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PREDICTING ADOLESCENT AND ADULT ANTISOCIAL BEHAVIOR

AMONG ADJUDICATED DELINQUENT FEMALES*

Stephen A. Cernkovich
Department of Sociology
Bowling Green State University

Nadine Lanctôt
Canada Research Chair in Adolescent Males and Females Delinquency
Département de psychoéducation
Université de Sherbrooke

Peggy C. Giordano
Department of Sociology
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ABSTRACT

Studies identifying the mechanisms underlying the causes and consequences of antisocial behavior among female delinquents as they transit to adulthood are scarce and have important limitations: most are based on official statistics, they typically are restricted to normative samples, and rarely do they gather prospective data from samples of high-risk females. By contrast, this research is based on a longitudinal sample of females who were interviewed initially in 1982 (n = 127) when they were institutionalized adolescent offenders, and subsequently as young adults in 1995 (n = 109). Our analyses, focusing on the impact of a variety of family factors derived from social control and strain theory, show that physical and sexual abuse during childhood and adolescence are potent predictors of adult criminality, though not of adolescent delinquency. The implications of the long-term negative impact of childhood and adolescent abuse are discussed, and concrete policy recommendations offered.

**PREDICTING ADOLESCENT AND ADULT ANTISOCIAL BEHAVIOR
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Antisocial behavior tends to be defined and measured differently by criminologists, developmental and social psychologists, and psychiatrists. Each discipline also tends to focus on specific populations and on different points in the life course (Moffitt, Caspi, Rutter & Silva, 2001). Despite these different definitions, research strategies and foci, studies consistently report that males are more antisocial than females (e.g., Moffitt et al., 2001). More specifically, studies conducted by criminologists reveal that official female criminality, as well as self-reported delinquency, is less serious, begins later in adolescence, and is less persistent than male criminality and delinquency (Cernkovich & Giordano, 1979; Lanctôt & LeBlanc, 2002; McCord, 1993; Steffensmeier & Streifel, 1993). This gender difference in antisocial behavior is an accepted fact in criminology and it is clear that the gap is largest for serious offenses (Cernkovich & Giordano, 1979; Elliott, Huizinga & Menard, 1989; Steffensmeier, Schwartz, Zhong & Ackerman, 2005). For example, a recent study based on official statistics, victimization surveys, and self-reported delinquency shows a small gender gap for minor acts of violence as compared to a larger gap for more serious forms of violence, such as aggravated assault (Steffensmeier et al., 2005). While a detailed description of the nature and extent of female antisocial behavior is beyond the scope of the current research (see Lanctôt & Le Blanc 2002 for more details), it remains important to highlight the widespread agreement that the male-female difference in antisocial behavior is more a matter of level of involvement than of types of offenses committed (Britton, 2000; Canter, 1982; Cernkovich & Giordano, 1979; Lanctôt & LeBlanc, 2002).

As a result of their lower levels of involvement in antisocial behavior, female offenders have, perhaps understandably, been understudied historically. However, during the 1970s evidence began to mount that females were involved in a significant amount of antisocial behavior and this level of involvement appeared to be increasing in both frequency and versatility

(Adler 1975; Cernkovich & Giordano, 1979; Simon, 1975; Steffensmeier, 1978). As a result, the pace of research on female criminality sped up considerably and a variety of explanations were offered for the upsurge in antisocial behavior among adolescent girls and adult women (Adler, 1975; Simon, 1975; Ageton, 1983; Berger, 1989; Smart, 1976; Steffensmeier, 1980; Steffensmeier & Allen, 1988). As research on female offenders has continued, more researchers have included females in their samples and have studied female crime and delinquency more comprehensively than ever before (e.g., Campbell, 1981; Cernkovich & Giordano, 1979; Côté, Zoccolillo, Tremblay, Nagin & Vitaro, 2001; D'Unger, Land & McCall, 2002; Giordano & Cernkovich, 1979; Lanctôt & LeBlanc, 2002; Norland, Wessel & Shover, 1981; Silverthorn & Frick, 1999; Silverthorn, Frick & Reynolds, 2001). Still, and as stated recently by Britton (2004: 61): "criminology remains one of the most thoroughly masculinized of all social science fields." In fact, although more and more researchers are including both males and females in their samples, gender is all too often only a control variable in their analyses (Lanctôt & LeBlanc, 2002), with relatively few studies focusing specifically on female offending (MacDonald & Chesney-Lind, 2001). Such an empirical weakness contributes to a superficial understanding of females' involvement in antisocial behavior since it does not allow for an assessment of their specific risk factors. Thus, the first objective of this paper is to better identify those risk factors associated specifically with females' involvement in crime and delinquency.

Moreover, researchers have infrequently studied delinquent females once they move into adulthood, focusing instead on childhood and adolescence (Lanctôt & Le Blanc, 2002). To be sure, there has been some significant research on female offending, career trajectories, and serious female offenders (e.g., Côté, Zoccolillo, Tremblay, & Nagin, 2001; Dunforth & Elliott, 1984; D'Unger, Land & McCall, 2002; Giordano, Cernkovich & Lowery, 2004; Lanctôt, Bernard & LeBlanc, 2002; Moffitt et al., 2001; Silverthorn & Frick, 1999; Silverthorn, Frick & Reynolds, 2001), but this research is relatively limited in comparison to the large body of similar research on males. More importantly, most longitudinal studies conducted on females have examined

outcomes associated with involvement in juvenile delinquency in young adulthood (e.g., socioeconomic attainment, level of education, single parenthood, mental health) rather than assessing whether risk and protective factors measured in adolescence are predictive of adult criminality (Bardone, Moffitt, Caspi, Dickson & Silva, 1996; Giordano, Cernkovich & Lowery, 2004; Krohn, Lizotte & Perez, 1997; Lanctôt, 2005; Pajer, 1998; Robins, 1986). This can be explained partly by the low prevalence of adult criminality among women, particularly serious criminality. Thus, those studies that do include females typically do not contain a very large number of serious female offenders. For example, Wolfgang, Thornberry & Figlio (1987) reported that only 1.9% of the girls in their large cohort sample had committed a violent offense resulting in injury to the victim. Similarly, only two girls in the National Youth Survey qualified as serious violent offenders among youth who offended at a high rate for more than a year (Huizinga, Morse & Elliott, 1992). Finally, Moffitt, Caspi, Rutter & Silva (2001) classified only six females as life-course persistent offenders in their study of male and female offense patterns. Consequently, because few researchers have examined whether the risk factors associated with adolescent female delinquency are also predictive of female crime in adulthood, this specific focus is the second objective of the present study.

