ORIGINAL PAPER

Individual, Family, Peer, and Academic Characteristics of Male Juvenile Sexual Offenders

Scott T. Ronis · Charles M. Borduin

Abstract This study examined the individual functioning, interpersonal relations, and academic performance of 115 male juveniles who were divided into 5 demographically matched groups (sexual offenders with peer/adult victims, sexual offenders with child victims, violent nonsexual offenders, nonviolent nonsexual offenders, and nondelinquent youths). Parents and youths completed self-report instruments, behavior rating inventories, and a videorecorded interaction task, and teachers completed a rating measure. Results showed that juvenile sexual offenders, like juvenile nonsexual offenders, had more behavior problems, more difficulties in family and peer relations, and poorer academic performance than did nondelinquent youths. However, juvenile sexual offenders and nonsexual offenders did not differ on any of the measures of individual or interpersonal adjustment. The implications of these findings for research, theory, and treatment are discussed.

Youths arrested for sexual offenses often receive specialized treatment services in the juvenile justice and mental health systems (see Borduin & Schaeffer, 2001; Brown & Kolko, 1998; Hanson et al., 2002, for reviews). The delivery of specialized treatment services to juvenile sexual offenders presupposes that these youths have different psychosocial characteristics than do other juvenile offenders. Unfortunately, however, very few controlled studies have examined the characteristics of juvenile sexual offenders,

S. T. Ronis · C. M. Borduin (✉)
Department of Psychological Sciences, University of Missouri,
Columbia, MO 65211-2500, USA
e-mail: Borduinc@missouri.edu

and the vast majority of studies have included relatively serious methodological limitations (see Becker, 1998; Davis & Leitenberg, 1987). Indeed, there is almost a complete absence of studies that have included appropriate comparison groups (e.g., juvenile offenders who have not committed sexual offenses). Without such control groups, it is difficult to determine whether observed results are linked with sexual offending in particular or with delinquency in general. Moreover, the data in many studies are derived from clinical impressions and unstandardized assessment instruments, and youth self-reports are often the primary source of information. In light of these methodological difficulties, findings from research conducted to date should be viewed as quite tentative.

In developing an empirical base regarding juvenile sexual offenders, it seems most efficacious to examine variables that are consistent with comprehensive theories of delinquency (Farrington, 1994; Rutter, 2003). Elliott and his colleagues (Elliott, Huizinga, & Ageton, 1985; Elliott & Menard, 1996) have validated an integrated theory of delinquency that combines elements of strain theory, control theory, and social learning theory. This integrated theory proposes that low bonding to conventional socializing agents (i.e., family, school) increases the likelihood that youths will associate with deviant peers, and association with such peers is viewed as the primary determinant of delinquent behavior. Similarly, developmentalists (e.g., Bronfenbrenner, 2002; P. Minuchin, 1985) and family systems theorists (e.g., Henggeler, Schoenwald, Borduin, Rowland, & Cunningham, 1998; S. Minuchin & Nichols, 1998) have emphasized that child behavior is linked with the reciprocal interplay between child characteristics and the key systems in which youths are embedded. However, in contrast to the unidirectional model proposed by integrated theory, the contextual/systemic perspective emphasizes the bidirectional fit between child

behavior and social context. Nevertheless, the integrated and contextual/systemic perspectives underscore the roles of individual child characteristics, family relations, and extrafamilial factors (e.g., peers, school) in the development of antisocial behavior.

Integrated theory and contextual/systemic perspectives have stressed the importance of family bonding (i.e., affective ties) and family organization (i.e., adaptability, control) in the development of delinquency. In uncontrolled studies and studies with incarcerated samples, investigators have found that male juvenile sexual offenders report high rates of conflict and low rates of positive communication in their families (Fagan & Wexler, 1988; Hudson & Ward, 1997). Investigators have also shown that male juvenile sexual offenders report high rates of family disorganization and dysfunction (Fagan & Wexler, 1988; Kobayashi, Sales, Becker, Figueredo, & Kaplan, 1995). However, studies using appropriate control groups are needed to determine whether such family problems are associated uniquely with sexual offending or more generally with delinquent behavior.

A central aspect of the integrated model is that delinquent youths associate extensively with deviant peers. In contrast with social learning theory (e.g., Snyder, Reid, & Patterson, 2003), however, the integrated model does not suggest that the peer relations of delinquent youths are deficient in positive affect and social skills (Agnew, 2003). Although the evidence is sparse, there is a general consensus from uncontrolled studies that male juvenile sexual offenders report difficulty maintaining close relations with peers (see Becker, 1998; Borduin & Schaeffer, 2001). However, it is not known whether juvenile sexual offenders associate extensively with deviant peers.

The integrated and contextual/systemic models also emphasize the role of school bonding (i.e., academic performance, involvement in extracurricular activities) in the development of delinquency. Although studies have lacked key comparison groups, researchers have reported that male juvenile sexual offenders have lower academic achievement and more truancy from school than do nondelinquent youths (Fehrenbach, Smith, Monastersky, & Deisher, 1986; Ford & Linney, 1995).

Finally, from both integrated and contextual/systemic perspectives, individual youth characteristics are also important correlates of delinquent behavior. The extant research with male juvenile sexual offenders has emphasized the assessment of psychiatric symptomatology rather than the study of cognitive and social developmental processes. This research suggests that sexual offenders report high rates of emotional and behavioral problems (Awad & Saunders, 1991; Ford & Linney, 1995; Katz, 1990). Again, however, studies have not included pertinent comparison groups.

In summary, on the basis of the results of studies that typically did not include appropriate control groups, standardized measures, or multiple perspectives, investigators have concluded that juvenile sexual offenders evidence emotional and interpersonal deficits that are generally consistent with major theories of delinquent behavior. The primary purpose of this study is to provide a more rigorous evaluation of the characteristics of male juvenile sexual offenders and of the key systems in which they are embedded. As such, this study includes several relative strengths. First, because the vast majority of youths treated as juvenile sexual offenders in the juvenile justice and mental health systems have also committed nonsexual offenses (Butler & Seto, 2002; Elliott, 1995), our selection of sexual offenders was not constrained by the presence or absence of arrests for nonsexual crimes. Thus, our goal was to obtain sexual offender samples that, at least in our judicial district of approximately 150,000 people, reflected the arrest histories that typically occur in these populations. Second, in contrast to most prior studies in this area, the present study distinguishes between male juveniles who have sexually offended against peer or adult victims and male juveniles who have sexually offended against younger child victims; our classification of sexual offenders on the basis of victim age is consistent with recent typologies of youths arrested for sexual offenses (see Becker, 1998; Charles & McDonald, 1997; Langton & Barbaree, 2006). Third, we include comparison groups of demographically matched violent nonsexual offenders, nonviolent nonsexual offenders, and nondelinquent youths to help determine the unique and common correlates of different forms of sexual offending; the violent and nonviolent comparison groups were chosen to represent subtypes of serious juvenile offenders (see Loeber & Farrington, 1998). Finally, the measurement methodology includes both standardized self-report measures that are obtained from multiple respondents and observational measures of family interaction. As described subsequently, we selected measures that reflected the central constructs used in the integrated and systemic theories regarding the causes of delinquent behavior.

