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Juvenile Sex Offenders: Toward the Development of a Typology

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Adolescent males who sexually offended against prepubescent children were contrasted with those who targeted pubescent and postpubescent females. As hypothesized, path analyses revealed that the former group had greater deficits in psychosocial functioning, used less aggression in their sexual offending, and were more likely to offend against relatives. Theorized relationships between developmental risk factors, personality mediators, and sexual and nonsexual offense characteristics were assessed in both groups of juvenile sex offenders. Deficits in psychosocial functioning were found to mediate the influence of childhood exposure to violence against females on adolescent perpetration of sexual and nonsexual offenses. Additional univariate analyses were conducted to further explore some associations among early risk factors, personality mediators, and outcomes. Childhood physical abuse by a father or stepfather and exposure to violence against females were found to be associated with higher levels of comorbid anxiety and depression. Noncoercive childhood sexual victimization by a male nonrelative was found to be associated with sexual offending against a male child. Clinical and theoretical implications of the findings are discussed.

KEY WORDS: sexual offending; risk factors; mediators; juveniles.

Juveniles account for approximately one fifth of the rapes, and one half of the cases of child molestation, committed in the United States each year (Barbaree,

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Hudson, & Seto, 1993; Sickmund, Snyder, & Poe-Yamagata, 1997). The majority of these youth are adolescent males. It is generally agreed that the prudent management of juvenile sex offenders requires a combination of treatment programming and criminal justice sanctioning (National Task Force on Juvenile Sexual Offending, 1993); however, at issue is what constitutes effective mental health intervention and criminal justice policy for individual offenders.

To date, juvenile sex offender treatment has been largely modeled after adult sex offender treatment programs based on the implicit assumption that juvenile sexual offending often portends chronic and progressively more serious patterns of sexual perpetration (Hunter & Freeman-Longo, in press). Generic juvenile sex offender treatment programming is typically offered in both institutional and community-based settings and includes a focus on assessing and treating deviant sexual arousal and interests, improving impulse control and judgment, enhancing social skills and victim empathy, and correcting distorted sexual cognitions justifying sexual aggression (Freeman-Longo, Bird, Stevenson, & Fiske, 1995). Research support for the relevance and appropriateness of this conceptual model for all or most juvenile sex offenders has not been demonstrated (Hunter & Freeman-Longo, in press). Furthermore, randomized clinical trials have not been conducted in support of evaluating the effectiveness of this approach in deterring recidivism (Hunter & Becker, 1999).

The above-described clinical model prevails in the face of emerging data indicating that the juvenile sex offender population is actually quite diverse in composition. Observed heterogeneity includes the age and gender of targeted victims, the level of violence displayed in the commission of the offense, the social–ecological environment of the offending behavior, and the psychiatric and developmental characteristics of offending youth (Hunter, Hazelwood, & Slesinger, 2000). As an example of this diversity, some youth target only children, whereas others assault peer and adult females. Some inflict serious injury on or even cause death to their victims, whereas others rely on guile and opportunity. Some youth have long histories of delinquent and antisocial behavior and affiliate with delinquent peers; others have histories of social isolation and child maltreatment and manifest a variety of abuse-related sequelae. This observed heterogeneity suggests that there may be identifiable subtypes of juvenile sex offenders with distinct developmental trajectories and unique intervention needs.

Typologies have been found to be helpful in delineating clinical subtypes of aggression perpetrators in related areas of research. Dodge and Coie (1987) classified physically aggressive children into two subtypes on the basis of different motives for the behavior: (1) "reactive" youth and (2) "proactive youth." Their hypothesis was confirmed that only reactive youth engaged in aggression in response to hostile attributional biases and intention-cue detection deficits. Continuing research by this group resulted in further differentiation of subtypes of aggressive children and substantiated explanatory developmental history differences between

established subtypes (Dodge, Lochman, Harnish, Bates, et al., 1997). Similarly, Holtzworth-Munroe and colleagues have identified subtypes of wife-batterers on the basis of the severity of the marital violence, the generality of the violence, and the psychopathology of the abuser (Holtzworth-Munroe, Meehan, Herron, Rehman, & Stuart, 2000).

Typologies of adult rapists and child molesters have been developed by Knight, Prentky, and colleagues (Knight, Carter, & Prentky, 1989; Knight & Prentky, 1990; Prentky, Knight, Rosenberg, & Lee, 1989). Child molesters are classified on two axes: degree of pedophilic interest and amount of contact with children. Level of social competence is employed to further differentiate offenders on the first axis, whereas narcissism and amount and intent (sadistic/nonsadistic) of physical injury further differentiate offenders on the second axis. Rapists are primarily classified on the basis of motivation for the offending (i.e., "opportunistic," "pervasively angry," "sexual," and "vindictive"). Those seen as opportunistic or vindictive are subclassified on the basis of social competence, whereas those who are primarily sexually motivated are further divided as to whether they evidence sadism.