THEORETICAL ORIENTATION

In an effort to identify the risk factors associated specifically with female delinquency and to predict adult criminality among a sample of seriously delinquent adolescent females, we rely on social control and strain theory as our conceptual guides. This is consistent with our assumption, validated by considerable research (Lanctôt & LeBlanc, 2002; Moffitt et al., 2001), that many of the factors responsible for male crime and delinquency explain female antisocial behavior as well, even if not always in precisely the same fashion. Both social control and strain theory have long and distinguished histories in the field, with strain theory enjoying a resurgence since Agnew's (1992) introduction of his General Strain Theory.

Hirschi's (1969) seminal version of control theory asserts that the causes of antisocial behavior are obvious and need little explanation: such behavior is fun, expedient and often a reflection of a basic pleasure-seeking state. People will avoid antisocial behavior when they are bonded to society. This means that those who are attached to parents and conventional peers, committed to the school and academic pursuits, involved in conventional activities at home, with peers and at school, and have conventional beliefs will be unlikely to engage in antisocial behavior, either in adolescence or adulthood. Social control theory proposes that those youth who continue their antisocial behavior into adulthood do so precisely because they are un-bonded – they were un-bonded as adolescents and the remain un-bonded as adults. It is possible in the social control framework for un-bonded youth to establish meaningful relationships as adults, via marriage and through participation in the workforce for example, and thereby become relatively conforming adults. In the absence of this conventional bonding in adulthood, however, such individuals are likely to continue the pattern of antisocial behavior established in childhood and adolescence.

Because of its focus on bonding and relationships with others, particularly family members, control theory has long been thought to be particularly relevant to the explanation of female antisocial behavior. Numerous researchers have examined female offenders through a social control lens (e.g., Krohn & Massey, 1980; LeBlanc, Ouimet & Tremblay, 1988; Shoemaker, 2000), and many have focused specifically on family relationships (e.g., Canter, 1982; Campbell, 1987; Cernkovich & Giordano, 1987; Heimer & DeCoster, 1999; Nye, 1958). Most of the empirical research indicates that family social control factors are as important in explaining female as male delinquency (e.g., Canter, 1982; Cernkovich & Giordano, 1987; Farnworth, 1984, Moffitt et al., 2001; Rosen, 1985; VanVoorhis, Cullen, Mathers, & Garner, 1988). In addition, among the variety of family factors involved, lack of supervision appears to have the strongest effect on both female and male delinquency (Bélanger, Lanctôt, & Le Blanc, in press). Thus, the notion that family control and bonding play an important role in female crime and delinquency remains a popular one and continues to garner empirical support. However, the

research in the social control area has been relatively silent on whether the family factors known to be predictive of female delinquency are also associated with criminal behavior among adult women.

Despite its relevance, control theory, as with other main-stream criminological theories, has been criticized for the neglect of women's experiences as victims of abuse and oppression (Belknap & Holsinger, 1998; Britton, 2004; Chesney-Lind & Sheldon, 1998; Smart, 1976). However, the feminist model (see, for e.g., Belknap & Holsinger, 1998; Chesney-Lind & Sheldon, 1998; Gilfus, 1992; Sommers & Baskin, 1993) does highlight the critical importance of abusive family relationships in the genesis of female delinquency. This model asserts that antisocial behavior becomes a necessary survival strategy for many abused girls. Because of their victimization and abuse in the family, many adolescents run away from home and are forced to turn to a variety of crimes, such as prostitution and theft, in order to survive while living on the streets. Many also become involved in the drug culture that is a major facet of street life. Recurrent and persistent victimization in different contexts can then lead to adult criminality (Sommers & Baskin, 1993). This explanation of female delinquency is consistent with General Strain Theory (GST). As reported by Katz (2004: p. 26): "the basic premise of revised strain theory is that stressful events in the family or neighborhood lead to negative emotions that then lead to delinquency".

In contrast to social control theory, General Strain Theory (GST) has been applied almost exclusively to males. Gender is sometimes included in models evaluating the theory, but typically only as a control variable (e.g., Agnew, Cullen, Burton, Jr., Evans, & Dunaway, 1996; Paternoster & Mazerolle, 1994). GST identifies three general categories of strain capable of producing antisocial behavior: the failure to achieve positively valued goals, the loss or removal of positively valued goals, and the presentation of noxious stimuli. Like social control theory, the strain model allows for the possibility that some antisocial individuals may return to conforming behavior, or at a minimum moderate or discontinue their involvement in antisocial behavior, if the source of strain is removed or if they learn to cope with it in conventional ways (Agnew &

Brezina, 1997; Agnew, et al., 1996; Broidy & Agnew, 1997; Cernkovich, Giordano & Rudolph, 2000; Uggen, 2000).

Even though GST makes predictions regarding gender differences, we know relatively little about the ways in which strain applies to antisocial behavior among females. In one of the few applications of GST to females, Broidy and Agnew (1997) note that while there is little evidence that females experience less strain than males, there is reason to believe that certain types of strain are likely to have a more significant impact on females as compared to males. We know, for example, that females more often report relationship-related stressors than do males, and are more upset when they experience social network and interpersonal problems, especially those involving family and friends. Abusive and failed relationships are a major source of strain for many females as well, as is the failure to be treated in a just and fair manner by family members, intimate others, and employers (Broidy & Agnew, 1997). Other family strain factors have also been noted as being particularly important for adolescent females. Two recent studies (Bélanger, Lanctôt & Le Blanc, in press; Farrington & Painter, 2004) report that socioeconomic disadvantages, parental deviance, and family conflicts are important risk factors for female delinquency.

While these few studies evaluating the impact of family strain factors on female delinquency are informative, little research has examined the long term impact of these factors on adult criminality. Assessments of the relationship between child abuse and adult criminality have, however, been conducted. This research shows that females who have been abused in childhood are more at risk to be arrested in adulthood for property or violent offenses (Ireland, Smith, & Thornberry, 2002; Siegel & Williams, 2003; Widom & Maxfield, 2001). Child abuse also increases the risk for an alcohol and drug arrests in adulthood for females (Ireland & Widom, 1994). Thus, while the long-term impact of child abuse on criminality is evident in the arrest data, this link is less clear in research based on self-report data. After taking into consideration demographic characteristics, family characteristics, and adolescent involvement in delinquent behavior, Smith & Ireland (2005) observed that child abuse increases the risk of arrest but does

not significantly increase the risk for general self-report offending and self-report alcohol problems in young adulthood. However, Rebellon and Van Gundy (2005), using self-report data from the National Youth Survey, found a persistent relationship between physical parental abuse and delinquency among the males and females in their sample, but their social control variables would not be able to account for this relationship. In addition, Fagan (2005) observed among respondents in a national sample that abuse occurring in adolescence has both immediate and sustained (more than 15 years later) effects on offending, though the relationship tends to weaken over time. Given the dearth of studies using prospective self-report data among samples of high-risk females, it is clear that more research is needed in this area.