Method

Participants

Participants were 115 10- to 17-year-old boys and their parent(s) who were divided into five equal-sized groups ($n = 23$ per group): sexual offenders with peer or adult victims (PS), sexual offenders with child victims (CS), violent nonsexual offenders (VN), nonviolent nonsexual offenders (NN), and nondelinquent youths (ND). The four groups of male offenders were a subset of a larger sample ($N = 599$) of adjudicated delinquent youths who had been referred consecutively to the Missouri Delinquency Project (Borduin et al., 1995; Borduin & Schaeffer, 2001). We did not include females in the present

study because only two female offenders from our larger sample had been adjudicated for a sexual offense. Referrals to the larger sample included all families in which the youth (a) had at least two arrests, (b) had been detained previously for at least four weeks, (c) was currently living with at least one parent figure, and (d) showed no evidence of psychosis or dementia. The mean age of the youths in the larger sample was 14.4 years and 59% were male. The ND youths were a subset of a larger sample ($N = 86$) of youths recruited from registries of public school students during the same time that delinquent youths were referred to the project. The ND youths and their families were from the same neighborhoods as the families in the offender groups but had no history of (a) arrests for criminal activity or (b) inpatient psychiatric treatment. Thus, the ND youths did not evidence serious problems yet were from similar sociocultural backgrounds to those of the delinquents.

Primary caregivers in the present study ranged in age from 23 to 55 years ($M = 37.7$) and were predominantly biological mothers ($n = 111$), although the sample also included 3 stepmothers and 1 biological father as primary caregivers. Most (56.5%) of the youths lived in two-parent households, although only about one third (32.2%) lived with two biological parents.

The participants were selected from the larger sample in the following manner. First, the youths' arrest records were examined, and 23 youths were identified who met the criteria for inclusion in the PS group. Next, each PS youth was matched with (a) 1 of the 26 youths who met the criteria for inclusion in the CS group, (b) 1 of the 221 youths who met the criteria for the AN group, (c) 1 of the 329 youths who met the criteria for the NN group, and (d) 1 of the 86 youths who met the criteria for the ND group. The five groups were matched as closely as possible on age (within 2 years), family socioeconomic status (within one class level), and race (identical for three of the five groups). As shown in Table 1, the groups did not differ significantly in youth age ($M = 14.0$ years), grade in school (40.2% were in the eighth or ninth grades), social class (50% were lower socioeconomic status, corresponding to Class IV or V; Hollingshead, 1975), race (67.8% were Caucasian and 32.2% were African American), or number of parents in the home. The four groups of offenders differed from the ND youths but not from each other on history of substantiated sexual or physical abuse (38.0% of the offenders and none of the ND youths had been abused). Within each group, there were no differences between participants included in the present study and unmatched participants on any of the background variables.

Table 1 Participant background characteristics by group

Variable	Group[a]					Analyses	
	PS	CS	VN	NN	ND	F	X^2
Youth age (years)							
M	13.83	13.26	14.35	14.09	14.35	1.45	
SD	1.83	1.94	1.67	1.70	1.87		
Grade in school							
M	8.17	7.57	8.45	8.41	8.95	1.62	
SD	1.92	2.15	1.71	1.59	1.99		
Number of arrests							
M	7.17	10.75	9.76	6.48	—	1.80	
SD	5.24	8.85	7.41	5.02	—		
Social class[b] (%)							
Class V	21.7	21.7	30.4	26.1	8.7		18.88
Class IV	30.4	39.1	21.7	21.7	30.4		
Class III	30.4	17.4	26.1	34.8	17.4		
Class II	8.7	17.4	26.1	8.7	21.7		
Race (%)							
African American	39.1	21.7	39.1	39.1	21.7		3.83
Caucasian	60.9	78.3	60.9	60.9	78.3		
Two-parent households (%)	73.9	65.2	56.5	52.2	34.8		8.14
Sexual or physical abuse history (%)	34.8[a]	47.8[a]	39.1[a]	30.4[a]	0.0[b]		14.38**

Note. PS: sexual offenders with peer/adult victims; CS: sexual offenders with child victims; VN: violent nonsexual offenders; NN: nonviolent nonsexual offenders; ND: nondelinquent youths. Means that do not share any common subscripts across rows are significantly different at the .05 level. For youth age and grade in school, $dfs = 4, 107$; for number of arrests, $df = 3, 76$; for social class, $df = 16$; for race, two-parent households, and sexual or physical abuse history, $df = 4$.

[a] $n = 23$ for each group.

[b] Based on Hollingshead's (1975) Four-Factor Index of Social Status.

** $p < .01$.

The selection criteria for the PS group included (a) at least one arrest ($M = 1.70$, $SD = 0.93$) for a sexual offense (i.e., sexual assault [$n = 3$], attempted rape [$n = 6$], rape [$n = 14$]) against a peer ($n = 20$) or an adult ($n = 3$) victim and (b) no arrests for sexual crimes against younger children. Most (94%) of the offenders in the PS group had engaged in one or more nonsexual offenses, including theft ($n = 12$), aggravated assault ($n = 8$), larceny ($n = 8$), burglary ($n = 1$), and robbery ($n = 1$). The CS group had (a) at least one arrest ($M = 1.91$, $SD = 1.31$) for molesting a younger (i.e., by 3 or more years) child and (b) no history of sexual offenses against peers or adults. The majority (89%) of the offenders in the CS group had also committed one or more nonsexual offenses, including theft ($n = 13$), aggravated assault ($n = 9$), burglary ($n = 8$), and larceny ($n = 6$). The VN group had (a) at least one arrest for a violent nonsexual felony offense (i.e., aggravated assault [$n = 17$], robbery [$n = 6$]) and (b) no arrests for sexual offenses. All of the offenders in the VN group had also committed nonviolent nonsexual offenses. The NN group had (a) at least one arrest for a nonviolent nonsexual felony offense (i.e., theft [$n = 16$], burglary [$n = 5$], larceny [$n = 2$]) and (b) no arrests for sexual offenses or violent nonsexual offenses. Although it is quite likely that some members of each group had committed offenses for which they were not arrested, our classification of sexual and nonsexual offenders on the basis of their arrest histories (rather than self-reported offenses) is consistent with the classification and treatment of these youths in the juvenile justice and mental health systems.