The authors of this paper have undertaken a series of studies in support of investigating developmental pathways leading to youth-perpetrated sexual aggression and nonsexual violence and delinquency. The overall objective of the research is to illuminate the relationship between developmental risk factors, personality mediators, and familial–environmental moderators of risk so as to inform prevention and intervention program refinement. A major goal of the research is to explore the viability of establishing a juvenile sex offender typology on the basis of an understanding of how specific developmental risk factors, personality mediators, and social–ecological circumstances uniquely shape the expression of sexual offending in youth. Hunter, Figueredo, Malamuth, and Becker (in press) describe the evolutionary psychology theoretical premises of the more broadly focused research effort, and preliminary findings on the influence of exposure to violence against females, and male-modeled antisocial behavior, on sexual aggression and nonsexual violence and delinquency. The current report details the testing of hypothesized differences between juveniles who sexually offend against pubescent females and those who target prepubescent children, and examines the influence of an additional risk factor for sexual aggression—child maltreatment.

Structural equation modeling (SEM) was used by Hunter et al. (in press) to assess modeled relationships between risk factors and personality mediators in the prediction of whether sexual offenses were committed against pubescent females or prepubescent children. The decision to contrast these two groups of juvenile sex offenders was based on theoretical considerations and existent data, suggesting that the groups differ on a number of potentially important clinical dimensions (Hunter & Becker, 1999). Previous research suggests that peer/adult perpetrators almost exclusively offend against females (Stermac & Mathews, 1987; Worling, 1995) and are more aggressive and violent in their sexual offending than are offenders

of children (Hunter et al., 2000). These youth have also been shown to be more likely to commit the sexual offense along with a co-offender, commit a nonsexual offense in conjunction with the sexual crime, and have a previous arrest record (Hunter et al., 2000; Richardson, Kelly, Bhate, & Graham, 1997).

Three personality constructs were studied as mediators of the risk factors and the basis of personality differences between the contrasted groups: Psychosocial Deficits, Hostile Masculinity, and Egotistical–Antagonistic Masculinity. The studied Psychosocial Deficits factor included measures of depression and anxiety, self-esteem, and self-efficacy. Hunter and Figueredo (2000) found that juveniles who sexually offended against children could be differentiated from nonsexual offending controls on the basis of greater deficits in self-efficacy and more negative attributional styles associated with pessimism. Other research supports the link between delinquent and aggressive behavior in youth and deficits in social competency and self-esteem (Cole, Peeke, Dolezal, Murray, & Canzoniero, 1999; Lochman & Dodge, 1994; Webster-Stratton & Lindsay, 1999). In this study, it was hypothesized that exposure to violence against women and male-modeled antisocial behavior would predict sexual offenses against children through Psychosocial Deficits, and that juveniles who sexually offended against children would show greater deficits in this domain of functioning relative to offenders of pubescent females.

Hostile Masculinity has been found to be a robust predictor of sexual aggression in young adult males (Hall, Sue, Narang, & Lilly, 2000; Malamuth & Malamuth, 1999). The construct reflects dominance motives associated with negative perceptions of women and interpersonal rejection experiences (Malamuth, 1996; Malamuth, Heavey, & Linz, 1993; Malamuth, Sockloskie, Koss, & Tanaka, 1991).

Egotistical–Antagonistic Masculinity reflects a stereotypically masculine sex role orientation and the tendency to aggressively seek dominance in sexual competitions with other males. It has been shown to predict juvenile delinquency (Rowe, Vazsonyi, & Figueredo, 1997). As in this study, similar constructs incorporating aspects of "sex role stress" have been successfully modeled as part of a related constellation of characteristics preceding the construct of Hostile Masculinity (Malamuth, Linz, Heavey, Barnes, and Acker, 1995). Their hypothesized temporal relationship is theoretically predicated on the assumption that intermale competition for dominance (e.g., in rough-and-tumble play) typically developmentally precedes heterosexual interactions.

Both misogynistic fantasy and hypermasculinity have been found to predict higher levels of sexual aggression in juvenile sex offenders (Johnson & Knight, 2000). In this study, it was hypothesized that exposure to violence against women and male-modeled antisocial behavior would indirectly predict sexual offenses against pubescent females as mediated by Hostile Masculinity and Egotistical–Antagonistic Masculinity, and that offenders against pubescent females would score higher on these personality factors than would offenders of children.

Two sexual offense variables were modeled: (1) the degree to which the offenses were physically dangerous, involving escalated levels of aggression, weapons, and associated nonsexual offenses; and (2) the degree to which the offenses were perpetrated against victims who were strangers, including nonrelatives living outside the offender's home. On the basis of previous research findings (Hunter et al., 2000), it was predicted that offenders against pubescent females would score higher on these variables.

Additional univariate analyses were conducted in support of understanding the influence of child maltreatment on the expression of sexual offending in youth. Histories of physical and sexual abuse are common in juvenile sex offenders and have been theorized to produce abuse sequelae that contribute to subsequent patterns of sexual offending and psychiatric comorbidity (Hunter & Becker, 1994; Malamuth et al., 1991; Metzner & Ryan, 1995). Support for the association between a history of physical and sexual abuse in juvenile sex offenders and psychopathology, particularly depressive symptomatology, has been found in a number of studies (Becker, Kaplan, Tenke, & Tartaglini, 1991; Cooper, Murphy, & Haynes, 1996). Furthermore, it has been shown that the negative effects of child abuse are amplified when it occurs in combination with other trauma experiences, such as exposure to domestic violence (Edleson, 1999).

