observation that adolescent male sexual offenders are a heterogeneous population with regard to crimes committed and measured level of criminological and psychological disturbance (Becker & Hunter, 1997). Some appear very amenable to treatment and at low risk to re-offend, while others seem recalcitrant and destined to more chronic and serious patterns of offending.

At issue is how to make sound disposition decisions on individual juvenile sexual offenders who present to criminal justice and mental health professionals. Currently, there does not exist an empirically based methodology for classifying juvenile sexual offenders or assessing their risk for further sexual or non-sexual delinquency. As a result, decisions are largely based on subjective considerations and what can be gleaned about juveniles from the study of adult sex offenders. This void in assessment methodology contributes to public and professional uncertainty as to the viability of community-based management of juvenile sexual offenders, and perhaps results in a greater number of these youths being institutionalized than necessary.

The absence of a comprehensive system for classifying juvenile sexual offenders also hinders treatment and prevention efforts. Treatment providers often provide the same clinical programming to all referred youths because of an absence of research that differentiates the unique characteristics and intervention needs of particular subtypes of youths. Therefore, there is little variation in therapeutic focus or approach regardless of the nature and chronicity of the offending behavior displayed. Given the aforementioned heterogeneity of the population, and apparent differences between youths in type and severity of disturbance, this lack of specificity in clinical programming likely contributes to poorer outcomes. Furthermore, the absence of a clear understanding of developmental pathways associated with particular types of offending complicates the design of early intervention programs for high-risk youths.

Research conducted to date suggests that, like their adult counterparts, juveniles that sexually offend against adolescent peers or adults have a different set of characteristics than those that offend against children. These males have been found to predominantly assault females and individuals that are either strangers or acquaintances (Hunter, Hazelwood, & Slesinger, in press). They are also more likely to commit sexual crimes in association with other types of criminal activity (e.g. burglary) and appear more generally delinquent and violent (Hunter et al., in press; France & Hudson, 1993; Kavoussi, Kaplan, & Becker, 1988; Richardson, Kelly, Bhate, & Graham, 1997). These apparent differences in criminal behavior argue for research that seeks to illuminate whether these two groups have different developmental trajectories. Confirmation of group differences in etiology, personality, and outcomes would support the need for diagnostically focused criminal justice and mental health interventions.

Pilot Study Objective and Goals

A pilot study was designed in support of demonstrating the viability of developing an empirically based typology of the juvenile sex offender. This research was premised on the contention that juvenile sex offenders represent a heterogeneous population, with various intervention needs, and that an objective means by which to identify distinct subgroups of these youths would enhance criminal justice and mental health management efforts. Specifically, it was believed that a classification methodology would assist the criminal justice system in determining which juveniles can be safely managed in the community and which ones require institutional or correctional placement. It was furthermore believed that a classification system based on a comprehensive explanatory model would permit the refinement of treatment programs and contribute to early identification and intervention efforts.

The basic research strategy was to develop a typology that not only nosologically categorized major subtypes of juvenile sex offenders, but also reflected a theoretical understanding of why and how various sexual behavior disorders develop and progress over time (e.g. which subtypes portend more chronic offending patterns). In this regard, an attempt was made to formulate a meta-theoretical model linking each behaviorally descriptive offender subtype with etiological experiences, underlying personality traits or motivators, and offense characteristics. It was believed that a typology that explained disorders based on causal events would prove to be of greater value than simple categorical classification.

The developed theoretical model was based on a combination of the investigators' clinical experience and pertinent research findings on juvenile and adult sex offenders. The latter included the incorporation of theoretical constructs from the investigators' previous research on juvenile and adult sexual offenders.

Specific Goals of the Pilot Study

The pilot study was designed to accomplish three basic goals: 1) to assess the viability of linking offender *subtype with etiology, personality, and offender characteristics* in a conceptual and causal model; 2) to assess the viability of using a combination of *archival* and *prospective* data in model measurement; and 3) to demonstrate the statistical utility of *Structural Equation Modeling* (SEM) in assessing model "goodness of fit". The importance of each of these objectives is briefly addressed in the following.