Procedure

The interviewers were graduate and advanced undergraduate students in psychology who were not aware of the purpose of the study and did not have access to clinical information regarding the families. Each interviewer received approximately 20 hours of training prior to the first family contact to standardize the assessment procedures and to recognize and attenuate circumstances (e.g., fatigue, reading problems) that threatened the validity of the assessments.

All families were initially contacted by telephone or by a home visit and were asked to participate in a study of youth individual adjustment and interpersonal relations. Families of offenders were told that participation in the study was voluntary and that refusal to participate would not jeopardize their receipt of court services (e.g., psychotherapy, academic tutoring). They were also informed that participation would contribute to the identification of mental health needs of youth offenders in general and to the continued development of treatment programs for these youths. The youths remained under the jurisdiction of the court regardless of their families' decisions about participating in the study. Families of ND youths were told that they had been identified through a local school registry and were screened for participation on criteria pertaining to criminal arrests and inpatient psychiatric treatment. Approximately 90% of the families of offenders and ND youths that met criteria agreed to participate in the study.

The assessment session took place at the family's convenience either in their home or in a youth center in their neighborhood. Across groups, the majority (71%) of the families completed the assessment in their homes. In two-parent households, both of the parents participated in the assessment. At the beginning of each session, the interviewer reviewed the general procedure and purpose of the assessment, explained confidentiality and consent issues, and obtained written consent from the parent(s) and written assent from the youth. The interviewer then administered a series of self-report instruments and behavior rating inventories in a random order to the parent(s) and youth. In addition, the parent(s) and youth were videorecorded as they discussed and jointly completed a family interaction task. Family members were instructed to work at their own pace and to inform the interviewer when they had completed the task. The interviewer then placed a pencil and blank questionnaire on the table next to the family and started a videorecorder. The interviewer left the room until the discussion was completed (M discussion time $= 10.79$ min).

One of the youth's teachers also completed a paper-and-pencil instrument. The teacher was randomly selected from a list of the youth's current teachers. The teacher was told that the youth was a participant in a study of adolescent socialization.

Dependent measures

Individual adjustment

As described earlier, both the integrated and contextual/systemic perspectives have emphasized that individual characteristics of youths are important correlates of delinquent behavior. Consistent with extant research, individual characteristics were assessed in terms of youth behavioral and emotional problems.

Revised Behavior Problem Checklist (RBPC). Youth behavior problems were assessed through caregiver reports (total score) on the 89-item RBPC (Quay & Peterson, 1987). The RBPC measures four dimensions of child/adolescent psychopathology: anxiety-withdrawal, attention problem, conduct disorder, and socialized aggression. Item scores range from 0 (*no problem*) to 2 (*severe problem*), and caregivers are asked to indicate how much, for example, "staying out late at night" and "stealing in company of others" has been a problem for their child. The subscales have strong psychometric properties (McMahon & Estes, 1997) and have discriminated

between delinquent and nondelinquent groups of adolescents (e.g., Armistead, Wierson, Forehand, & Frame, 1992) as well as violent and nonviolent adolescents (e.g., Blaske, Borduin, Henggeler, & Mann, 1989). Internal consistency coefficients (alphas) for the RBPC subscales ranged from .81 to .96 in the present study.

Brief Symptom Inventory (BSI). Youth psychological distress was assessed by the Global Severity Index (GSI) of the BSI (Derogatis, 1993). The GSI is considered the best single index of respondent emotional distress and is formed by summing scores across the items and dividing by the total number of items. Coefficient alpha for the GSI in this study was .95. Research has supported the convergent and discriminant validity of the BSI with delinquent and nondelinquent youths (e.g., Handal, Gist, Gilner, & Searight, 1993). The 53 self-report items of the BSI are rated on a scale ranging from 0 (*not bothered in the previous week by the symptom*) to 4 (*extremely bothered by that symptom*). A sample item is "How much are you bothered by feelings that others are to blame for most of your troubles?"

Family relations

In this study, we chose measures of cohesion and negative affect to represent central aspects of family bonding. We used measures of adaptability and facilitative information exchange to assess the level of organization in the family. Family bonding (i.e., cohesion, warmth) and family organization (i.e., adaptability, control) represent important explanatory constructs in the contextual/systemic and integrated theories of delinquent behavior. The use of both self-report and observational methods provided different vantage points on family transactional patterns.

Family Adaptability and Cohesion Evaluation Scales-II (FACES-II). Parent and youth perceptions of family relations were evaluated with the 30-item FACES-II (Olson, Portner, & Bell, 1982). The FACES-II assesses the dimensions of *cohesion*, which refers to the emotional bonding and individual autonomy of family members, and *adaptability*, defined as the capacity of the family system to change its power structure, role relations, and relationship rules in response to situational and developmental stress. The Likert-type items are rated on a scale from 1 (*almost never*) to 5 (*almost always*). A sample item is, "Family members feel closer to other family members than to people outside of the family." The subscales have proven useful in the study of general delinquency (Rodick, Henggeler, & Hanson, 1986) and violent offenders (Blaske et al., 1989). Coefficient alphas for the cohesion and adaptability subscales, respectively, were .79 and .72 for youths' reports, and .88 and .74 for parents' reports in the present study. Consistent with the recommendations

of Henggeler, Burr-Harris, Borduin, and McCallum (1991) and Olson (2000), we treated adaptability and cohesion as linear scales in subsequent statistical analyses. In two-parent households, we averaged the scores of the parents to create composite ratings of cohesion and adaptability.

Observational measures. Observational measures were based on the family members' videorecorded discussion on the Unrevealed Differences Questionnaire-Revised (URD-R; Borduin et al., 1995), which consists of nine items pertaining to family affect, decision making, and discipline. Each item includes three to six alternative choices, and the family was instructed to rank the choices in order of preference. The following are example items:

> In our family we need more (a) closeness and loyalty, (b) individual freedom, (c) love, (d) discipline, (e) willingness to sacrifice.