In employing social control and strain theory to guide our research we focus on family relationships and experiences during adolescence, and expect that bonding and strain in this context will be good predictors of both adolescent and adult behavior. Specifically, we predict that weak family bonding and high levels of family strain experienced during adolescence will be predictive of antisocial behavior during adolescence and criminal behavior in early adulthood. Although the sample we are using to test these predictions is highly selective and characterized by high rates of antisocial behavior, relatively low levels of bonding and high rates of strain, there is considerable variation along all of these dimensions. As a result, we expect to find that those in the sample who have relatively stronger levels of bonding and lower levels of strain during adolescence will evidence less involvement in delinquency as adolescents and in criminality as young adults.

RESEARCH DESIGN

Sample

The data used in this research are derived from a larger study (Cernkovich & Giordano, 2001) based on two related data sources: (1) a sample of male and female adolescents living in private households in the Toledo, Ohio Metropolitan Area ($n = 942$) and (2) a sample of

previously institutionalized male and female offenders from across the state of Ohio (n = 254). The primary focus of this larger study is the causes and correlates of male and female delinquency, as well as the long-term consequences of early involvement in antisocial behavior. From the outset, the study has focused primarily on family, peer, economic, behavioral and inter- and intrapersonal factors in both the genesis and consequences of antisocial behavior. Respondents in both samples were interviewed initially in 1982 when they were adolescents and subsequently in 1992 (the household sample) and 1995 (the previously institutional respondents) as young adults. The 75-90 minute interview schedule consisted of highly structured close-ended questions, although time varying semi-structured interviews resulting in more qualitative data were conducted at the conclusion of the structured interview. Only the sample of previously institutionalized females is used in the current research. Further, all of the variables included in our analysis are derived from the structured interview.¹

We restrict our analyses to the institutionalized females because our goal is not to compare female offenders to their male counterparts or to females in the general population. Rather, our focus is exclusively on high risk female offenders – those with extensive prior records, disruptive family backgrounds, lives characterized by economic disadvantage, and histories of victimization. Such offenders are rarely included in criminological research, and when they are they are not represented in numbers sufficiently large for meaningful analysis (as noted in the introductory section of this paper). In addition, female offenders often assume a secondary status in the analysis when compared to their male counterparts. We noted previously that that are notable exceptions to these two trends, but the trends are strong ones nonetheless. Finally, it is important to note that while gender comparisons certainly are important and useful,

¹ We believe that our data are well suited to address the research questions posed herein. That is, our aim is not to estimate current prevalence and incidence rates of antisocial behavior, which would require more recent data. Rather our focus is on the impact of a variety of risk and protective factors, as identified by two major theoretical models, on both adolescent delinquency and adult criminality. While rates of antisocial behavior and victimization may be somewhat different today than at the time our data were collected, the general patterns have not changed substantially, and we are confident that our findings and their implications are robust over time. On the other hand, it is possible that the relationships we examine are cohort-specific (see Rebellon & Van Gundy, 2005), suggesting that future research should verify our findings with more recent data.

we believe it is critical to study high-risk, serious female offenders in their own right, just as it is important to study high-risk, serious male offenders absent any comparison with their female counterparts. Studies of the latter type are abundant in the research literature; studies of the former are not.

The initial institutional data were derived from 127 personal interviews conducted in 1982. The respondents comprised the entire population of the only female juvenile institution in the state of Ohio. Most of the respondents were referred to this Department of Youth Services institution from juvenile courts in Ohio's major cities (Cincinnati, Cleveland, Columbus, Dayton and Toledo), although respondents from smaller cities, towns and rural areas were represented as well. The respondents ranged in age from 13 to 21, with a mean of 16.68 years. In 1995, 109 of the original 127 respondents were re-interviewed, an attrition rate of only 14%. The respondents ranged in age from 26 to 34 years at Time 2, with a mean of 29.62 years. At both sampling periods, approximately 60 percent of the respondents were white, 36 percent black. The 109 respondents for whom we have data at both Time 1 and Time 2 constitute our analytic sample.

Logistic regression modeling of response/non-response indicated that follow-up respondents were slightly more likely to be white, but there were no significant social class or age differences between the two groups. Because of the possibility of over-representing the more conforming individuals found in the original sample, several sources of information (e.g., records of military service, driver license registration lists, criminal offender data bases, relatives and neighbors of the respondent) for re-locating and re-interviewing difficult-to-find respondents were utilized and successfully implemented. Further analysis revealed no differences in prior delinquency involvement among those who participated in the re-interview and those who did not. In short, we are confident that those youths who were the least delinquent in 1982 were not over-represented among the re-interviewed respondents.

The interview schedule was designed to assess the social and interpersonal correlates of antisocial behavior. The majority of questions focused on family, peer, school and other

interpersonal issues. Our interest in the present research lies with several of the family variables and self-report delinquent and criminal behavior.

Dependent Variables

Delinquency Involvement was measured at Time 1 by a modified version of Elliott and Ageton's (1980) National Youth Survey self-report delinquency scale. Respondents were asked to report their level of involvement in 27 status, property, and violent offenses during the past year. Responses were coded from 1 ("Never") through 7 ("More Than Once a Day"). The alpha reliability coefficient for this scale is .888.

Adult Criminal Involvement (alpha = .915) was measured at Time 2 as the self-reported involvement over the past 12 months in 22 property, personal, drug and alcohol-related offenses. As was the case with the delinquency involvement scale, the adult criminality measure is based on a modified version of Elliott and Ageton's (1980) self-report scale (absent the status and other adolescent-specific offenses). High scores indicate high levels of adult criminal involvement.

Independent Variables

The independent variables in this study are derived from social control and general strain theory. We use five indices of social control, all of which were measured at Time 1 (1982). In all cases, high scale scores reflect high levels of the construct in question. The first four scales are coded along a five five-point Likert scale from Strongly Agree to Strongly Disagree, while the last one, *Parental Disapproval of Behavior*, has a response format that ranges from "They would not be upset at all" (1) to "They would be very upset" (9).