The development of a typology based on causal modeling offers several potential advantages. First, it reflects a higher level of scientific rigor than research that is atheoretical and relies strictly on the clustering of client typographical characteristics. Secondly, it permits the conceptual and sequential linking of different sets of information that describe and explain sexually aggressive behavior- therefore providing a comprehensive context for understanding the behavior, including its origin and causes. Third, it allows for the development and testing of specific "a priori" hypotheses about the development and manifestation of different types of juvenile sexual offending.

The second major design feature related to the type of data utilized in model measurement. A number of research studies on juvenile and adult sex offenders have

relied exclusively on archival data. The primary advantage of archival data is the relative ease with which it can be obtained in comparison to prospective or newly collected data. The latter requires gaining both access to the source(s) of information (e.g. clients), as well as the cooperation of the source(s) (i.e. data veridicality).

While archival data offer research efficiency, they also present a number of potential problems. Chief amongst the problems associated with exclusive reliance on archival data, is the incompleteness of most institutional records (Lyons, Howard, O'Mahoney, & Lish, 1997). Critical data are often missing -- in some cases the data were never collected, and in other cases the data were recorded in such a manner as to make interpretation impossible. The problem of record incompleteness is usually compounded by a lack of uniformity in how records are organized, and what data are recorded, when records are reviewed across institutions.

Of considerable importance in the study of juvenile sexual offenders, institutional records seldom contain sufficient information to reliably measure personality variables that help explain the offender's behavior. Instead, they are typically limited to typographical description of the offender's behavior (i.e. type of offense) and legal status. Furthermore, institutional records generally do not contain data necessary for the assessment of therapeutic change (e.g. client perceptions of the therapeutic experience, client-therapist interaction variables, etc.), nor do they permit an examination of how personality structure (e.g. cognitions) may change as a result of intervention.

While prospective data are generally more difficult to obtain, they permit the researcher to choose instruments that provide data directly related to the domains of

interest (e.g. etiology, personality, etc.). In addition, if the research instruments chosen contain validity scales, concerns about data veridicality can be minimized.

The third unique feature of the conducted research was its use of SEM. It is believed that SEM is the most appropriate quantitative methodology currently available for assessing theoretical model “goodness of fit”. SEM provided a single convenient technology for the implementation of several distinct objectives of this project.

The logic of scientific inquiry we adopted was best formalized in the evaluation of causal models using various indices of “goodness-of-fit” to the data as benchmarks of performance (e.g., Bentler & Bonnett, 1980). The proposed theoretical model served as the basic template for specifying a causal model corresponding to the theoretically-driven hypotheses to be considered and thus permitted testing the relative validity, or “verisimilitude”, of alternative models in accounting for the empirical data. The end result of the analysis was the identification of a meta-theoretical model that best described the corresponding data.

SEM (path analysis) was used to distinguish between different kinds of casual influences, such as direct and indirect effects. Because various predictors proposed for the same outcome often stand in some causal relation to each other, they may not represent truly distinct causal pathways. The use of SEM therefore permitted the study of the dynamic interplay between risk factors by reconstructing the fully elaborated causal pathways of process mediation.

The Theoretical Model

Our theoretical model posited a mediated series of causal links between etiological risk factors, deviant personality constructs, offender classification as a child or

peer or adult offender, and offense characteristics. Key etiological variables assessed in the theoretical model included the developmental influences of the following on personality: exposure to anti-social male role models; exposure to violence toward females; and childhood abuse experiences (physical and sexual). Three personality constructs were examined as predictors of offender classification as a child or peer or adult offender: Psychosocial Deficits, Egotistical/Antagonistic Masculinity, and Hostile Masculinity. Child or pubescent female classification was used to predict: 1) the degree to which the offenses were physically dangerous, involving escalated levels of aggression, weapons, and associated non-sexual offenses, and 2) the degree to which the offenses were perpetrated against victims who were strangers, including non-relatives living outside the offender's home.