> A distant family relative recently passed away and left our family $500. What should be done with the money? (a) It should all be saved; (b) we should pay off some bills; (c) we should divide it equally among family members; (d) we should spend part on presents and save the rest.

The observational coding system included several measures that have been widely used by developmental and clinical researchers (see e.g., Alexander, 1973; Kerig & Lindahl, 2001; McHale, 1997) and that have discriminated delinquent from nondelinquent adolescents (e.g., Borduin & Henggeler, 1987) as well as between subgroups of delinquent adolescents (e.g., Henggeler, Hanson, Borduin, Watson, & Brunk, 1985). To control for differences in lengths of family discussions, all measures involving frequency counts (i.e., information giving, indifferent and judgmental statements, attempted and successful interruptions, spontaneous problem-solving, superior-dogmatic statements, and control-strategy statements) were converted to rates (i.e., proportions) by dividing by the corresponding family member's talking time (in min.). A single global rating of affect (i.e., across items on the URD-R) was also completed after the observers had watched the entire videotaped discussion. Scoring procedures for the observational measures are available from the authors.

To define the main dimensions that were tapped by the observational measures, we conducted an exploratory factor analysis on the observational data of the families of delinquent and nondelinquent youths who had participated in the larger project ($N = 685$). As recommended by Comrey (1988) and Allison, Gorman, and Primavera (1993), the number of factors to be extracted in the solution was determined through scree plot analysis and parallel analysis (using computer-generated random data) and was fixed. We

used maximum likelihood extraction with Promax rotation, and only those variables with factor loadings on the pattern matrix greater than .4 were considered to define a factor. Two factors, accounting for approximately 43% of the variance, emerged from this analysis. The first factor, *negative affect*, included a 7-point bipolar rating of dyadic affect (negative loading) and rates (per min.) of indifferent and judgmental statements; this factor reflects an aspect of family interaction that is emotionally negative in nature. The second factor, *facilitative information exchange*, included rates of information giving, spontaneous problem solving, superior-dogmatic statements, control-strategy statements, and attempted and successful interruptions; this factor reflects an active exchange of information that facilitates intrafamily communication.

For subsequent analyses, factor scores were derived from the variables that tapped each dimension of observed family interaction. We computed each factor score by multiplying the standardized score for each variable by the appropriate factor score coefficient and then summing the resulting products over all variables in the factor (see Grice, 2001).

Raters included graduate and advanced undergraduate students who received approximately 20 hours of training prior to scoring the videotaped family interactions. Interrater reliability was assessed throughout the study and was determined on 26% of the families. The Cohen's Kappa value was .85 for the bipolar rating of affect, and Pearson product-moment correlation coefficients ranged from .69 to .97 ($M = .82$) on the other measures.

Peer relations

We examined several aspects of youth peer relations that are pertinent to comprehensive theories of delinquent behavior. Association with deviant peers, a central aspect of the integrated model, was assessed using the socialized-aggression subscale of the RBPC. In addition, emotional bonding to peers, which occupies a central role in control theory formulations of delinquent behavior, was measured using the Missouri Peer Relations Inventory (MPRI; Borduin, Blaske, Cone, Mann, & Hazelrigg, 1989). Moreover, family systems theory and developmental contextual approaches emphasize that adolescence is accompanied by increased autonomy from parents, stronger bonding to peers, and more susceptibility to antisocial peer influences (Jaccard, Blanton, & Dodge, 2005).

We obtained youth, parent, and teacher ratings of the youth's peer relations with the 13-item MPRI. Item scores ranged from 1 ("rarely") to 5 ("often"). A sample item is "Please circle the number on the 5-point scale that best describes your child's physical aggressiveness towards peers." A single exploratory factor analysis was conducted on respondent ratings for our larger sample of delinquent and nondelinquent boys. The factor analysis used maximum likelihood extraction with Promax rotation and a fixed number of factors. A two-factor solution (items loading greater than .4 on respective factors) accounted for 42% of the variance. The first factor, *emotional bonding*, included 7 items that reflect emotional warmth and closeness with peers. The second factor, *aggression*, included 4 items that assess an aggressive, acting-out style of peer interaction. Two items did not load on either factor and were excluded. The construct validity of these dimensions has been supported in other studies of serious juvenile offenders (e.g., Blaske et al., 1989; Borduin et al., 1995). In the current study, coefficient alphas for the two factors were .77 and .80, respectively. As before, factor scores were derived by multiplying the standardized score for each of the variables of which the factor was comprised by the appropriate factor score coefficient and then summing the resulting products.

Academic performance

Both integrated and contextual/systemic perspectives have emphasized that low bonding to school is associated with delinquent behavior. Consistent with these perspectives, we assessed youth academic performance as an index of school bonding.

Four items were used to assess youth academic performance (i.e., grades) in respective content areas: math, English, social studies, and science. Parents and teachers reported the youth's grade in each area using a 5-point scale (ranging from $0 =$ grade of F to $4 =$ grade of A). Internal consistency (alpha) for a composite grade score (averaged across respondents and content areas) was .95.

Results

The five groups were compared on measures of individual adjustment, family relations, peer relations, and academic performance using one-way dependent (i.e., matched samples) analyses of variance (ANOVAs) with orthogonal planned contrasts. Three planned contrasts were conducted for each ANOVA: (1) sexual offenders with peer or adult victims (PS) versus sexual offenders with child victims (CS), (2) all sexual offenders (PS, CS) versus all nonsexual offenders (VN, NN), and (3) all juvenile offenders (PS, CS, VN, NN) versus the nondelinquent (ND) group. We were not interested in comparisons between the two groups of nonsexual offenders (i.e., VN and NN) in the present study. We used a Bonferroni adjusted alpha level (.05/3) in the planned contrasts to minimize familywise error. Familywise error was also reduced through the use of data aggregation (i.e., factor scores, composite scores).

Separate effect size indexes, reported as eta-squared (η^2) values, were calculated for each planned contrast and are included in the respective tables. Based on Cohen's (1988) criteria, the majority of the effect sizes were "medium" ($\eta^2 = .06$) to "large" ($\eta^2 = .14$).

Individual adjustment

RBPC

Significant overall effects emerged for anxiety-withdrawal, $F(3, 20) = 6.41$, $p < .01$; attention problems, $F(3, 20) = 11.35$, $p < .01$; conduct disorder, $F(3, 20) = 37.61$, $p < .01$; and socialized aggression, $F(3, 20) = 40.36$, $p < .01$. As shown in Table 2, planned contrasts revealed that parents of juvenile offenders reported more behavior problems (i.e., across subscales) by their sons than did ND parents; however, there were no significant differences between the two groups of sexual offenders or between all sexual offenders and all nonsexual offenders on the behavior problem subscales.