Family Caring and Trust (alpha = .844) was measured by the following items: My parents often ask about what I am doing in school; My parents give me the right amount of affection; One of the worst things that could happen to me would be finding out that I let my parents down; My parents are usually proud of me when I've finished something I've worked hard at; My parents trust me; I'm closer to my parents than a lot of kids my age are.

Identity Support from Parents (alpha = .793) was assessed by the following negatively worded items: My parents sometimes put me down in front of other people; Sometimes my

parents won't listen to me or my opinions; My parents sometimes give me the feeling that I'm not living up to their expectations; My parents seem to wish I were a different type of person.

Communication with Parents (alpha = .855). Seven items indexed this dimension: How often do you talk to your parents about the boy/girl whom you like very much? Questions or problems about sex? Things you have done about which you feel guilty? Problems you have at school? Your job plans for the future? Problems with your friends? How well you get along with your teachers?

Parental Control and Supervision (alpha = .538) refers to the extent to which parents monitor the behavior of their children. This scale is comprised of three items: My parents want to know who I am going out with when I go out with other girls; In my free time away from home, my parents know who I'm with and where I am; My parents want me to tell them where I am if I don't come home right after school.

Parental Disapproval of Behavior (alpha = .876). Respondents were asked how they thought their parents would respond if they engaged in the following behaviors: Came home too late at night; Dated too many guys at the same time; Found out you were sleeping with your boyfriend; Got into a fight; Dated someone they didn't approve of; Skipped school; Shoplifted; Used marijuana; Used alcohol; Stole a car for a joy ride; Got pregnant/got a girl pregnant.

In addition to these social control variables, we also employ six measures of strain which index two of the three types of strain identified by GST: the loss or removal of positively valued goals and the presentation of noxious stimuli. While all but the last of these (*Conflict with Parents*) are retrospective measures taken at Time 2 (1995), the reference period for all of the strain variables is Time 1 (1982).

Family Trouble (alpha = .637) is a five item scale indexing the degree to which the following were characteristic of the respondent's family during adolescence: People getting on each others nerves; My parents getting on my case about something I didn't do right; My parents putting their own needs above my own; Fighting and arguing; People just "going their own way."

Responses ranged along a 5-point scale from “Never” to “Very Often.” High scores reflect high levels of trouble in the respondent’s family of origin.

Number of Times Moved is a count variable representing how many times during their teenage years the respondent’s family moved from one home or apartment to another. Our assumption in using this as a measure of strain is that frequent relocations have a disruptive and destabilizing effect on the family, particularly its youthful members who may be moving away from their neighborhood friends and changing schools. Responses ranged from 0 to 8, with high scores indicating a high number of moves.

Money Worries (alpha = .751) is a three item scale measuring the degree to which the following were issues of concern in the respondent’s family of origin: Worrying about money problems; Not being able to afford the food, clothing, and housing you needed; Not being able to afford the "extra things" you wanted. Responses ranged from “Never” (1) to “Very Often” (5).

Physical Abuse as a Minor (alpha = .747). Respondents were asked if, when they were growing up, the people who cared for them ever did any of the following things to them: Spank you with a belt or strap? Hit you with an object, like a stick? Hit you with a closed fist? Throw you against the wall? Physically injure you in any other way? Deprive you of food or clothing as punishment? Lock you in a closet or outside for long periods of time? Responses to each item were “Yes” (1) or “No” (0). Scores on the individual items were summed and averaged to form a physical abuse scale ranging from 0 to 1. High scores reflect high levels of physical abuse.

Sexual Abuse as a Minor (alpha = .876). Respondents were asked if, when they were growing up, the people who cared for them ever did any of the following things to them: Make you do something sexual that you did not want to do? Make you touch their breasts or genitals, or touch yours when you did not want them to? Make you look at them naked, or look at you naked, or ever take sexual photographs of you, when you did not want them to? Try, unsuccessfully, to have sexual intercourse with you when you didn't want to by either using force or threatening to use force? Force you to have sexual intercourse either because someone used force or threatened you with physical violence? Get you to have sexual intercourse when you did

not want to because they had given you alcohol or drugs? Responses to each item were “Yes” (1) or “No” (0). Scores on the individual items were summed and averaged to form a sexual abuse scale ranging from 0 to 1. High scores indicate high levels of sexual abuse.

Conflict with Parents (alpha = .708) is a 1982 measure of the extent to which parents and adolescents have arguments or disagreements with one another. Two items indexed this construct: How often do you have disagreements or arguments with your parents? How often do you purposely not talk to your parents because you are mad at them? Responses were recorded along a 5-point scale, from “Hardly Ever or Never” (1) to “Two or More Times a Week” (5). High levels of parent-child conflict are reflected by high scale scores.

Statistical Control Variables

Age at Times 1 and 2, *Race* (white = 1, non-white = 0) and *SES* were included in all regression models because of their association with the dependent and many of the independent variables. *Age* is a continuous variable that ranges from 13-21 at Time 1 (mean = 16.68) and 26-34 at Time 2 (mean = 29.62). Two *SES* scales were computed, one each for Times 1 and 2. For Time 1, mother’s education, mother’s occupation, father’s education and father’s occupation were transformed into z scores and their combined mean calculated to create an overall *SES* measure. For Time 2, the respondent’s income, education, and occupation were transformed into z scores and combined to form a single mean *SES* measure. Time 1 *SES* scores range from -4.04 to 9.07, while the Time 2 measure ranges from -3.61 to 4.40. By definition, the mean of both scales is 0.

ANALYSIS AND FINDINGS

We begin our analysis by making a distinction between those respondents who scored above and below the Time 1 delinquency median and compare their mean scores on the various social control and strain variables identified earlier. This dichotomy is justified by the highly skewed frequency distributions and permits us to explore some of the basic differences between

the more and less delinquent respondents in what is generally a highly delinquent sample.² The data in Table 1 show that the social control variables do a much better job than the strain variables of distinguishing between the more and less delinquent respondents. The more delinquent girls, as compared to their less delinquent counterparts, have significantly lower levels of family caring and trust (the effect size indicates that the mean for the more delinquent group is almost one half standard deviation lower than the mean for the less delinquent group), communication with parents (effect size = 0.36), parental control and supervision (effect size = 0.60), and parental disapproval of behavior (effect size = 0.55). These findings are strongly supportive of the control model insofar as they show that low levels of family attachment and supervision are predictive of high levels of involvement in delinquency.