The following hypotheses were formulated:

1. Juveniles who sexually assault pubescent females will score higher on measures of Hostile Masculinity, Egotistical-Antagonistic Masculinity, and Psychosocial Deficits than those who assault children;
2. Juveniles who sexually assault pubescent females will have a higher percentage of victims who are strangers or acquaintances than those who assault children and exhibit a higher level of violence in the commission of the sexual offense.

Methods

Participants

Participants were recruited from multiple public and private institutional treatment programs for juvenile sex offenders across the U.S. One hundred and fifty-seven (157) adolescent males with a history of “hands-on” sexual offending against a male or female child under the age of 12, and 25 adolescent males with “hands-on” offending against a female 12 years of age or older participated in the study. Youth were classified into offender groups based on reference sexual offense. Participating youth ranged in age from 12 to 18 years, with an overall mean age of 15.9 years for both groups. Approximately, 67% of the overall sample was Caucasian, 21% African-American, 8% Hispanic, 2% Native American, and 2% “Other or Unknown”.

The average age of victims of offenders of prepubescent children was 6.1 years, with offenders being 14.2 years of age on average at the time of the reference offense. In this group of offenders, 58.3% of the reference sexual offenses were committed against a female victim only, 23.8% against a male victim only, and 17.9% against children of both genders. The average age of victims of offenders against pubescent females was 17 years, with victims ranging in age from 12 to 59 years old. These youth were 14.6 years of age on average at the time of the reference sexual offense.

Slightly over three-quarters of the sample had been exposed to some form of sexual or physical violence toward females; 53.8% had witnessed a male relative beat a female. Over 90% of the sampled youth had been exposed to some form of male-modeled antisocial behavior; 48.6% had viewed a male relative threaten another male with a weapon, and 59.3% had seen a male relative commit a non-violent crime (e.g. sell drugs).

Three-quarters (75%) of the sample reported childhood sexual victimization; 30% had a male perpetrator only, 25.8 % a female perpetrator only, and 44.2% both a male and a female perpetrator. Physical abuse by a father or step-father was reported by 63.3% of the overall sample.

Procedures

Trained research assistants coded sexual offense data from institutional records. Youth were administered a social history questionnaire that provided detailed data on developmental experiences occurring before the age of 13, and engagement in acts of non-sexual aggression and delinquency within 12 months of project participation. The collected data were scaled and based on frequency of occurrence. Youth were also administered a battery of assessment instruments designed to measure the personality constructs of interest and delinquent behavior and attitudes. Measures administered relative to each studied construct are as follows:

Hostile Masculinity

Hostility Toward Women (Check, 1985); Adversarial Sexual Beliefs (Burt, 1980); Rape Myths Acceptance (Burt, 1980), Acceptance of Interpersonal Violence (Burt, 1980).

Egotistical/Antagonistic Masculinity

Mating Effort Scale (Rowe et al., 1997); Bem Sex Role Inventory (Masculinity/Femininity) (Bem, 1974).

Psychosocial Deficits

CBCL scales (Anxiety/Depression, Social Problems, Social Withdrawal) (self-report version)(Achenbach, 1994) Social Self-Esteem Inventory (Lawson, Marshall, & McGrath, 1979).

Non-sexual Aggression and Delinquency

Social History Questionnaire (self-report of delinquent behavior in the past 12 months);
CBCL (Delinquency and Aggressiveness scales).

Data Analytic Strategy

SEM

The two statistical software packages that were used for these analyses were SAS 8.0 (SAS Institute, 1999) and EQS 5.7b (Bentler, 1995). Because it was not possible to analyze all of the individual items within a single multivariate model simultaneously, due to limitations in computational resources, a hierarchical analytical strategy was employed. First, items were theoretically assigned to hypothesized lower-order factor scales. Then, unit-weighted common factor scores (Gorsuch, 1983) were computed for all the lower-order factor scales and several higher-order factors in SAS (PROC STANDARD and DATA), using the means of the standardized item scores for all non-missing items on each subscale (Figueredo, McKnight, McKnight, & Sidani, 2000). Also computed were both the Cronbach's alphas and the covariance matrices of the lower-order factor scales in SAS (PROC CORR). The internal consistencies of each of these lower-order factor scales are presented in *Table 1*. Some of these lower-order scales had somewhat lower alphas due to a low number of items, but had acceptable item-scale correlations. The loadings (scale-factor correlations) of the unit-weighted higher-order factors on the lower-order factor scales are presented in *Table 2*.