More limited empirical support has been found for speculation, on the basis of principles of social learning theory, that the sexual perpetrations of juveniles parallel their own sexual victimization experiences. Veneziano, Veneziano, and LeGrand (2000) found that sexually victimized adolescent male sex offenders chose victims and engaged in offending behavior that reflected their own sexual abuse experiences. Other studies have shown that a history of sexual abuse in adolescent male sex offenders is associated with sexual perpetration against male victims and younger victims (Kaufman, Hilliker, & Daleiden, 1996). The above-described findings served as the basis for two additional predictions: (1) sexual and physical abuse, along with exposure to abuse of females, would predict higher levels of anxiety and depression in juvenile sex offenders; and (2) the youth's sexual victimization characteristics (i.e., perpetrator gender and relationship) would predict his sexual perpetration characteristics.

One of the potential problems in interpreting developmental risk data is that what appears to be an environmental effect, may instead, be reflective of the influence of heredity. Evidence from the field of behavioral genetics indicates that many apparent environmental effects, particularly those present within the family environment, are actually spurious correlations due to the effects of genes that are shared between parents, or other blood relations, and their offspring (Rowe, 1994). Some of the variables in the tested structural equations model, such as exposure to antisocial male models and exposure to abuse of women, included exposure to social models that might also have been blood relatives of unmeasured degrees of genetic relatedness. Therefore, some of the direct effects of abuse on problem

behaviors and risk factors that were identified might have been due to direct genetic transmission rather than social modeling or observational learning.

To evaluate the possibility of direct genetic transmission of a specific propensity to engage in abusive behaviors, we performed a final set of more focused univariate analyses estimating and comparing the effects of childhood physical abuse of the adolescent sex offender perpetrated by a genetic father to the effects of abuse perpetrated by a social (step)father. While a genetic father typically contributes both genes and environmental influences to the child, a social father can only contribute environmental effects. This implies that even if there is an environmental effect of abuse perpetrated by males, the additional genetic effect provided by a biological father would increase the impact of that particular source of abuse on the child. It would therefore be expected that the overall deleterious effects of abuse by a genetic father and male relatives would systematically exceed that of abuse perpetrated by a social father. Furthermore, the direct genetic transmission hypothesis would predict that these influences would be direct effects from the aggressive behavior of the father to that of his offspring, and not indirect effects on the behavior of the offspring as mediated by psychological sequelae (i.e., anxiety/depression; *Note:* Other possible models underlying genetic–environmental interactions are noted in the Discussion section).

METHOD

Participants

Participants were recruited from multiple public and private institutional treatment programs for juvenile sex offenders across the United States. Sites included both correctional and noncorrectional, mental-health-oriented residential facilities. All male youth at each facility between the ages of 13 and 18 with a history of sexual offending were invited to participate. Participation required both youth and parental informed consent. Although precise data are not available, the majority of youth and parents approached for participation agreed to do so. Youth were paid $25.00 for participating where institutional policy did not prohibit such payment. These youth were at various stages in the treatment process at the time of their participation.

Data were collected on 206 youth. Six of these cases were excluded because the youth did not meet the criterion for minimum reading level on the Ohio Literacy Test ($\geq$ fifth grade). Eight additional cases were dropped from the sample because the reference sexual offense did not meet classification criteria (i.e., offense did not involve physical contact with the victim or was against a male $\geq$ 12 years of age). Of the remaining 192 cases, 10 (or 5.2%) were excluded because of missing data on the classification criteria. This resulted in a final sample of 182 juvenile sex offenders: 157 adolescent males with "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. Youth were classified into offender groups on the basis of reference sexual offense (offense leading to placement, and typically the most recent 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. The mean age difference between perpetrators and their victims was 8.0 years ($SD = 2.7$; range 2–14). In over 87% of the cases, the age difference was 5 or more years. 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. Based on archival record review, there was the suggestion of "crossover" offending in both sex offender groups. Slightly over 15% of youth classified as an offender of prepubescent youth (reference offense) had a documented history of hands-on sexual offending against someone less than 5 years older than themselves. Slightly over 30% of the offenders of pubescent females (reference offense) had a history of hands-on offending against someone 5 or more years younger than themselves. These data should be interpreted cautiously as they do not necessarily connote offending within the group other than that for which they were classified (e.g., a 17- or 18-year-old could have previously offended against a 12- or 13-year-old female and met the 5 year age difference criterion).

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 nonviolent 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 stepfather was reported by 63.3% of the overall sample.

Procedures

Trained research assistants coded sexual offense and criminal history data from institutional records. Survey data were collected under the supervision of a senior research assistant—a certified sex offender treatment provider. 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 nonsexual aggression and delinquency within 12 months of project participation. Developmental data included the self-report of maltreatment experiences (sexual and nonsexual), exposure to violence against females, and exposure to male-modeled antisocial behavior. 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.

The following measures were administered relative to each studied construct. Because most of the measures had not previously been used with a juvenile sample, Cronbach's alphas (based on the present sample) are provided in parentheses. The exception to this is the "Youth Self-Report" (YSR) Scale, which has been shown over numerous studies to possess strong psychometric properties (Song, Singh, & Singer, 1994).