TABLE 1 ABOUT HERE

As for the strain variables, the more delinquent girls reported significantly more conflict with their parents (the effect size indicates that the mean for the more delinquent girls is three quarters of a standard deviation higher than for the less delinquent girls). It is interesting that none of the other strain variables, including physical and sexual abuse, discriminate between the more and less delinquent respondents. Both strain (Agnew, 1992; Broidy & Agnew, 1997) and feminist (Belknap & Holsinger, 1998; Chesney-Lind & Sheldon, 1998) theories propose that abuse is significantly related to delinquency involvement. This clearly is not the case in our sample of institutionalized females during adolescence insofar as neither sexual nor physical abuse is significantly associated with delinquency involvement.

² While dichotomizing the sample at the delinquency median, and at the adult crime median in our subsequent analysis, is not ideal, the skewness of these variables and our small sample size leave us with few alternatives that would be an improvement over the method we have chosen. Were our sample larger, we would likely split the groups along different dimensions. Still, splitting the sample at the median allows for some interesting and important contrasts.

However, the abuse variables do play a significant role during young adulthood. In fact, the data in Table 2 show that physical and sexual abuse as a minor are the only two variables that discriminate between the more and less adult criminal groups. The more criminal group in adulthood is significantly more likely to have been sexually and physically abused during adolescence than their less criminal counterparts. The effect sizes for the abuse variables indicate that the means for the more criminal respondents are almost one half (for physical abuse) and approximately six tenths (for sexual abuse) standard deviations greater than the respective means for the less criminal respondents. This is consistent with the argument that abuse during childhood often has long term and lasting effects (Fagan, 2005; Ireland, Smith, and Thornberry, 2002; Siegel and Williams, 2003; Widom and Maxfield, 2001). In our data, such abuse is strongly associated with criminal offending in early adulthood. It is important to note, however, that although several of our social control variables distinguish between the most and least delinquent females during their adolescent years, and while two of our strain variables discriminate between the most and least criminal respondents in early adulthood, the data presented thus far do not address the issue of whether these variables are *predictive* of involvement in criminal activities in adulthood.

TABLE 2 ABOUT HERE

Thus we now move to our multivariate analyses so that we can consider the predictive effects of each of the strain and control theory variables while controlling for the others. We first estimate three logistic regression models: one with only the social control variables as predictors, another with only the strain variables, and a final model with both the social control and strain variables included. The dependent variable, delinquency involvement, is split at the median (because it is highly skewed) so that in our logistic analysis we are estimating the effect of each of the predictor variables on the odds of a respondent being in the high offender group as opposed

to the low offender group. Table 3 presents the results of our regression analyses for Time 1 delinquency involvement.

TABLE 3 ABOUT HERE

The data in Table 3 show that neither the social control (Model 1) nor the strain (Model 2) variables are very good predictors of delinquent behavior reported during adolescence. Only one of the social control variables — parental disapproval of behaviors — and one of the strain variables — conflict with parents during adolescence — are significantly associated with delinquency. In the control only model (Model 1) a unit increase in parental disapproval of behaviors is associated with 25% decrease in the likelihood of being in the high offender group. In the strain only model (Model 2) a unit increase in conflict with parents is associated with a 68% increase in the likelihood of being above the median on delinquency involvement as compared to being below the median, and in the combined control-strain model (Model 3) a unit increase in conflict with parents increases the likelihood by 85% that the respondent is in the high offender group. It makes both theoretical and practical sense that parental conflict and parental disapproval of peers are associated with delinquency. It is reasonable to believe that conflict with one's parents can lead an adolescent to associate more with her peers and/or to engage in antisocial behavior as a form of protest or out of frustration; it is equally reasonable to suppose that parental conflict and parental disapproval of peers is a consequence of the adolescent's delinquent behavior. In short, the relationships among these variables are likely reciprocal ones. SES is also significantly associated ($p < .09$) with delinquency in Models 2 and 3. Surprisingly, this effect is a positive one so that for every unit increase in SES the likelihood of being in the high offender groups increases by 16-18%. This result should be interpreted with some caution however, given the overall low socio-economic status of the sample respondents. For example, the average educational attainment is high school graduate for both mother and father, while the average occupational status is between the 5th and 6th lowest categories of a 7-category

occupational scale. In short, high status in this sample is more a relative than an objective construct.

TABLE 4 ABOUT HERE

The data in Table 4 extend our analyses to the prediction of adult criminality. In addition to the social control, strain and combined models, this analysis adds a fourth: a combined social control-strain model that includes prior delinquency involvement as a predictor. None of the variables in the pure social control model (Model 1) is significantly associated with adult criminality, although communication with parents is a significant predictor in the combined strain-control model (Model 3). Communication with parents decreases the likelihood that the respondent will be in the high offender group by almost 50%. Model 2 indicates that only one of the strain variables is significantly associated with adult criminality. Those with the highest sexual abuse scores as minors are 334% more likely than those with the lowest scores to be in the high offender group as adults. Three strain variables are also significant predictors in the combined model (Model 3): physical abuse as a minor increases the likelihood by over 600% that the respondent will be in the high offender group as an adult; being the victim of sexual abuse increases this likelihood by over 260%. Family trouble, on the other hand, decreases the odds by almost 50% ($p < 0.09$) that the respondent will be in the high offender category. However, when prior delinquency is added to the equation (Model 4), this counterintuitive effect of family trouble is no longer significant, suggesting that it was having its effect through prior offending. Prior delinquency itself increases the likelihood of being in the high offender group as an adult by 212%. Two of the three strain variables that were significant predictors in Model 3 remain significant even when prior delinquency is controlled in Model 4, and the magnitude of their influence is little affected by the addition of the Time 1 delinquency variable. Physical abuse and

sexual abuse during childhood and adolescence substantially increase the likelihood of being in the high offender group in adulthood, by 579% ($p < 0.07$) and 287% ($p < 0.08$), respectively.³

Recall that the physical abuse means for the two adult crime groups (see Table 2) are .45 for those above the median and .32 for those below the median. For sexual abuse the means are .43 for those above the median and .21 for those below. Both of these mean differences are statistically significant. Clearly, the adult high crime group is more likely to have been abused both physically and sexually during childhood and/or adolescence, and this abuse is a potent predictor of their criminality. This was not the case for Time 1 delinquency (see Table 1): the means for physical abuse were .38 for those above the delinquency median and .39 for those below the median. For sexual abuse, the means for those above and below the median were identical: .32. Neither of these differences is statistically significant or substantively meaningful. Thus it is not surprising that the abuse variables are not predictive of level of delinquency involvement for the respondents at Time 1. This is not that case at Time 2, however. Here the abuse variables play the most important role of all the variables we examined in sorting the respondents into the low and high offender groups.⁴

DISCUSSION

We began this paper with the goal of examining the impact of family factors on adolescent delinquency and adult criminality among a sample of female respondents who were serious offenders during their adolescent years. Although there has been considerable research on

³ While the coefficients for the abuse variables do not meet the traditional 0.05 threshold for statistical significance, they are not far removed from that standard, and along with the magnitude of the coefficients and small sample size, we believe these to be substantively meaningful effects that are not likely to have been produced by chance.