INSERT TABLES 1 AND 2 ABOUT HERE

All the unit-weighted factor scales were entered as manifest variables for multivariate causal analysis within a single structural equation model. Structural equation modeling was performed by EQS. Standardized subscales were theoretically assigned to higher-order constructs and tested for convergent validity. Structural equation modeling between these constructs then provided a multivariate causal analysis of the structural relations between them.

Univariate Analyses

Multivariable regression analysis (SAS PROC REG) was used to examine the influence of childhood physical and sexual abuse on anxiety/depression, and to explore the relationship between sexual victimization experiences and sexual perpetration experiences. Chi-Square (PROC FREQ chi-square option in SAS) was used to compare the contrasted offender groups on a series of sexual offense variables.

Results

SEM Analyses

Figure 1 presents the results of the final factor analytic structural equations model. The path coefficients shown are the standardized Maximum Likelihood regression weights. The correlation among the two exogenous predictors ($r = .57$) was not shown to avoid visual clutter. The chi-squared value for the model was statistically nonsignificant ($\chi^2(23) = 26.369, p = .2838$), indicating that the model successfully predicted all of the

observed covariances to within the estimated margin of sampling error. The practical indices of fit were also acceptable ($NFI = .927$, $CFI = .990$). The NFI is the Bentler-Bonett Normed Fit Index and the CFI is the Comparative Fit Index. Practical indices of fit exceeding .90 are generally considered acceptable (Bentler, 1995; Bentler & Bonett, 1980), although there is no absolute rule for these cutoffs (Bollen, 1989). Of these fit indices, the CFI was given greater weight in our evaluation of model adequacy because it is adjusted for model parsimony and also because it performs well with moderate to small sample sizes ($N < 250$) and Maximum Likelihood estimation (Bentler, 1990; Hu & Bentler, 1995). Unadjusted indices, such as the NFI , may underestimate the fit of the model with smaller samples (Bollen, 1989; Byrne, 1994). The standardized root mean square residual and root mean squared error of approximation were acceptably low ($RMR = .049$, $RMSEA = .028$), indicating a very small average absolute magnitude for the residuals, or “unexplained” components, of the observed correlations. $RMSEA$ values of .05 or less are usually considered to indicate an excellent fit to the data (Loehlin, 1998; MacCallum, Browne, & Sugawara, 1996).

INSERT FIGURE 1 ABOUT HERE

The following description of the study findings begin with the direct effects upon each construct in the hypothesized causal sequence. The indirect pathways by which each variable is influenced are considered in the discussion that follows.

Effects on Trait Factors. Psychosocial Deficits was significantly and positively influenced by Exposure to Abuse of Females (.20); however, the proportion of variance in Psychosocial Deficits accounted for by this predictor was not very high ($R^2=.04$). Egotistical-Antagonistic Masculinity was significantly and positively influenced by both Psychosocial Deficits (.23) and Exposure to Male-Modeled Antisocial Behavior (.26). The cumulative proportion of variance in Egotistical-Antagonistic Masculinity accounted for by these predictors was somewhat higher, but also rather low ($R^2=.13$). Hostile Masculinity was significantly and positively influenced both by Egotistical-Antagonistic Masculinity (.44) and Psychosocial Deficits (.24). The cumulative proportion of variance in Hostile Masculinity accounted for by these predictors was reasonably high ($R^2=.30$).