Hostile Masculinity

Hostility Toward Women ($\alpha = .85$) is a 21-item instrument reflecting a negative stereotypic view of females as rejecting and untrustworthy (e.g., "It is safer not to trust girls"; Check, 1985).

Adversarial Sexual Beliefs ($\alpha = .83$) is a nine-item scale assessing the degree to which male–female relationships are perceived to be antagonistic (e.g., "In a dating relationship a woman is largely out to take advantage of a man"; Burt, 1980).

Rape Myths Acceptance ($\alpha = .85$) is a 13-item scale that measures attitudes justifying sexual aggression toward females (Burt, 1980).

Acceptance of Interpersonal Violence ($\alpha = .62$) is a six-item scale measuring attitudes contributing to sexual violence (Burt, 1980).

Egotistical/Antagonistic Masculinity

Mating Effort Scale ($\alpha = .82$) is a 10-item scale that measures intrasexual competition amongst males in the pursuit of females, and a preference for multiple sexual partners (Rowe et al., 1997).

Negative/Positive Masculinity/Femininity ($\alpha = .80$ Spence, Helmreich, & Holahan, 1979) is a nine-item scale that was used to measure negative masculinity (e.g. "I am a bossy person").

Psychosocial Deficits

YSR scales. Anxious/Depressed, Social Problems, Withdrawn (Achenbach, 1994). These scales respectively measure poor self-esteem and loneliness, immaturity and peer rejection, and social isolation.

Social Self-Esteem Inventory ($\alpha = .93$; Lawson, Marshall, & McGrath, 1979) is a 30-item scale measuring self-esteem in social situations.

Nonsexual Aggression and Delinquency

A social history questionnaire ($\alpha = .79$) was used to obtain the youth's self-report of engagement in a variety of delinquent behaviors over the past 12 months (e.g., fighting, theft, drug use, etc.).

YSR. Delinquency and Aggressiveness scales (Achenbach, 1994). These scales respectively measure verbally and physically threatening, and antisocial and delinquent behaviors.

Data Analytic Strategy

Multivariate Analyses

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 the individual items within a single multivariate model simultaneously, 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). Except for the 10 cases mentioned earlier that were eliminated because of excess missing data, the proportion of complete data in the remainder of the data was quite high. The proportions of complete data for all simple and composite scales used in the SEM analyses exceeded 99%.

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 I. 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 II.

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.

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

Code	Alpha	Description of measure
ASME	.87	Exposure to male-modeled antisocial behavior
VTWE	.83	Exposure to abuse of females
SSI	.93	Self-esteem
MES	.82	Mating Effort Scale
MF	.80	Masculinity/femininity
HTW	.85	Hostility towards women
ASB	.83	Adversarial sexual beliefs
AIV	.62	Acceptance of interpersonal violence
RMA	.85	Rape myths acceptance
DELBEH	.86	Delinquent behavior of perpetrator

Additional Univariate Analyses

Multiple regression analysis (SAS PROC REG) was used to examine the influence of childhood physical and sexual abuse on anxiety/depression, to explore the relationship between sexual victimization experiences and sexual perpetration experiences, and to explore the relative impacts of abuse of the offender as a child by a genetic and a social or step father. Chi-square (PROC FREQ chi-square option in SAS) was used to compare the contrasted offender groups on a series of sexual offense variables.

These additional analyses were carried out using univariate statistical models because the amount of missing data in the scales measuring child abuse (21.8%) were generally higher than that for the other study variables. These missing data

Table II. Factor Loadings (Lambdas) of Higher Order Factor Scales

Factors	Code	Lambda
Psychosocial Deficits Factor		
Anxiety and depression	ANXDEP	.87
Social problems	SPROB	.87
Social withdrawal	WITHDRAW	.84
Self-esteem	SSI	.74
Egotistical–Antagonistic Masculinity Factor		
Masculinity/femininity	MF	.84
Mating Effort Scale	MES	.84
Hostile Masculinity Factor		
Hostility toward women	HTW	.69
Adversarial sexual beliefs	ASB	.82
Acceptance of interpersonal violence	AIV	.70
Rape myths acceptance	RMA	.76
General Delinquency Factor		
Delinquent behavior of perpetrator	DELBEH	.70
Aggressiveness of perpetrator	AGG	.81
Delinquency of perpetrator	DEL	.87

were mostly due to the individual-level inapplicability of certain response categories (such as those involving different types of fathers) as well as to simple nonresponse. Therefore these important variables were omitted from the multivariate structural equation models, which generally require higher sample sizes (with complete data on all variables) than univariate analyses. Nevertheless, multiple regressions were performed to estimate the direct effects of predictor variables, when statistically controlled for indirect effects through other variables that had been confirmed to function as mediators in the structural equations model.

RESULTS

Multivariate 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 statistical and practical goodness of fit of the model was excellent by all conventional criteria (for details, see Hunter et al., in press), including a statistically nonsignificant chi-squared ($p < .05$), acceptable normed and comparative fit indices ($> .90$), and a very small standardized root mean square residual and root mean squared error of approximation (both $< .05$; Bentler, 1990, 1995; Bentler & Bonett, 1980; Bollen, 1989; Byrne, 1994; Hu & Bentler, 1995; Loehlin, 1998; MacCallum, Browne, & Sugawara, 1996).

