GENDER DIFFERENCES IN RISKS FOR ANTISOCIAL BEHAVIOR

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The undersigned, appointed by the dean of the Graduate School,

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GENDER DIFFERENCES IN RISKS FOR ANTISOCIAL BEHAVIOR

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A candidate for the degree of doctor of philosophy,

and hereby certify that, in their opinion, it is worthy of acceptance

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ABSTRACT

Adolescent girls have always been a relevant presence in the juvenile justice system but have received limited attention from researchers. In response to the dearth of studies on female juvenile offenders, federal study groups and reviewers have called for more research to advance our understanding of the risk factors for antisocial behavior among adolescent girls. To date, however, much of the research on antisocial behavior in adolescent girls has had relatively serious methodological limitations, including relying on correlational or cross-sectional designs and focusing on a limited range of risk factors (e.g., family or school). The current study addressed these limitations by longitudinally examining how risks assessed in early adolescence across multiple domains of youths' social ecology (i.e., individual, family, peer, school, and neighborhood) predicted antisocial behaviors in late adolescence and early adulthood for both females and males. A representative national sample of 1,033 youths and their caregivers completed structured interviews that assessed risk factors in early adolescence, and these risk factors were used to predict subsequent antisocial behaviors. Results of path analyses indicated that peer relationship variables and low levels of academic commitment were most predictive of male antisocial behavior in late adolescence, while physical abuse and age were most predictive of female antisocial behavior in late adolescence. However, most of these same variables no longer predicated antisocial behavior in early adulthood. Overall, the findings suggest that treatments for antisocial behavior should be flexible enough to target the risks that are most salient for male and female youths.

INTRODUCTION

Over the past 40 years, researchers have devoted substantial attention to the identification of risk factors for antisocial and delinquent behavior in youths. Although researchers have primarily focused on male juvenile offenders, adolescent girls have always been a relevant presence in the juvenile justice system. In addition, once girls enter the juvenile justice system, they are twice as likely as male juvenile offenders to be placed in detention centers and to remain in those centers for significantly longer stays (Hipwell & Loeber, 2006). Furthermore, female juvenile offenders are believed by juvenile justice officers and mental health professionals to exhibit more complex problems and to represent more serious clinical challenges than do male juvenile offenders (Baines & Alder, 1996; Chamberlain & Reid, 1994). In response to the relative dearth of studies on female juvenile offenders as well as the clinical challenges presented by these girls, federal study groups (e.g., Office of Juvenile Justice and Delinquency Prevention, 2010) and reviewers (e.g., Sprott & Doob, 2009; Zahn, 2009) have called for more research on risk factors for females' antisocial behavior.

Unfortunately, as reviewers have also noted (e.g., Goldweber, Broidy, & Cauffman, 2009; Wong, Slotboom, & Bijleveld, 2010), the few controlled studies that have examined risk factors (i.e., predictors) for antisocial behaviors in both male and female adolescents have included relatively significant methodological limitations. For example, researchers have frequently only included gender as a control variable (see Lanctôt & Le Blanc, 2002) or relied heavily on correlational or cross-sectional designs to

examine gender differences in risk factors for antisocial behavior (see Giordano, Cernkovich, & Lowery, 2004). In addition, most studies comparing male and female adolescents have maintained a narrow focus on one or two domains of risk factors (e.g., family and peer; see Frick et al., 1992; Javdani, Sadeh, &Verona, 2011). However, research on risks for antisocial behavior in predominantly male adolescent samples strongly supports a social-ecological conceptualization (e.g., Bronfenbrenner, 2002) in which delinquency is multidetermined by the reciprocal and dynamic interplay between individual characteristics and the key social systems (i.e., family, peer, school, and neighborhood/ community) in which youths are embedded. To date, however, researchers have not addressed whether there are differences in how these multiple risk factors for delinquency additively or interactively operate for female and male adolescents (Odgers & Moretti, 2002) or how these risks predict antisocial behavior in adulthood.

Considering the above limitations in the extant literature, there is little consensus about whether there are gender differences in risk factors for adolescent or adult antisocial behavior. Several researchers favor a parsimonious, gender neutral model of antisocial behavior and argue that the risk factors for females are similar to the risk factors for males (e.g., Moffitt, Caspi, Rutter, & Silva, 2001); these researchers also contend that gender difference in rates of antisocial behavior are largely due to the fact that females have less exposure to risk factors than do males. Other researchers argue that there are different risk factors for male and female antisocial behavior, such that some risk factors are specific to or play a greater role in female antisocial behavior than in male antisocial behavior (e.g., physical or sexual victimization; Daigle, Cullen, & Wright, 2007). Still other researchers

contend that females and males may be exposed to the same risk factors but that females must experience more risk factors before they begin to engage in antisocial behavior (e.g., Loeber & Keenan, 1994). Without a comprehensive study of risk factors for antisocial behavior across both genders, multiple competing models of antisocial behavior in females are likely to remain.