Effects on Non-Sexual Aggression and Delinquency. Non-Sexual Aggression and Delinquency was significantly and positively influenced by Egotistical-Antagonistic Masculinity (.34), Psycho-Social Deficits (.22), Exposure to Abuse of Females (.17), and Exposure to Male-Modeled Antisocial Behavior (.26). The cumulative proportion of variance in Non-Sexual Aggression and Delinquency accounted for by these predictors was quite high ($R^2=.45$).

Effects on Offender Status. Perpetration against a pre-pubescent child victim was significantly and positively influenced by Psychosocial Deficits (.22); however, the variance accounted for by this predictor was not very high ($R^2=.05$).

Effects on Offense Characteristics. The offense characteristics were significantly influenced only by whether the victim was a pre-pubescent child. This dichotomy significantly and negatively influenced both the Dangerousness of Offenses (-.34) (a composite of the level of violence used in the commission of the reference offense,

whether a weapon was used, and whether non-sexual crimes were also committed) and Offenses Against Strangers (-.18) (a composite of whether the reference offense occurred outside the perpetrator's home and whether the perpetrator was unrelated to the victim).

Univariate Analyses

Multiple regression analysis with simultaneous entry of physical abuse and sexual abuse showed that physical abuse (.30) predicted the Youth Self-Report Anxiety/Depression scale score ($R = .30$, adjusted $R = .08$, $p = .0003$). Physical abuse, exposure to violence against females, and their interaction were then entered as predictors of Anxiety/Depression. Physical abuse (.53) and exposure to violence against females (.33) predicted Anxiety/Depression, but the interaction effect was not significant ($R = .32$, adjusted $R = .09$, $p = .0003$). Sixteen percent (16%) of offenders of pubescent females, in contrast to 47.13% of offenders of children, met scale score criterion ($T \geq 63$) (Achenbach and Edelbrock, 1987) for "need for clinical intervention". Odds ratio analyses revealed that physically abused youth were 2.7 times more likely to meet the criterion than non-abused youth, and that youth exposed to violence against females were 2.3 times likely to meet the criterion than non-exposed youth.

Multiple regression analysis with simultaneous entry of sexual abuse by males, and sexual abuse by females, showed that sexual abuse by males (.23) predicted a male victim in the youth reference sexual offense ($R = .21$, adjusted $R = .03$, $p = .0244$). Further analysis showed this effect to be limited to non-coercive sexual experiences with non-related older males (.23) ($R = .29$, adjusted $R = .08$, $p = .01$). Parental investment/attachment to father/step-father did not significantly interact with this variable

in the prediction of gender of victim in the reference sexual offense. Furthermore, relationship to the perpetrator in childhood sexual abuse experiences did not predict relationship to the victim in the youth reference sexual offense.

Table 3 provides comparative sexual offense data for the contrasted offender groups. Juveniles that sexually offended against prepubescent children were more likely to be related to the victim and commit the offense in the victim's home, or their own residence, as opposed to another setting. They were more likely to have a prior arrest history for a non-sexual crime. Offenders against pubescent females were more likely to use force, and a higher level of force, than offenders of children. They were also more likely to use a weapon and to be under the influence of alcohol or drugs at the time of the sexual offense.

Discussion

Overall, the results of the pilot study provided strong support for the viability of the investigators' approach to development of a typology of the juvenile sexual offender. Specifically, support was obtained for the feasibility of constructing a typology based on an understanding of the antecedents and motivators of sexual aggression in juveniles, the use of combined archival and prospective data in model measurement, and the application of Structural Equation Modeling in assessment of model "goodness of fit". Furthermore, empirical support was gained for the majority of the hypothesized differences between juveniles that offend against children and those that sexually assault peers and adults. Findings relevant to each of these goals are addressed in the following discussion.

These investigators were successful in obtaining the necessary institutional, parental, and client permission and cooperation to permit the efficient and relatively rapid collection of comprehensive archival and prospective data on a national sample of 182 adolescent males with documented histories of sexual offending. Data were collected in three states (Texas, Virginia, and Ohio) and from both public and private institutions. The data not only reflect diversity in geographic location and type of institutional placement, but in race and type of sexual offending as well. Approximately one-third of the sampled youths was a racial minority and sizable numbers of both child and peer or adult offenders were obtained.