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 by both Egotistical–Antagonistic Masculinity (.44) and Psychosocial Deficits (.24). The cumulative proportion of variance in Hostile Masculinity accounted for by these predictors was reasonably high ($R^2 = .30$).
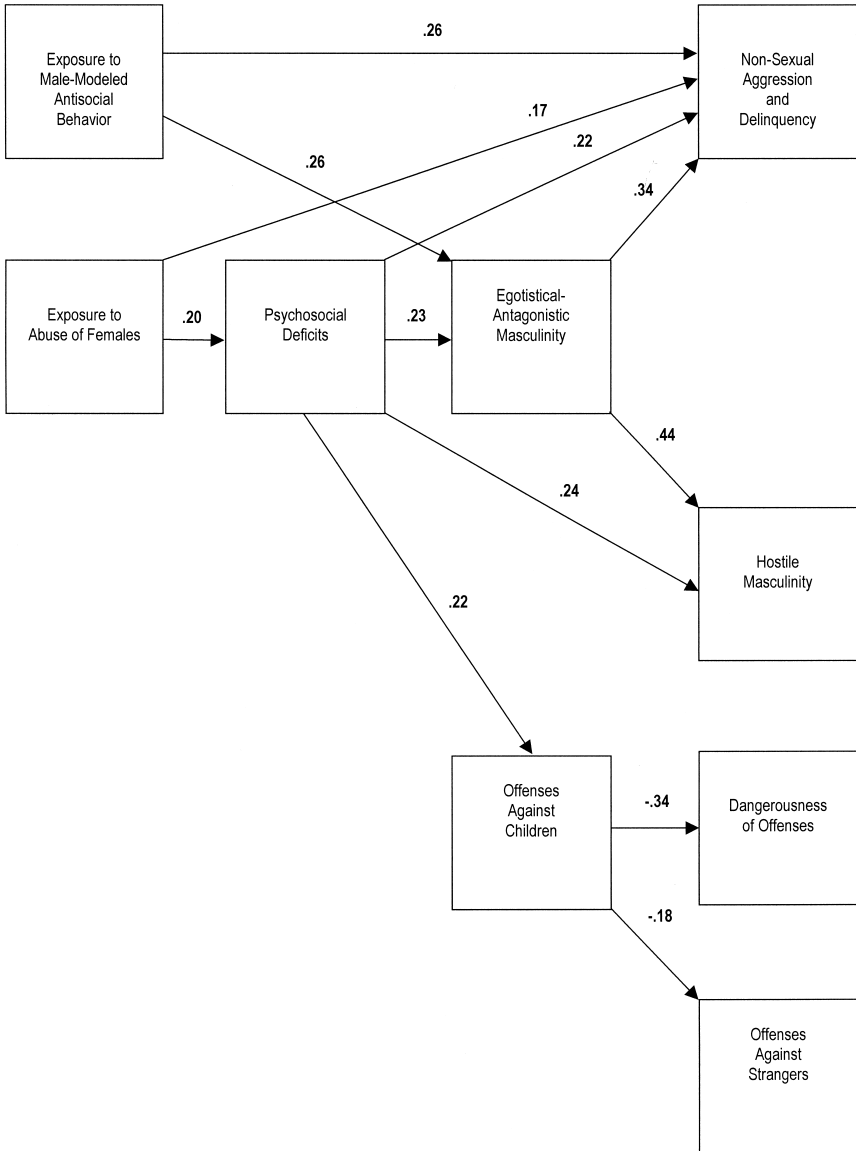
Fig. 1. Final Path Model

Effects on Nonsexual Aggression and Delinquency

Nonsexual Aggression and Delinquency was significantly and positively influenced by Egotistical–Antagonistic Masculinity (.34), Psychosocial Deficits

(.22), Exposure to Abuse of Females (.17), and Exposure to Male-Modeled Anti-social Behavior (.26). The cumulative proportion of variance in Nonsexual Aggression and Delinquency accounted for by these predictors was quite high ($R^2 = .45$).

Effects on Offender Status

Perpetration against a prepubescent 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 prepubescent 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 nonsexual 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).

Additional Univariate Analyses

Multiple regression analysis with simultaneous entry of physical abuse and sexual abuse showed that physical abuse ($\beta = .30$) predicted the Youth Self-Report Anxiety/Depression scale score ($R = .30$, adjusted $R^2 = .08$, $p = .0003$). Physical abuse, exposure to violence against females, and their interaction were then entered as predictors of Anxiety/Depression ($R = .32$, adjusted $R^2 = .09$, $p = .0003$). Physical abuse ($\beta = .53$) and exposure to violence against females ($\beta = .33$) predicted Anxiety/Depression, but the interaction effect was not statistically significant. Sixteen percent of offenders of pubescent females, in contrast to 47.13% of offenders of children, met scale score criterion ($T \geq 63$; Achenbach & 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 nonabused youth, and that youth exposed to violence against females were 2.3 times likely to meet the criterion than nonexposed youth.