BSI

The omnibus ANOVA was not significant, $F(3, 20) = 1.77$, $p > .05$.

Family relations

FACES-II

Significant overall effects were observed for parents' reports of family cohesion, $F(3, 20) = 9.67$, $p < .01$, and family adaptability, $F(3, 20) = 6.55$, $p < .01$; and for youths' reports of family cohesion, $F(3, 20) = 5.27$, $p < .01$. A marginally significant effect emerged for youths' reports of family adaptability, $F(3, 20) = 2.70$, $p = .07$. As presented in Table 3, planned contrasts indicated that juvenile offenders and their parents reported lower levels of family cohesion and adaptability than did their counterparts in the ND group; the planned contrasts did not show any other significant between-groups differences.

Observational measures

A significant overall effect emerged for negative affect, $F(3, 20) = 3.56$, $p < .05$, but not for facilitative information exchange, $F(3, 20) = 2.01$, $p > .05$. Planned contrasts indicated that families of juvenile offenders evidenced more negative affect than did families of ND youths.

Peer relations

Significant overall effects were observed for emotional bonding, $F(3, 20) = 7.19$, $p < .01$, and aggression, $F(3, 20) =$

Table 2 Group means and standard deviations for measures of youth individual adjustment

Measure	Group[a] PS (1)	CS (2)	VN (3)	NN (4)	ND (5)	$F(\eta^2)$ 1 vs. 2	1, 2 vs. 3, 4	1, 2, 3, 4 vs. 5
RBPC								
Anxiety-withdrawal								
M	5.90	6.62	5.58	5.62	2.61	0.70 (0.03)	0.42 (0.02)	21.04** (0.49)
SD	3.56	3.21	4.49	3.72	2.89			
Attention problem								
M	10.21	12.17	9.35	12.49	3.76	1.10 (0.05)	0.02 (0.01)	35.49** (0.62)
SD	6.82	6.08	6.60	8.10	5.37			
Conduct disorder								
M	15.92	20.40	15.19	20.23	4.81	3.89 (0.15)	0.02 (0.01)	106.57** (0.83)
SD	9.30	8.01	11.31	10.92	5.33			
Socialized aggression								
M	6.99	9.48	9.06	12.00	0.62	1.99 (0.08)	1.94 (0.08)	92.23** (0.81)
SD	4.43	6.34	8.07	8.26	1.49			
BSI (GSI)								
M	0.77	0.54	0.47	0.73	0.51	1.95 (0.08)	0.28 (0.01)	2.62 (0.11)
SD	0.65	0.35	0.37	0.44	0.37			

Note. PS: sexual offenders with peer/adult victims; CS: sexual offenders with child victims; VN: violent nonsexual offenders; NN: nonviolent nonsexual offenders; ND: nondelinquent youths. RBPC: Revised Behavior Problem Checklist; BSI (GSI): Brief Symptom Inventory (Global Severity Index). For the RBPC subscales and for the BSI (GSI), dfs = 4, 22.

[a] $n = 23$ for each group.

**$p < .01$.

Table 3 Group means and standard deviations for measures of family relations

Measure	Group[a]					F (η^2)		
	PS (1)	CS (2)	VN (3)	NN (4)	ND (5)	1 vs. 2	1, 2 vs. 3, 4	1, 2, 3, 4 vs. 5
FACES-II								
Parent report[b]								
Cohesion								
M	56.52	54.28	56.88	55.72	64.77	0.48 (0.02)	0.18 (0.01)	31.63** (0.59)
SD	9.65	10.20	11.09	9.18	6.55			
Adaptability								
M	45.45	45.60	44.89	44.22	50.09	0.01 (0.01)	0.20 (0.01)	17.45** (0.44)
SD	8.07	7.74	9.05	9.57	6.26			
Youth report								
Cohesion								
M	51.87	53.38	53.92	47.46	59.76	0.20 (0.01)	1.23 (0.05)	15.14** (0.41)
SD	9.39	10.16	9.69	11.03	7.96			
Adaptability								
M	42.69	44.97	42.75	41.30	48.12	1.09 (0.05)	1.00 (0.04)	8.44** (0.28)
SD	8.55	8.17	9.16	7.60	6.44			
Observational (factor scores)								
Negative affect								
M	−0.08	−0.06	−0.22	0.38	−0.29	0.03 (0.01)	1.57 (0.07)	8.39** (0.28)
SD	0.47	0.26	0.33	1.00	0.46			
Facilitative information exchange								
M	−0.25	−0.34	−0.28	−0.28	−0.08	3.73 (0.15)	0.10 (0.01)	2.91 (0.12)
SD	0.16	0.19	0.29	0.15	0.53			

Note. PS: sexual offenders with peer/adult victims; CS: sexual offenders with child victims; VN: violent nonsexual offenders; NN: nonviolent nonsexual offenders; ND: nondelinquent youths. FACES-II: Family Adaptability and Cohesion Evaluation Scales-II. For the parent and youth FACES-II variables and for the observational measures, dfs = 4, 22.

[a] $n = 23$ for each group.

[b] In two-parent households, parents' reports were averaged.

** $p < .01$.

11.35, $p < .01$. As shown in Table 4, planned contrasts revealed that juvenile offenders were rated as lower in emotional bonding with peers and as higher in aggression toward peers than were ND youths.

Academic performance

A significant overall effect emerged for youths' grades, F(3, 20) = 12.28, $p < .01$. Planned contrasts showed that juvenile offenders had lower grades in school than did ND youths.

Discussion

In this study we examined whether there are unique problems among youths who have been arrested for sexual offenses. Although other investigators have concluded that juvenile sexual offenders have different problems than do nonsexual offenders, such conclusions often have been based on studies that contained various methodological limitations. Our study was designed to improve on prior work by including two groups of sexual offenders differentiated by victim age, demographically matched comparison groups of nonsexual offenders and nondelinquent youths, and standardized measures obtained from multiple perspectives. Consistent with results from another recent study (Van Wijk et al., 2005), our results suggest that juvenile sexual offenders have problems that are very similar to those of juvenile nonsexual offenders. When considering the sampling and measurement issues emphasized in this study, it seems quite plausible that the characteristics of sexual offenders described in earlier research might have actually reflected more general correlates of delinquency.