Cooperation and support for the study was high both within and across institutions. Institutional administrator report suggests that consent was readily obtained from the vast majority of youths and families within each facility that were approached for their participation. Furthermore, institutional support was obtained from all organizational entities from which it was sought and from a number of additional institutions that were not needed for this initial, pilot study. As indication of the success of the study in achieving its objectives, all participating institutions pledged their continued support for the project should the larger study be funded. The high level of support and enthusiasm for the study appeared to reflect wide-spread agreement on the part of criminal justice and mental health professionals that the development of a comprehensive explanatory model of juvenile sexual offending would represent a significant and timely contribution to the field. It is judged that these results also reflected the willingness of juvenile sexual offenders and their families to participate in

research efforts that potentially contribute to prevention, intervention, and management efforts.

The results of the pilot study supported the viability of collecting a combination of archival and prospective data on juvenile sexual offenders, and using these data to measure an array of sophisticated theoretical constructs that help explain the development and expression of sexual behavior disorders in this population. Specifically, empirical support was obtained for the following: the contribution of childhood experiences to the emergence of critical personality traits and attitudes, the relationship between these deviant personality traits and offender subtype, and differences in the offending patterns of juveniles that target children and those that assault pubescent females.

In the pilot study, strong support was found for the adverse developmental effects of being exposed to the abuse of females and male-modeled antisocial behavior. It appeared that the greater the level of exposure to abuse of females, the greater the risk of a young male developing psychosocial deficits. If psychosocial deficits can be viewed as reflecting lack of social confidence and competence, it can be surmised that males who repeatedly witness such abuse may acquire maladaptive attitudes and/or deficits in interpersonal relationship skills. These deficits may prevent them from forming and maintaining healthy interpersonal relationships, especially with members of the opposite sex, and ultimately lead to relationship dysfunction and self-dissatisfaction. These deficits also contribute to engagement in delinquent behavior, perhaps in an attempt to restore self-esteem, vent frustration, and find peer acceptance in a delinquent subculture.

The witnessing of abuse of females was correlated with exposure to antisocial male role models, including males who abuse alcohol and drugs and those who engage in

criminal behaviors. As such, it seems that many males who develop sexual behavior problems were exposed as young children to both violence toward females and male modeled antisocial behavior. Exposure to antisocial male role models appears to significantly increase the risk of younger males later engaging in delinquent behavior themselves. Such exposure also appears to be positively related to Egotistical-Antagonistic Masculinity, perhaps indicating a lack of concern for, and sensitivity to, the feelings and needs of others. Therefore, it may be that the cumulative effect of exposure to the abuse of women, and antisocial behavior by older males, is stunted psychosocial and psychosexual development. This stunted development may portend both sexual and non-sexual criminality. It can be surmised from the data that these males grow up with distorted views of females and the nature of male-female relationships, and deficiencies in social skills and empathy. Their deficits and distorted beliefs may lead them down a path of antisocial and abusive behavior. Overall, these results were very consistent with clinical impression that the maladaptive behaviors and attitudes of juvenile sexual offenders can often be traced to early learning experiences and negative male role modeling.

It appears that both Psychosocial Deficits and Egotistical-Antagonistic Masculinity also contribute to Hostile Masculinity. It may be that males who are driven by a desire for frequent and impersonal sex, but are not particularly competent at achieving this goal, develop an animosity toward females. Although these data did not explain how attitudes of hostility toward females contribute to sexual offending in juveniles, Malamuth has found support for the belief that adult men who are high in both

promiscuity and hostility toward women are more likely to act-out, instead of just fantasize about, acts of sexual aggression (Dean and Malamuth, 1997).