⁴ Because there is a significant difference in the incidence of sexual abuse by race (white mean = .251, non-white mean = .417; $p < 0.01$), we added a race-by-sexual abuse interaction term to the models in Tables 3 and 4; none of these product terms were statistically significant. Further, although there was not a significant difference in the incidence of physical abuse by race, we included this interaction term in the equations as well, but it did not produce any statistically significant effects. In short, the effects of physical and sexual abuse on adult criminality are not conditioned by race.

female offenders, relatively little of it has been longitudinal in nature, it rarely has focused on high risk populations, and few studies have followed high risk female offenders into adulthood. In addition, few researchers have examined whether the risk factors associated with female delinquency are also predictive of female crime in adulthood. In contrast, our focus in this research was on the long-term impact of a variety of family-related risk factors experienced during childhood and adolescence. Specifically, we examined whether these risk factors were predictive of both adolescent delinquency and adult criminality among our female respondents.

Our research goals were guided by two mainstream theoretical orientations in criminology: social control and strain theory. We operationalized each theory via several variables, all dealing with family relationships and experiences. We hypothesized that weak family bonding and high levels of family strain experienced during adolescence would be associated with delinquent behavior during adolescence and criminal behavior in early adulthood. Our findings, however, showed that family bonding and family strain were relatively poor predictors of adolescent delinquency, and that family bonding also did a poor job of predicting adult criminality. However, family strain, particularly in the form of physical and sexual abuse during childhood, was a potent predictor of adult criminality.

More specifically, our bivariate findings indicated significant differences between those females above and below the adolescent delinquency median for four of our five social control measures. The more delinquent girls reported significantly lower levels of family caring and trust, communication with parents, parental supervision, and parental disapproval of behavior than did their less delinquent counterparts; they also reported substantially more family conflict, which is consistent with strain theory. However, no other strain variable distinguished between the more and less delinquent respondents in the sample at Time 1. Yet our multivariate analysis showed that only parental disapproval of behavior (a social control variable) and conflict with parents (a strain variable) were significantly associated with adolescent delinquency. Thus, our initial analyses suggested that, within the family domain, social control and strain theory do a relatively poor job of distinguishing between higher and lower levels of delinquency involvement

during adolescence among a sample of serious female offenders. Especially surprising was the inability of physical and sexual abuse to discriminate between higher and lower levels of delinquency involvement during adolescence. Both strain (Broidy & Agnew, 1997) and feminist (Belknap & Holsinger, 1998; Chesney-Lind & Sheldon, 1998) theories view abuse as a major catalyst for antisocial behavior among females.

The picture changed rather dramatically when adult criminality was our dependent variable. In contrast to the Time 1 differences, none of the social control variables discriminated between those respondents above and below the criminality median. But among the strain measures, there were substantial differences between the offender groups in physical and sexual abuse as minors: the more criminal respondents reported abuse means that were significantly higher than the means reported by the least criminal respondents. Furthermore, our logistic regression analyses showed that the two abuse variables were the strongest predictors in all of the models in which they were included. Being the victim of sexual abuse as a minor increased the likelihood of being in the high adult criminality group by between 264% and 334%, while being the victim of physical abuse as a minor increased the likelihood by between 579% and 605%. Prior delinquency also increased the likelihood of being in the high offending groups (by over 200%). These results are consistent with a considerable body of research showing that physical and sexual abuse during childhood and adolescence increases the odds of subsequent antisocial behaviors and other problematic outcomes (Fagan, 2005; Belknap & Holsinger, 1998; Chesney-Lind & Sheldon, 1998; Ireland, Smith, & Thornberry, 2002; Lanctôt & Smith, 2001; Siegel & Williams, 2003; Widom, 1991; Widom & Maxfield, 2001).

Our findings validate Lanctôt and LeBlanc's (2002: 175) assertion that "any comprehensive explanation of adolescent females' involvement in deviant behavior must take account of past and present victimization." In our models no other variable competes with the impact of physical and sexual abuse on adult criminality. Our findings are consistent with both a general strain and a feminist explanation. General strain theory suggests that exposure to noxious stimuli, such as abuse, can lead to antisocial adaptations to the strain caused by that abuse. The

feminist model views antisocial behavior as a survival strategy employed by many abused females. However, this survival strategy model has most often been applied to adolescent girls who, because of their victimization in the family, run away from home and subsequently turn to a variety of crimes, such as prostitution and theft, in order to survive life on the streets. Yet in our data, abuse was not predictive of antisocial behavior during adolescence. The childhood and adolescent abuse variables, did however, strongly discriminate between the more and less adult criminal respondents in our sample, suggesting a lagged effect.

We have no definitive explanation for the differential impact of physical and sexual abuse on antisocial behavior during adolescence and young adulthood. However, we do know that Time 1 abuse rates are very high among the respondents in our sample — 50% were sexually abused and 85% were physically abused during or prior to adolescence (for perspective, it is instructive to note that 26% of the neighborhood females, who were part of the larger sample from which these data were drawn, were sexually abused, while 76% were physically abused). We also know that Time 1 offending levels were very high (mean = 34.79), but by early adulthood offending rates had decreased dramatically (mean = 1.70) so that there were respondents in the sample at Time 2 who reported relatively low levels of criminal involvement and some who had desisted from involvement in crime altogether. Our data show that those who offend at high levels in adulthood are those who were more likely to have been abused and/or who had not yet adapted in conventional ways to their abuse.