Similar to nonsexually offending youths, both groups of sexual offenders evidenced disturbances in their family and peer relations that are consistent with integrated theory (Elliott et al., 1985; Hayes, 1997) and support the role of differential affective ties to conventional and deviant socializing agents. Regarding conventional socializing agents, juvenile sexual offenders were generally similar to nonsexual offenders and showed lower bonding to family (FACES-II, cohesion subscale), school (grades), and prosocial peers (MPRI, aggression and emotional bonding

Table 4 Group means and standard deviations for measures of youth peer relations and academic performance

Measure	Group[a]					F (η^2)		
	PS (1)	CS (2)	VN (3)	NN (4)	ND (5)	1 vs. 2	1, 2 vs. 3, 4	1, 2, 3, 4 vs. 5
MPRI (mean of factor scores for parent and teacher reports)[b]								
Emotional bonding								
M	−0.16	−0.31	−0.11	0.02	0.61	0.32 (0.01)	1.34 (0.06)	21.86** (0.50)
SD	0.71	0.91	0.68	0.60	0.64			
Aggression								
M	0.10	0.38	0.24	0.18	−0.62	2.38 (0.10)	0.05 (0.01)	51.34** (0.70)
SD	0.63	0.54	0.68	0.69	0.48			
Academic performance (mean of parent and teacher reports of grades)[b]								
M	1.89	1.77	1.96	1.31	2.71	0.24 (0.01)	0.65 (0.03)	37.86** (0.63)
SD	0.92	0.81	1.21	0.89	0.58			

Note. PS: sexual offenders with peer/adult victims; CS: sexual offenders with child victims; VN: violent nonsexual offenders; NN: nonviolent nonsexual offenders; ND: nondelinquent youths. MPRI: Missouri Peer Relations Inventory. For emotional bonding, aggression, and academic performance, *df*s = 4, 22.

[a] $n = 23$ for each group.

[b] In two-parent households, parents' reports were averaged.

** $p < .01$.

subscales) than did nondelinquent youths. Regarding deviant socializing agents, juvenile sexual offenders were again like nonsexual offenders in their frequent association with delinquent peers (RBPC, socialized aggression subscale). Thus, in general, the results suggest that juvenile sexual offenders, similar to other delinquent youths, have low bonding to family and school and high involvement with deviant peers.

Juvenile sexual offenders and nonsexual offenders may share a number of common problems because these youths also generally have similar patterns of criminal offending. Indeed, prior studies (e.g., Butler & Seto, 2002; Elliott, 1995) have indicated that as many as 92% of juvenile sexual offenders also commit nonsexual crimes. Likewise, in the present study, 94% of the sexual offenders with peer or adult victims and 89% of the sexual offenders with child victims had also been adjudicated for nonsexual offenses. Thus, although youths arrested for sexual offenses are often treated as a special population by the systems that typically provide services to them (i.e., juvenile justice, mental health), the reality is that juvenile sexual offending is often part of a broader pattern of serious antisocial behavior. Longitudinal research is needed to determine whether the developmental pathways for sexual offending are identical to those for nonsexual offending.

The results do not provide support for distinguishing between different types of sexual offenders. Indeed, the two groups of sexual offenders in the present study displayed a number of common problems but no problems that were specific to a particular type of sexual offending.[1] It is pos-

sible that the same causal factors underlie sexual offending in youths regardless of victim age or that one type of sexual offending plays a causal role in the genesis of another type. Of course, it is also possible that there are variables besides those examined in the present study that uniquely contribute to one type of sexual offending or another. In the future, controlled studies should examine variables (e.g., deviant sexual beliefs and arousal patterns; Lakey, 1992; Murphy, DiLillo, Haynes, & Steere, 2001) pertaining to putative specific causes of sexual offending in youths.

The broad range of problems experienced by juvenile sexual offenders in the present study may help to explain why the development of effective treatment approaches for such offenders has been so challenging (see Borduin & Schaeffer, 2001; Brown & Kolko, 1998). Most treatment approaches for juvenile sexual offenders have used individual or group therapy to focus on deviant thoughts and behaviors of the offending youths and have not addressed the social systems in which these youths are embedded (e.g., family, peers, school). Our results suggest that treatments should be able to address multiple factors associated with juvenile sexual offending, including behavior problems, family relations, peer relations, and academic performance. Indeed, the common individual and interpersonal problems among juvenile sexual offenders and nonsexual offenders would appear to suggest that broad-based treatments (e.g., multisystemic therapy [MST]; Henggeler et al., 1998) that are effective with

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[1] We also examined whether scores on the study measures were significantly correlated with the number of arrests for sexual crimes among

juvenile sexual offenders (collapsing across the two groups of sexual offenders). There were no significant correlations, suggesting that youths with more arrests for sexual crimes did not have problems that differed from those of youths with fewer arrests for such crimes.

nonsexual offenders may hold some promise for the treatment of sexual offenders as well. At present, findings from two efficacy studies with small samples support the potential viability of MST with juvenile sexual offenders (Borduin, Henggeler, Blaske, & Stein, 1990; Borduin, Schaeffer, & Heiblum, 2006), and an effectiveness study evaluating MST with a larger sample of sexually offending youths is in progress.

Several limitations of our study warrant comment. First, statistical power to detect small effects in the present study was relatively low. Although we used planned contrasts in an effort to increase power, it would be desirable to obtain larger samples of juvenile sexual offenders (and thus boost power even more) by recruiting participants from multiple sites. Second, our matching of participants across groups increased internal validity yet represented a threat to the external validity of the results (see Shadish, Cook, & Campbell, 2002). Yet, the absence of differences between matched and unmatched participants on background variables provides some degree of confidence in the generalizability of our findings. Third, it is certainly possible that there are variables besides those examined in the present study that distinguish between juvenile sexual offenders and nonsexual offenders. For example, there is some evidence that exposure to pornography (e.g., Ford & Linney, 1995) or domestic violence (e.g., Baker, Tabacoff, Tornusciolo, & Eisenstadt, 2001) may be relatively common among juvenile sexual offenders. It would be worth directly examining such variables in a study with comparison groups like those in the present study. Fourth, because all of the sexual and nonsexual offenders had at least two arrests ($M = 8.54$), the results may not generalize to youths who are first-time offenders or who have fewer arrests overall. Indeed, the results of a recent meta-analysis (Seto & Lalumiere, 2006) suggest that juvenile sexual offenders may have less extensive histories of conduct problems and other antisocial behavior than nonsexual offenders. Nevertheless, the youths in the present study reflect the serious end of the delinquent behavior continuum and represent the types of offenders about whom investigators should be most concerned.