Multiple regression analysis with simultaneous entry of sexual abuse by males and sexual abuse by females, showed that sexual abuse by males ($\beta = .23$) predicted a male victim in the youth reference sexual offense ($R = .21$, adjusted $R^2 = .03$, $p = .0244$). Further analysis showed this effect to be limited to non-coercive sexual experiences with non-related older males ($\beta = .23$, $R = .29$, adjusted $R^2 = .08$, $p = .01$). Parental investment/attachment to the genetic or social

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.

Multiple regression analysis with simultaneous entry of abuse perpetrated by a genetic father and abuse perpetrated by a social father on the offender as a child showed that both sources of abuse predicted the Youth Self-Report Anxiety/Depression scale score ($R = .39$, adjusted $R^2 = .14$, $p < .0001$). However, abuse perpetrated by a genetic father was shown to have had fully twice the impact ($\beta = .32$) on Youth Self-Report Anxiety/Depression as abuse perpetrated by a social father ($\beta = .16$) on the offender as a child.

Statistically controlling for the effect of Youth Self-Report Anxiety/-Depression ($\beta = .92$) on Psychosocial Deficits, multiple regression analysis with simultaneous entry of physical abuse perpetrated by a genetic father, and physical abuse perpetrated by a social father, on the offender as a child showed that only abuse perpetrated by a genetic father had a significant direct impact on Psychosocial Deficits. Physical abuse by a genetic father of the offender as a child had a negative direct effect ($\beta = -.09$) on Psychosocial Deficits, while having a positive indirect effect ($\beta = .29$) through Anxiety/Depression. This means that the total effect of abuse by a genetic father of the offender as a child on Psychosocial Deficits was therefore still positive ($\beta = .20$), but somewhat less than that which would have been predicted solely by the observed indirect effect through Anxiety/Depression.

Statistically controlling for the effects of Psychosocial Deficits on Egotistical–Antagonistic Masculinity ($\beta = .18$), Hostile Masculinity ($\beta = .33$), nonsexual violence and delinquency ($\beta = .29$), and offenses against children ($\beta = .19$), multiple regression analyses with simultaneous entry of abuse perpetrated by a genetic father and abuse perpetrated by a social father on the offender as a child showed no direct effects of abuse perpetrated by a genetic father on any of these factors. Abuse perpetrated by a social father on the offender as a child only showed a single statistically significant direct effect ($\beta = .18$) on Egotistical–Antagonistic Masculinity ($R = .28$, adjusted $R^2 = .06$, $p = .0110$). Some of the standardized regression coefficients produced by these multiple regression models differed slightly from those estimated by the structural equation model because of the loss of cases attributable to the excess missing data associated with the specific variables measuring various forms of abuse of the offender as a child.

Table III 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 nonsexual crime. Offenders against pubescent females were more likely to use force, and a higher level of force, than offenders of children.

Table III. Comparative Offense Characteristics

Variable	Offenders of children		Offenders of pubescent females		χ^2
	Frequency (%)	n	Frequency (%)	n	
Relationship to victim					
Sibling	39.9	57	24.0	6	8.2*
Other relative	22.4	32	8.0	2	
Acquaintance/stranger	37.7	54	68.0	17	
Actual or attempted vaginal					
and/or anal intercourse					
Yes	73.0	108	70.8	17	0.05
No	27.0	40	29.2	7	
Multiple offenders					
Yes	5.9	9	8.0	2	0.16
No	94.1	143	92.0	23	
Multiple victims					
Yes	30.6	48	12.0	3	3.69
No	69.4	109	88.0	22	
Degree of physical force					
No force	50.3	74	30.4	7	18.35***
Minimal force	43.6	64	34.8	8	
Moderate or greater force	6.1	9	34.8	8	
Weapon used					
Yes	1.3	2	12.0	3	9.07**
No	98.7	152	88.0	22	
Site of assault					
Victim's residence	64.3	90	52.2	12	6.85*
Perpetrator's residence	33.6	47	34.8	8	
Other e.g., outdoors)	2.1	3	13.0	3	
Influence of alcohol/drugs					
at time of offense					
Yes	13.3	18	33.3	7	5.4*
No	86.7	117	66.7	14	
Prior arrest for a sexual					
crime					
Yes	12.6	19	12.0	3	0.007
No	87.4	132	88.0	22	
Prior arrest for a nonsexual					
assault					
Yes	50.3	76	20.0	5	7.6**
No	49.7	75	80.0	20	

*$p < .05$. **$p < .01$. ***$p < .001$.

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

The results of this study support the contention that youth that sexually offend against prepubescent children differ from those that target pubescent females on a number of potentially relevant clinical dimensions. As predicted, offenders of

children showed greater deficits in psychosocial functioning than offenders of pubescent females, were less aggressive in their sexual offending, and more likely to offend against victims to whom they were related. This group of juvenile sex offenders was also less likely to be under the influence of alcohol or drugs at the time of the sexual offense and to use a weapon. These findings support the viability of using the defined dichotomy as one basis for classifying juvenile sex offenders in future typology research, and suggest that offenders against children and offenders of pubescent females may have different clinical programming needs.