All in all, our findings suggest that abuse during childhood and adolescence has a long-term impact on antisocial behavior. Thus, the general adjustment of abused and non-abused females to adulthood merits further analysis. For example, it would be instructive to examine the relationship between abuse and other adult outcomes, such as domestic violence and mental health problems. In considering such adult outcomes, it is important to recognize that the abuse of females does not always cease after childhood or adolescence. Many studies, notably those from the feminist perspective, report a substantial risk of recurrent and persistent victimization among marginalized females (see Belknap & Holsinger, 1998; Chesney-Lind & Sheldon, 1998;

Gilfus, 1992; Sommers & Baskin, 1993). In our sample, 56% of the women reported that they were the victims of physical violence by an adult partner during the year prior to the Time 2 interview.⁵ Such continuing abuse could at least partly account for the association between childhood/adolescent abuse and adult criminality. Since the aim of the current paper was to examine adolescent predictors of adult criminality, victimization in adulthood was not assessed or examined in any detail. But our results obviously demonstrate the importance of conducting developmental analyses of female antisocial pathways, while also considering continuity and change in patterns of victimization.

Moreover, the psychosocial sequelae associated with both physical and sexual abuse requires additional investigation. For example, both Silverman, Reinhertz, & Giaconia (1996) and Fergusson, Horwood, & Lynskey (1996) found alarming rates of psychopathology and co-occurring disorders among physically and sexually abused young adults. Abuse was not only associated with antisocial behavior, but also with major depression and suicide attempts. The pathways linking childhood/adolescent abuse and adult antisocial behavior might then be explained by the trauma and the devastating developmental outcomes associated with the severe stress of abuse (Cicchetti & Toth, 1997; Roberts, O'Connor, Dunn, Golding, & ALSPAC Study Team, 2004). As noted by Moretti, Catchpole & Odgers (2005), there is a need to extend theories of female delinquency to include the notion of exposure and reaction to trauma, and to evaluate the co-morbidity between post-traumatic stress disorder and antisocial behavior.

In brief, our data make it clear that abuse as a minor is a major discriminating factor between those reporting relatively high and low rates of adult criminal involvement. Because those respondents above the adult crime median were substantially more likely to have been both physically and sexually abused, it is difficult to deny that this abuse is a major contributor to their

⁵ Physical victimization items were taken from the Conflict Tactics Scale developed by Straus and Gelles (1990). Respondents were asked how many times (from “Never” to “Almost Daily”) during the past year their partner has: Threatened to hit or throw something at you? Hit or threw something at you? Pushed, grabbed or shoved you? Slapped you? Kicked, bit or hit you with their fist? Hit or tried to hit you with something? Beat you up? Threatened you with a knife or gun? Used a knife or fired a gun at you?

antisocial behavior. The clear message to those working with abused or antisocial populations is that abusive experiences during childhood and adolescence have a long-lasting impact on many of its victims. For many of these victims, this abuse persists into adulthood and continues to fuel their antisocial behavior. This is certainly not a novel insight, but it carries added weight because of the nature of our sample. Even among a seriously delinquent and high risk sample of adolescent females who were subjected to a multitude of negative life experiences, physical and sexual abuse remain robust predictors of antisocial behavior long after its occurrence.

At the same time, it is important to avoid an overly deterministic view of the effects of childhood and adolescent abuse. In fact, many overcome their victimization experience, or at least adapt to it in ways that do not necessitate antisocial or dysfunctional behaviors. Agnew (2001; 2002), for example, notes that perceived strain is typically much more important than objective strain, and that what is viewed as a strainful event by one person may not be viewed as such by another. Such perceptions obviously have a great deal to do with one's response to an event. Consequently, individuals differ in how they respond to the victimization experience; they also differ in help-seeking behaviors and in the access they have to help networks, both formal and informal (Kaukinen, 2004, 2002a, 2002b; Schonert-Reich & Muller, 1996), that might aid them in their adaptation. This suggests a great deal of agentic action (see Giordano, Cernkovich & Rudolph, 2002) in response to victimization. In short, there is no question that experiences of abuse take a devastating toll on its victims, but it is important to recognize that abuse does not inevitably lead to negative outcomes. Its effects can be overcome or adapted to in positive ways that do not necessitate antisocial or dysfunctional behaviors. In brief, despite the trauma that can be associated to the abusive experiences, the actor plays a major role in the regulation of both the short and long term effects of an abusive experience, depending on the coping mechanisms that are used. An examination of these issues is beyond the scope of this paper, but they certainly merit further examination.

In reaching the conclusion we have in this research, it is important to note that we considered only a limited number of variables as predictors of adolescent delinquency and adult

criminality. There are many other variables, of course, which are associated with juvenile delinquency and adult criminality that we were not able to examine. Perhaps the inclusion of other variables in our models would have reduced the impact of physical and sexual abuse. Future research should examine some of these variables in conjunction with childhood and adolescent abuse to determine if the latter variables retain their predictive power when peer, school, economic, religious and other such variables are statistically controlled. Other limitations of our research include our reliance on retrospective accounts for most of our strain variables, our decision to split adolescent delinquency and adult criminality at their medians to create relative “high” and “low” offender groups, our small sample size, and our inattention to the issues of persistence and desistence of offending over time. These limitations notwithstanding, we believe this research has contributed to the growing body of research on female offenders by identifying the extent to which a variety of family-related risk factors are related both to adolescent delinquency and adult criminality.

Our findings support the development of gender-sensitive programs in response to both female antisocial behavior and victimization (see Greene, Peters & Associates, 1998; Bloom, Owen, Deschenes & Rosenbaum, 2002). The development and application of such programs require, first and foremost, specialized training of staff. Many studies report that practitioners are frequently reluctant to work with females, whom they often perceive as being particularly complex and demanding (Baines & Alder, 1996; Gaarder, Rodriguez & Zatz, 2004). The developmental influences of female antisocial behavior must be better integrated and understood by staff in order to create an environment based on safety, respect and dignity (Bloom, Owen & Covington, 2003; Bowers, 1990). Furthermore, program content should be adjusted to antisocial females’ risks and needs. Considering females’ risk of exposure to persistent victimization, programs should promote supportive relationships and should address substance abuse, trauma and mental health issues (Bloom et al., 2003). These basic principles sow doubts about the relevance of punitive and repressive approaches in response to female delinquency (Tatem, Thornberry & Smith, 1997). While the protection of public safety is a legitimate concern, the

consideration of females' well-being and the factors that compromise their own security and development is equally, if not more important. Finally, our data, along with other studies of institutionalized serious female offenders, reveal an alarming rate of physical and sexual abuse. In order to prevent adjudication of such adolescent females by the juvenile justice system, and thereby increase the risk of further criminality, more preventive strategies should be deployed in the way both society and the justice system responds to high-risk children, parents and families.