Finally, it must be emphasized that our data do not address the directionality of causation for either sexual or nonsexual offending. For example, although integrated theory suggests that low family cohesion is an indirect cause of delinquent behavior, the low cohesion reported in families of sexual offenders and other offenders certainly could have resulted from the youths presenting serious and repeated behavior problems. It is also quite possible that low family cohesion and youth behavior problems are reciprocally related to each other (cf. Thornberry, 1996). Yet, although it is difficult to make causal determinations, it should be emphasized that the findings are consistent with key aspects of both the integrated model and contextual/systemic views of child psychopathology. Specifically, behavior problems in youths are best understood within the context of the key systems in which youths are embedded.

References

Agnew, R. (2003). An integrated theory of the adolescent peak in offending. *Youth and Society*, *34,* 263–299.

Alexander, J. F. (1973). Defensive and supportive communications in normal and deviant families. *Journal of Consulting and Clinical Psychology*, *40,* 223–231.

Allison, D. B., Gorman, B. S., & Primavera, L. H. (1993). Some of the most common questions asked of statistical consultants: Our favorite responses and recommended readings. *Genetic, Social, and General Psychology Monographs*, *119,* 153–185.

Armistead, L., Wierson, M., Forehand, R., & Frame, C. (1992). Psychopathology in incarcerated juvenile delinquents: Does it extend beyond externalizing problems? *Adolescence*, *27,* 309–314.

Awad, G. A., & Saunders, E. B. (1991). Male adolescent assaulters: Clinical observations. *Journal of Interpersonal Violence*, *6,* 446–460.

Baker, A. J. L., Tabacoff, R., Tornusciolo, G., & Eisenstadt, M. (2001). Calculating number of offenses and victims of juvenile sexual offending: The role of posttreatment disclosures. *Sexual Abuse: A Journal of Research and Treatment*, *13,* 79–90.

Becker, J. V. (1998). What we know about the characteristics and treatment of adolescents who have committed sexual offenses. *Child Maltreatment*, *3,* 317–329.

Blaske, D. M., Borduin, C. M., Henggeler, S. W., & Mann, B. J. (1989). Individual, family, and peer characteristics of adolescent sex offenders and assaultive offenders. *Developmental Psychology*, *25,* 846–855.

Borduin, C. M., Blaske, D. M., Cone, L., Mann, B. J., & Hazelrigg, M. D. (1989). *Development and validation of a measure of adolescent peer relations: The Missouri Peer Relations Inventory.* Unpublished manuscript, Department of Psychological Sciences, University of Missouri-Columbia.

Borduin, C. M., & Henggeler, S. W. (1987). Post-divorce mother-son relations of delinquent and well-adjusted adolescents. *Journal of Applied Developmental Psychology*, *8,* 273–288.

Borduin, C. M., Henggeler, S. W., Blaske, D. M., & Stein, R. (1990). Multisystemic treatment of adolescent sexual offenders. *Journal of Offender Therapy and Comparative Criminology*, *34,* 105–113.

Borduin, C. M., Mann, B. J., Cone, L. T., Henggeler, S. W., Fucci, B. R., Blaske, D. M., & Williams, R. A. (1995). Multisystemic treatment of serious juvenile offenders: Long-term prevention of criminality and violence. *Journal of Consulting and Clinical Psychology*, *63,* 569–578.

Borduin, C. M., & Schaeffer, C. M. (2001). Multisystemic treatment of juvenile sexual offenders: A progress report. *Journal of Psychology and Human Sexuality*, *13,* 25–42.

Borduin, C. M., Schaeffer, C. M., & Heiblum, N. (2006). *Multisystemic treatment of juvenile sexual offenders: Effects on adolescent social ecology and criminal activity.* Manuscript submitted for publication.

Bronfenbrenner, U. (2002). Preparing a world for the infant in the twenty-first century: The research challenge. In J. Gomes-Pedro, J. K. Nugent, J. G. Young, & T. B. Brazelton (Eds.), *The infant and family in the twenty-first century* (pp. 45–54). New York: Brunner-Routledge.

Brown, E. J., & Kolko, D. J. (1998). Treatment efficacy and program evaluation with juvenile sexual abusers: A critique with directions for service delivery and research. *Child Maltreatment*, *3,* 362–373.

Butler, S. M., & Seto, M. C. (2002). Distinguishing two types of adolescent sex offenders. *Journal of the American Academy of Child and Adolescent Psychiatry*, *41*, 83–90.

Charles, G., & McDonald, M. (1997). Adolescent sexual offenders. *Journal of Child and Youth Care*, *11*, 15–25.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Hillsdale, NJ: Erlbaum.

Comrey, A. L. (1988). Factor-analytic methods of scale development in personality and clinical psychology. *Journal of Consulting and Clinical Psychology*, *56*, 754–761.

Davis, G. E., & Leitenberg, H. (1987). Adolescent sex offenders. *Psychological Bulletin*, *101*, 417–427.

Derogatis, L. R. (1993). *Brief Symptom Inventory: Administration, scoring, and procedures manual*. Minneapolis, MN: National Computer Systems, Inc.

Elliott, D. S. (1995). *Lies, damn lies, and arrest statistics*. Boulder, CO: Center for the Study and Prevention of Violence.

Elliott, D. S., Huizinga, D., & Ageton, S. S. (1985). *Explaining delinquency and drug use*. Beverly Hills, CA: Sage.

Elliott, D. S., & Menard, S. (1996). Delinquent friends and delinquent behavior: Temporal and developmental patterns. In J. D. Hawkins (Ed.), *Delinquency and crime: Current theories* (pp. 28–67). New York: Cambridge University Press.

Fagan, J., & Wexler, S. (1988). Explanations of sexual assault among violent delinquents. *Journal of Adolescent Research*, *3*, 363–385.

Farrington, D. P. (1994). *Psychological explanations of crime*. Aldershot, UK: Dartmouth.

Fehrenbach, P. A., Smith, W., Monastersky, C., & Deisher, R. W. (1986). Adolescent sexual offenders: Offender and offense characteristics. *American Journal of Orthopsychiatry*, *56*, 225–233.

Ford, M. E., & Linney, J. A. (1995). Comparative analysis of juvenile sexual offenders, violent nonsexual offenders, and status offenders. *Journal of Interpersonal Violence*, *10*, 56–70.