The results of the pilot study provided mixed support for the study's hypotheses about the contribution of personality to the prediction of offender subtype. Support was found for a link between Psychosocial Deficits and patterns of sexual offending against children. In general, juveniles who target children demonstrate greater deficits in social competency and self-esteem, and higher levels of accompanying depression and anxiety, than those who sexually assault peers and adults. Child offenders may be youths who lack the self-confidence and prerequisite social skills and personal attributes to successfully attract and interpersonally engage same age females. Their offending behavior may therefore be compensatory in nature. The finding of psychosocial deficits in juveniles who sexually offend against children mirrors the previous findings of Hunter and Figueredo (2000), and is largely consistent with evolutionary theory (Figueredo, Sales, Becker, Russell, & Kaplan, 2000).

Evidence was less clear that juveniles who sexually offend against pubescent females possess higher levels of Egotistical-Antagonistic Masculinity and Hostile Masculinity than offenders of children. The absence of strong empirical support for the roles of Egotistical-Antagonistic Masculinity and Hostile Masculinity in differentiating between juveniles that offend against children and those that target pubescent females may be explained in three ways. First, it is possible that the above constructs are only weakly related to type of juvenile sexual offending, but significantly contribute to an understanding of why some youths sexually offend and others do not. For example, while there may be only minor differences in levels of these traits between juveniles who

assault pubescent females and those who assault children, there may be major differences in levels of these traits between either of these groups of juvenile sexual offenders and non-offending youths. Secondly, it is possible that the sample of peer or adult offenders in the present study was too small to detect a significant difference between peer or adult and child offenders on these variables. Third, the assessed sample was entirely an institutional one. As such, it may have been biased toward greater severity of personality disturbance that resulted in range restriction on these variables. It is possible that these personality constructs would have better differentiated between the two offender groups if a community-based sample of juvenile sex offenders had been included. For all of these reasons, it is believed that the relationships between these traits and sexual offending in juveniles should be further studied.

Relatively strong support was found for the hypothesized differences between offenders of pubescent females and offenders of children in offense characteristics. As predicted, higher levels of violence in the commission of the sexual crime were found in offenders of pubescent female contrasted to offenders of children. Offenders of pubescent females were also more likely than offenders of children to use a weapon in the commission of the sexual offense and to offend against a stranger or acquaintance.

Consistent with past research findings (Cooper, Murphy, and Haynes, 1996; Becker, Kaplan, Tenke, and Tartaglini, 1991; Edleson, 1999), physical abuse by a father or step-father, and exposure to violence against females, were found to be predictive of higher levels of depression and anxiety in the overall sample. Non-coercive childhood sexual victimization by a non-relative male was found to be associated with a greater likelihood of subsequent adolescent sexual offending against a male child. This finding

suggests the possibility that male-perpetrated sexual victimization experiences, under certain not yet fully understood circumstances, contribute to the emergence of pedophilic sexual interests. Further research is required before this hypothesis can be confirmed and the nature of the relationship between these variables elucidated.

Although not a major thrust of the present study, it was perhaps fortuitous that the SEM analyses demonstrated that general delinquency could be accurately predicted from a combination of developmental and personality variables. Interestingly, both higher levels of Psychosocial Deficits and Egotistical-Antagonistic Masculinity predicted general delinquency, along with exposure to male-modeled antisocial behavior. The significance of these findings is underscored by the observation that the criminal justice system and treatment providers must frequently contend with not only the sexual delinquency of these youths, but their non-sexual delinquency as well. Thus, a better understanding of predictors of general delinquency may contribute to improved intervention and prevention planning.

Implications for Psychological Theory

The results of the pilot study can be cited as generally supportive of both social learning and evolutionary psychological theories. Demonstration of the link between exposure to antisocial role models and attitudes of delinquency and promiscuity is consistent with both theories, as is the finding that exposure to the abuse of females predicts psychosocial deficits. Both theories postulate that attitudes and behaviors of

young males are strongly influenced by early learning experiences with older males. The finding that child offenders have relatively greater psychosocial deficits than peer or adult offenders is particularly consistent with an evolutionary psychology explanation that sexual offending against pre-pubescent children and males reflects their competitive disadvantage in finding age appropriate mates. The findings that psychosocial deficits predict a strategy of higher mating effort (Rowe, Vazsonyi, & Figueredo, 1997), and that both of these then predict general delinquency, are generally consistent with a Brunswikian Evolutionary-Developmental model (Figueredo, Sales, Becker, Russell, & Kaplan, 2000) and its conceptualization of sexual offending as stemming from a progression of interpersonal frustrations and failures.