TABLE 1. t-tests Based on 1982 Delinquency Median Score (n = 109)

	Less Delinquent Females (n=54)		More Delinquent Females (n=55)		t-test t sig	Effect Size d
	Mean	SD	Mean	SD		
FAMILY CARING AND TRUST IN 1982	3.89	0.84	3.50	0.99	2.20 *	0.42
IDENTITY SUPPORT FROM PARENTS IN 1982	3.14	1.10	3.00	0.91		0.14
COMMUNICATION WITH PARENTS IN 1982	3.16	0.63	2.80	0.91	2.36 *	0.36
PARENT CONTROL AND SUPERVISION IN 1982	3.94	0.78	3.41	0.89	3.24 **	0.60
PARENTAL DISAPPROVAL OF BEHAVIORS IN 1982	7.27	1.47	6.33	1.84	2.92 **	0.55
FAMILY TROUBLE	3.48	0.77	3.68	0.69		-0.27
NUMBER OF TIMES MOVED	3.15	2.96	3.15	2.70		0.00
MONEY WORRIES	2.94	1.09	2.97	1.12		-0.02
PHYSICAL ABUSE AS A MINOR	0.39	0.30	0.38	0.26		0.01
SEXUAL ABUSE AS A MINOR	0.32	0.37	0.32	0.36		0.00
CONFLICT WITH PARENTS IN 1982	2.29	1.34	3.40	1.42	-4.12***	-0.75

***p < 0.001; **p < 0.01; *p < 0.05

TABLE 2. t-tests Based on 1995 Criminality Median Score (n = 109)

	Less Criminal Females (n=55)		More Criminal Females (n=54)		t-test	Effect Size d
	Mean	SD	Mean	SD	t sig	
FAMILY CARING AND TRUST IN 1982	3.67	1.08	3.72	0.77		-0.05
IDENTITY SUPPORT FROM PARENTS IN 1982	3.10	1.09	3.04	0.91		0.06
COMMUNICATION WITH PARENTS IN 1982	3.10	0.69	2.83	0.89		0.27
PARENT CONTROL AND SUPERVISION IN 1982	3.72	0.92	3.62	0.82		0.11
PARENTAL DISAPPROVAL OF BEHAVIORS IN 1982	6.62	1.96	6.98	1.43		-0.21
FAMILY TROUBLE	3.57	0.82	3.59	0.64		-0.02
NUMBER OF TIMES MOVED	3.07	2.68	3.23	2.97		-0.05
MONEY WORRIES	2.88	1.04	3.03	1.16		-0.13
PHYSICAL ABUSE AS A MINOR	0.32	0.27	0.45	0.27	-2.36 *	-0.44
SEXUAL ABUSE AS A MINOR	0.21	0.31	0.43	0.38	-3.20 **	-0.59
CONFLICT WITH PARENTS IN 1982	2.88	1.53	2.82	1.44		0.04

**p < 0.01; *p < 0.05

TABLE 3. Logistic Regression on 1982 Delinquency Median Score (n = 109)

	Model 1		Model 2		Model 3	
	B	Exp(B)	B	Exp(B)	B	Exp(B)
AGE	-0.13	0.88	0.08	1.08	0.01	1.01
RACE (WHITE)	0.18	1.20	0.24	1.27	0.09	1.09
SES	0.12	1.13	0.15	1.16†	0.16	1.18†
FAMILY CARING AND TRUST IN 1982	-0.10	0.91			0.37	1.44
IDENTITY SUPPORT FROM PARENTS IN 1982	0.03	1.03			0.31	1.36
COMMUNICATION WITH PARENTS IN 1982	-0.32	0.73			-0.25	0.78
PARENT CONTROL AND SUPERVISION IN 1982	-0.42	0.66			-0.51	0.60
PARENTAL DISAPPROVAL OF BEHAVIORS IN 1982	-0.28	0.75*			-0.22	0.81
FAMILY TROUBLE			0.02	1.02	-0.02	0.98
NUMBER OF TIMES MOVED			0.02	1.02	0.08	1.08
MONEY WORRIES			0.16	1.17	-0.06	0.94
PHYSICAL ABUSE AS A MINOR			-0.03	0.97	-0.08	0.92
SEXUAL ABUSE AS A MINOR			0.04	1.04	0.09	1.09
CONFLICT WITH PARENTS IN 1982			0.52	1.68**	0.62	1.85**
<i>-2 LL</i>		122.71		128.28		113.18
<i>nagelkerke R square</i>		0.21		0.22		0.31

**p < 0.01; *p < 0.05; † p < 0.10

TABLE 4. Logistic Regression on 1995 Criminality Median Score (n = 109)

	Model 1		Model 2		Model 3		Model 4	
	B	Exp(B)	B	Exp(B)	B	Exp(B)	B	Exp(B)
Age	-0.29	0.75	-0.31	0.74	-0.23	0.80	-0.24	0.79
Race (White)	-0.62	0.54	-0.29	0.75	-0.19	0.82	-0.21	0.81
SES	-0.02	0.98	-0.02	0.98	0.04	1.04	0.06	1.06
FAMILY CARING AND TRUST IN 1982	0.28	1.32			0.18	1.20	0.09	1.10
IDENTITY SUPPORT FROM PARENTS IN 1982	-0.06	0.94			-0.09	0.92	-0.16	0.85
COMMUNICATION WITH PARENTS IN 1982	-0.39	0.68			-0.62	0.54†	-0.58	0.56
PARENT CONTROL AND SUPERVISION IN 1982	-0.28	0.76			-0.25	0.78	-0.11	0.90
PARENTAL DISAPPROVAL OF BEHAVIORS IN 1982	0.12	1.12			0.19	1.21	0.22	1.25
FAMILY TROUBLE			-0.50	0.61	-0.65	0.52†	-0.66	0.52†
NUMBER OF TIMES MOVED			0.03	1.03	0.04	1.04	0.02	1.02
MONEY WORRIES			0.04	1.04	0.03	1.04	0.07	1.08
PHYSICAL ABUSE AS A MINOR			1.36	3.89	1.95	7.05*	1.92	6.79†
SEXUAL ABUSE AS A MINOR			1.47	4.34*	1.29	3.64†	1.35	3.87†
CONFLICT WITH PARENTS IN 1982			0.01	1.01	-0.06	0.94	-0.22	0.80
JUVENILE DELINQUENCY IN 1982							1.14	3.12*
<i>-2 LL</i>		136.69		122.96		117.58		112.71
<i>nagelkerke R square</i>		0.12		0.21		0.26		0.32

*p < 0.05; † p < 0.10

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