The finding of greater deficits in psychosocial functioning in offenders of prepubescent children parallels past research findings suggesting that a lack of social confidence, and concomitant depression, anxiety, and pessimism, are characteristic of this group of youth. Examination of the scales loading on this factor, and scale item content, supports the interpretation that many of these youth view themselves as socially inadequate and anticipate peer ridicule and rejection. Associated with a sense of social alienation are feelings of sadness and loneliness, an acknowledged dependency on adults, and a preference for the company of younger children. The presence of relatively pronounced psychosocial deficits in offenders of children, and accompanying dysphoria, is consistent with the clinical interpretation that the sexual offending of many of these youth reflects compensatory social behavior and an attempt to satisfy unmet intimacy needs.

Data showing that nearly one half of offenders of children met assessment instrument criterion for clinical intervention for depression and anxiety suggests that treatment providers must remain vigilant to the diagnosis of affective disorders when treating this subset of youth. Anxiety and depression in the studied sample was linked to both perceived psychosocial deficits and developmental trauma. Physically abused youth were almost three times more likely than nonabused youth to meet instrument criterion for need for treatment for affective symptomatology, whereas youth exposed to abuse of females were over two times more likely to have elevated scale scores. These findings are consistent with other research showing that childhood physical abuse, and exposure to domestic violence, are associated with early-onset dysthymia and posttraumatic stress symptomatology.

Although support was found for the hypothesized greater level of aggressiveness in offenders of pubescent females relative to offenders of children, the expected relationships between targeting pubescent females and Hostile Masculinity and Egotistical–Antagonistic Masculinity were not found. Counter to study hypotheses, neither personality factor differentiated between the contrasted offender groups. The obtained negative findings may reflect a difference between juveniles and adults in motives for sexual aggression against pubescent females; however, sampling issues must be taken into consideration. The number of offenders of pubescent females in the study was relatively low compared to offenders of children, and thus there may have been inadequate power to detect group differences. Furthermore, it is not known as to whether the studied sample of offenders of pubescent females is representative of the larger population of

offenders of pubescent females. All the sampled youth were in treatment centers for juvenile sex offenders in private residential or juvenile correctional settings. Given the greater propensity in recent years for juvenile courts to waive more serious offenders to the adult courts (Hunter & Lexier, 1998), it is possible that there was an underrepresentation of more seriously disturbed adolescent rapists in the study.

Although neither Hostile Masculinity nor Egotistical–Antagonistic Masculinity was predictive of sex offender status in this study, both constructs were found to be directly and/or indirectly related to specific risk factors. Egotistical–Antagonistic Masculinity was found to play an important mediating role in understanding the influence of male-modeled antisocial behavior on nonsexual aggression and delinquency, and along with Psychosocial Deficits to be a predictor of Hostile Masculinity. It is notable that the studied risk factors and mediators explained a relatively high level of variance in the nonsexual violence and delinquency. The reader is directed to Hunter et al. (in press) for a detailed discussion of these findings and their theoretical implications.

Mixed support was found for the influence of childhood sexual victimization experiences on sexual offense characteristics. Extent of childhood sexual victimization by a male, but not relationship with perpetrator, predicted corresponding sexual offense characteristics. Further analysis showed this effect to be present in one particular type of sexual victimization experience: involvement in noncoercive sexual activities with an older (≥ 5 years) male who was not a relative. Sexual experiences with male relatives, and those involving force, did not produce this effect. Furthermore, paternal investment and closeness of relationship with father/stepfather did not affect the strength of the observed relationship. These results are seemingly contrary to the principles of social learning and developmental theory (i.e., the closer the relationship, the more influential the male model; in the case of a nonrelative model, the weaker the relationship between the victimized youth and his father/stepfather, the greater the influence of the nonrelative male model).

Although the exact nature of the above-observed effect cannot be elucidated from the current data, one possibility is that male-perpetrated sexual victimization experiences play a role in the conditioning of pedophilic sexual interests. Consistent with a conditioning hypothesis are data linking a history of sexual victimization in adolescent perpetrators against male children, and patterns of exclusive sexual offending against male children, with higher phallometrically measured deviant sexual arousal (Becker, Hunter, Stein, & Kaplan, 1989; Hunter & Becker, 1994; Hunter, Goodwin, & Becker, 1994). While speculative, it is possible that the conditioning of pedophilic arousal is typically dampened by sexual encounters that produce high levels of affective disturbance and psychological distress. Both sexual coercion and closeness of relationship with the perpetrator have been found to predict higher levels of psychological trauma in child sexual abuse victims (Kendall-Tackett, Williams, & Finkelhor, 1993). The authors opine that if such a relationship exists between childhood sexual victimization by males and pedophilic interests it is probably limited to a highly specific set of psychological

circumstances. Available data suggest that relatively few sexually abused males go on to sexually perpetrate, and other than a significant minority of adolescent offenders with male victims, comparatively few identified adolescent male sexual offenders manifest preferential pedophilic sexual interests.

The above finding, and the conducted contrasts of the effects of physical abuse perpetrated by a genetic father to that perpetrated by a social (step)father, did not support an interpretation of direct genetic transmission for the identified risk factors or offending behaviors. No direct links were found between the physically abusive behavior of the genetic father of the offender toward the offender as a child and Egotistical–Antagonistic Masculinity, Hostile Masculinity, nonsexual violence and delinquency, or sex offender classification (i.e., prepubescent child victim or pubescent female victim). Instead, it was shown that all the statistically significant effects of physical abuse perpetrated by a genetic father on the offender as a child were fully mediated in this model through Psychosocial Deficits, and that this indirect effect was largely attributable to Anxiety/Depression, in particular. The only statistically significant direct effect that was not fully mediated by Psychosocial Deficits was that of abuse perpetrated by a social father on the offender as a child on Egotistical–Antagonistic Masculinity—a finding that cannot plausibly be interpreted as direct genetic transmission.