Grice, J. W. (2001). Computing and evaluating factor scores. *Psychological Methods*, *6*, 430–450.

Handal, P. J., Gist, D., Gilner, F. H., & Searight, H. R. (1993). Preliminary validity for the Langner Symptom Survey and the Brief Symptom Inventory as mass-screening instruments for adolescent adjustment. *Journal of Clinical Child Psychology*, *22*, 382–386.

Hanson, R. K., Gordon, A., Harris, A. J. R., Marques, J. K., Murphy, W., Quinsey, V. L., & Seto, M. C. (2002). First report of the collective outcome data project on the effectiveness of psychological treatment for sex offenders. *Sexual Abuse: A Journal of Research and Treatment*, *14*, 169–194.

Hayes, H. D. (1997). Using integrated theory to explain the movement into juvenile delinquency. *Deviant Behavior*, *18*, 161–184.

Henggeler, S. W., Burr-Harris, A. W., Borduin, C. M., & McCallum, G. (1991). Use of the Family Adaptability and Cohesion Evaluation Scales in child clinical research. *Journal of Abnormal Child Psychology*, *19*, 53–63.

Henggeler, S. W., Hanson, C. L., Borduin, C. M., Watson, S. M., & Brunk, M. A. (1985). Mother-son relationships of juvenile felons. *Journal of Consulting and Clinical Psychology*, *53*, 942–943.

Henggeler, S. W., Schoenwald, S. K., Borduin, C. M., Rowland, M. D., & Cunningham, P. B. (1998). *Multisystemic treatment of antisocial behavior in children and adolescents*. New York: Guilford.

Hollingshead, A. B. (1975). *The four-factor index of social status*. Unpublished manuscript, Yale University, New Haven, CT.

Hudson, S. M., & Ward, T. (1997). Intimacy, loneliness, and attachment style in sexual offenders. *Journal of Interpersonal Violence*, *12*, 323–339.

Jaccard, J., Blanton, H., & Dodge, T. (2005). Peer influences on risk behavior: An analysis of the effects of a close friend. *Developmental Psychology*, *41*, 135–147.

Katz, R. C. (1990). Psychosocial adjustment in adolescent child molesters. *Child Abuse and Neglect*, *14*, 567–575.

Kerig, P. K., & Lindahl, K. M. (Eds.). (2001). *Family observational coding systems*. Mahwah, NJ: Erlbaum.

Kobayashi, J., Sales, B. D., Becker, J. V., Figueredo, A. J., & Kaplan, M. S. (1995). Perceived parental deviance, parent-child bonding, child abuse, and child sexual aggression. *Sexual Abuse: A Journal of Research and Treatment*, *7*, 25–43.

Lakey, J. F. (1992). Myth information and bizarre beliefs of male juvenile sex offenders. *Journal of Addictions and Offender Counseling*, *13*, 2–10.

Langton, C. M., & Barbaree, H. E. (2006). Conceptual issues in treatment evaluation research with juvenile sexual offenders. In H. E. Barbaree & W. L. Marshall (Eds.), *The juvenile sex offender* (2nd ed., pp. 248–274). New York: Guilford.

Loeber, R., & Farrington, D. P. (Eds.). (1998). *Serious and violent juvenile offenders: Risk factors and successful interventions*. Thousand Oaks, CA: Sage.

McHale, J. P. (1997). Overt and covert parenting processes in the family. *Family Process*, *36*, 183–210.

McMahon, R. J., & Estes, A. M. (1997). Conduct problems. In E. J. Mash & L. G. Terdal. (Eds.), *Assessment of childhood disorders* (3rd ed., pp. 130–193). New York: Guilford.

Minuchin, P. (1985). Families and individual development: Provocations from the field of family therapy. *Child Development*, *56*, 289–302.

Minuchin, S., & Nichols, M. P. (1998). Structural family therapy. In F. M. Dattilio. (Ed.), *Case studies in couple and family therapy: Systemic and cognitive perspectives* (pp. 108–131). New York: Guilford.

Murphy, W. D., DiLillo, D., Haynes, M. R., & Steere, E. (2001). An exploration of factors related to deviant sexual arousal among juvenile sex offenders. *Sexual Abuse: A Journal of Research and Treatment*, *13*, 91–103.

Olson, D. H. (2000). Circumplex Model of marital and family systems. *Journal of Family Therapy*, *22*, 144–167.

Olson, D. H., Portner, J., & Bell, R. (1982). FACES-II. In D. H. Olson, H. I. McCubbin, H. L. Barnes, A. Larson, M. Muxen, & M. Wilson. (Eds.), *Family inventories* (pp. 5–24). St. Paul, MN: University of Minnesota, Department of Family Social Science.

Quay, H. C., & Peterson, D. R. (1987). *Manual for the Revised Behavior Problem Checklist*. Coral Gables, FL: University of Miami.

Rodick, J. D., Henggeler, S. W., & Hanson, C. L. (1986). An evaluation of the Family Adaptability and Cohesion Evaluation Scales and the Circumplex Model. *Journal of Abnormal Child Psychology*, *14*, 77–87.

Rutter, M. (2003). Crucial paths from risk indicator to causal mechanism. In B. B. Lahey, T. E. Moffitt, & A. Caspi. (Eds.), *Causes of conduct disorder and juvenile delinquency* (pp. 3–24). New York: Guilford.

Seto, M. C., & Lalumiere, M. L. (2006). Conduct problems and juvenile sexual offending. In H. E. Barbaree & W. L. Marshall. (Eds.), *The juvenile sex offender* (2nd ed., pp. 166–188). New York: Guilford.

Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Boston: Houghton Mifflin.

Snyder, J., Reid, J., & Patterson, G. (2003). A social learning model of child and adolescent antisocial behavior. In B. B. Lahey, T. E. Moffitt, & A. Caspi. (Eds.), *Causes of conduct disorder and juvenile delinquency* (pp. 27–48). New York: Guilford.

Thornberry, T. P. (1996). Empirical support for interactional theory: A review of the literature. In J. D. Hawkins (Ed.), *Delinquency and crime: Current theories* (pp. 198–235). New York: Cambridge University Press.

Van Wijk, A., Loeber, R., Vermeiren, R., Pardini, D., Bullens, R., & Doreleijers, T. (2005). Violent juvenile sex offenders compared with violent juvenile nonsex offenders: Explorative findings from the Pittsburgh Youth Study. *Sexual Abuse: A Journal of Research and Treatment*, *17*, 333–352.