Implications for Further Model Refinement

While the overall goals of the pilot study were achieved, the results of SEM testing indicate that further refinement in the explanatory model, and the ultimate development of a comprehensive juvenile sexual offender typology, require additional research. In particular, additional research is needed to more fully explore and explicate the influence of personality traits on offending behavior. It is believed that this requires sampling a larger number of juvenile sexual offenders who have engaged in offending against post-pubescent females. Substantially increasing the overall sample size would permit both making finer distinctions between groups of peer or adult and child offenders, and determining whether meaningful distinctions can be made within each offender group.

Summary

The results of the pilot study supported the viability of creating a typology of the juvenile sexual offender based on causal modeling of the influences of developmental experiences, personality traits, and offender characteristics. This study was further distinguished by its use of a combination of prospective and archival data in model measurement, and SEM in assessment of model “goodness of fit”. Data were successfully collected on a sample of 182 juveniles with documented histories of sexual offending. The results supported the majority of the hypothesized differences between offenders of pubescent female and offenders of children. As hypothesized, offenders of children were found to have greater psychosocial deficits than offenders of pubescent females, to be more violent in the commission of their sexual crimes, and to be more likely to use a weapon and target victims who were not biologically related to them. The results of the pilot study suggested that further explication of the relationship between personality traits and offender characteristics, and delineation of offender subtypes, could be achieved through additional research.

Table 1. Internal Consistencies (Alphas) of Lower-Order Factor Scales.

<i>Code</i>	<i>Alpha</i>	<i>Description of Measure</i>
<i>ASME</i>	.87	Exposure to Male-Modeled Antisocial Behavior
<i>VTWE</i>	.83	Exposure to Abuse of Females
<i>SSI</i>	.93	Self-Esteem
<i>MES</i>	.82	Mating Effort Scale
<i>MF</i>	.80	Masculinity/Femininity
<i>HTW</i>	.85	Hostility Towards Women
<i>ASB</i>	.83	Adversarial Sexual Beliefs
<i>AIV</i>	.62	Acceptance of Interpersonal Violence
<i>RMA</i>	.85	Rape Myths Acceptance
<i>DELBEH</i>	.86	Delinquent Behavior of Perpetrator

Table 2. Factor Loadings (Lambdas) of Higher-Order Factor Scales.

<i>Code</i>	<i>Lambda</i>	<i>Psycho-Social Deficits Factor</i>
<i>ANXDEP</i>	.87	Anxiety and Depression
<i>SPROB</i>	.87	Social Problems
<i>WITHDRAW</i>	.84	Social Withdrawal
<i>SSI</i>	.74	Self-Esteem
<i>Code</i>	<i>Lambda</i>	<i>Egotistical-Antagonistic Masculinity Factor</i>
<i>MF</i>	.84	Masculinity/Femininity
<i>MES</i>	.84	Mating Effort Scale
<i>Code</i>	<i>Lambda</i>	<i>Hostile Masculinity Factor</i>
<i>HTW</i>	.69	Hostility Towards Women
<i>ASB</i>	.82	Adversarial Sexual Beliefs
<i>AIV</i>	.70	Acceptance of Interpersonal Violence
<i>RMA</i>	.76	Rape Myths Acceptance
<i>Code</i>	<i>Lambda</i>	<i>General Delinquency Factor</i>
<i>DELBEH</i>	.70	Delinquent Behavior of Perpetrator
<i>AGG</i>	.81	Aggressiveness of Perpetrator
<i>DEL</i>	.87	Delinquency of Perpetrator

Figure 1