Although these findings generally support the salience of environmental influences in understanding the etiology of juvenile sexual offending, it is acknowledged that heredity undoubtedly contributes to the emergence of sexual and nonsexual violence in youth. Psychosocial deficits may themselves, at least in part, represent heritable traits and thus could be passed on to offspring by both mothers and fathers. If psychosocial deficits help explain engagement in child abuse, then the finding that physical abuse by a genetic father produced greater psychosocial deficits in youth than that perpetrated by social (step)fathers may be attributable to the genetic transmission of such deficits from father to son. Thus, the only behavioral genetic hypothesis that the current findings ruled out was that of *direct* genetic transmission of the identified risk factors and offending behaviors—not *indirect* genetic effects that contribute to emergent problem behaviors. While beyond the scope of this paper, the interested reader is referred to papers by behavioral geneticists that address the heritability of personality traits (Lykken, 1995; Rutter, Giller, & Hagell, 1998) and environment–genetic interactions in understanding socialization processes (Udry, 2000).

The conducted multivariate and univariate analyses converge in highlighting the central and critical importance of Psychosocial Deficits in adolescent sexual offending against children, and engagement of the overall juvenile sex offender population in nonsexual violence and delinquency. Most of the deleterious effects of early abuse and early exposure to adult models of aggression toward both women, in particular, and society, in general, were at least partially mediated by this factor. Furthermore, Psychosocial Deficits either directly or indirectly predicted all the major risk and outcome factors assessed in this study, including

Egotistical–Antagonistic Masculinity, Hostile Masculinity, Nonsexual Violence and Delinquency, and Sexual Offenses Against Children. These findings therefore underline the importance of addressing deficits in self-esteem, self-efficacy, and social competency in clinical programming for identified juvenile sex offenders, especially those that molest children.

It is noted that the observed relationship between Psychosocial Deficits and Nonsexual Violence and Delinquency, and the greater presence of the former in offenders of prepubescent children, may help explain the somewhat counterintuitive finding that offenders of children were more likely than offenders of pubescent females to have been previously arrested for a nonsexual crime. Given the finding that offenders of pubescent females display more aggression in their sexual assaults than do offenders of children, it is possible that different findings would be obtained if the two groups were compared on previous arrest for violent (nonsexual) crimes against persons.

The study's findings are also believed to hold implications for prevention programming. Sexually offending youth were found to have very high levels of exposure to child maltreatment, abuse of females, and male-modeled antisocial behavior. Psychosocial Deficits appear to be a mediator of the effects of such exposure and emergent sexual aggression and nonsexual violence and delinquency. It would appear appropriate for secondary prevention programming to focus on enhancement of self-esteem and social skills in at-risk populations of young males, and to examine how exposure to the described risk factors may have contributed to distorted cognitions regarding the nature of masculinity and male–female relationships.

Although this study produced findings believed to be relevant to understanding developmental antecedents of juvenile sexual offending, and differences between offenders of children and pubescent females, the following limitations are noted. The studied sample solely consisted of juvenile sex offenders in institutional treatment programs who had engaged in hands-on sexual offending against children or pubescent females and who volunteered for participation in the study. It is not known if the obtained results generalize to the larger population of juvenile sex offenders, including those who target pubescent males, those who engage in hands-off sexual offending (e.g., exhibitionism), and those typically found in community-based treatment programs. Also, as previously noted, the obtained sample was heavily weighted toward sexual offending against children and there may have been an insufficient number of offenders against pubescent females to adequately test hypothesized differences between the contrasted groups.

Analyzed data were limited to those obtained via self-report instruments or archival record review. A number of the self-report instruments were designed for use with adults and did not have adolescent norms. Very limited language modifications were made where necessary to make questionnaire items appropriate for juveniles. Study resources did not permit obtaining ratings of the youth and his psychosocial characteristics/attitudes from other informants (e.g., parents, therapists) or confirmation of the accuracy of self-reported developmental data. It

is acknowledged that self-report data may be impacted by a number of variables, including mood, social desirability, and memory distortion.

In a subsequent study, these researchers will further test hypothesized differences between adolescent males that sexually offend against children and those that target pubescent females. An attempt will be made to identify subtypes of each major grouping of these youth and to further elucidate the role of specific developmental risk factors in shaping patterns of sexual and nonsexual violence and delinquency. The follow-up study will involve an expanded sample of adolescent male sex offenders and include those that are treated in community-based programming. The number of explanatory constructs will be expanded to include psychopathy, sexual deviance, family functioning/parenting style, and peer affiliation. Data will be collected from archival records, youth, and their therapists. Finally, prospective tracking of juvenile sex offenders' response to treatment and postrelease rates of sexual and nonsexual recidivism will be conducted so as to enrich the set of descriptors associated with juvenile sex offender subtypes.

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