The main purpose of the current study was to examine how risk factors for antisocial behavior differ for males and females. Individual characteristics, family and peer relations, academic commitment and performance, and neighborhood qualities were examined for variation in predictive ability across the genders using a large, nationally representative sample of youths followed from adolescence to early adulthood. Prior to describing the method and procedures of the current study in greater detail, I will review the empirical literature that has examined risk factors for gender differences in antisocial behavior.

Gender Differences in the Relative Influences of Risk Factors Across Systems

As noted earlier, most studies of gender differences in risk factors for antisocial behavior have focused on only one domain of risk (e.g., family, peer). The following section includes many of these more narrow studies, given that some variables (e.g., neighborhood) have only been examined in isolation and that it is important to understand the impact of a given risk factor before examining how it may interact with other risks. I also summarize the small body of work that has tested for gender differences in multiple domains of risk for antisocial behavior. Unless specifically noted, all studies in this narrower body of literature employed rigorous designs (i.e., longitudinal, experimental).

Limitations of certain studies will be noted when the generalizability or usefulness of the results is restricted.

Individual Characteristics

A number of studies have examined individual risk factors for antisocial behavior, including age, race, intellectual functioning, and history of physical or sexual abuse. With regard to age, some longitudinal studies have shown that antisocial behavior typically peaks at 15 years of age for both males and females (Piquero & Chung, 2001). However, other work has suggested that females' antisocial behavior peaks around 15 years of age and decreases considerably thereafter, whereas males' antisocial behavior does not peak until 16 to 18 years of age and then declines through early adulthood (Elliott, Huizinga, & Morse, 1986; Moffitt & Caspi, 2001). Although no studies have directly examined whether race differentially influences males' and females' antisocial behavior, there is some evidence that age is a significant correlate of antisocial behavior for White females but not for White males or for African American females or males (Cernkovich & Giordano, 1992), suggesting that age and race variables may differentially influence males and females.

Only a few studies have examined whether intellectual functioning differentially predicts youth or adult antisocial behavior in males and females. A correlational study by Cauffman, Lexcen, Goldweber, Shulman, and Grisso (2007) demonstrated that juvenile offenders have lower IQs than did nonoffenders but that there was no difference in IQ between male and female juvenile offenders. In contrast, in the only longitudinal study that examined intellectual functioning and antisocial behavior, Koenen et al. (2006) found

that low IQ measured at seven years of age more strongly predicted antisocial behavior two years later for males than for females. In summary, lower intellectual functioning appears to place youths, especially males, at risk for engaging in later antisocial behavior.

Numerous studies have focused on whether a history of abuse (either physical or sexual) is differentially related to antisocial behavior in males versus females. Several of these studies have found that females with a history of self-reported antisocial behavior also report having experienced physical and/or sexual abuse two to five times more frequently than have their male counterparts (Cauffman, Feldman, Waterman, & Steiner, 1998; Miller, 1993). Moreover, when researchers have examined whether physical or sexual abuse differentially and prospectively predict antisocial behaviors for males and females, the findings are largely consistent with those of correlational studies. Indeed, Maxfield and Widom (1996) found that experiencing either physical or sexual abuse in middle childhood was a stronger predictor of juvenile (i.e., under age 17) and adult (i.e., at age 32 years) criminality in females than in males. In addition, Herrera and McCloskey (2001) found that physical abuse measured in middle childhood was more predictive of juvenile arrests measured five years later for females than for males. Although a more recent study (English, Widom, & Brandford, 2001) found that experiencing physical or sexual abuse in childhood predicted criminality in adulthood (approximately 16 years later) for both males and females, the extant literature has largely suggested that females are more affected by previous physical and sexual abuse than are males.

Family Variables

Only four studies (all cross-sectional) have examined whether family demographic variables are differentially related to male and female antisocial behavior. Of those studies, two found that family socioeconomic status (SES) was not related to male or female antisocial behavior (Martens, 1997; Riley & Shaw, 1985), one found that SES was linked with both male and female antisocial behavior (Flood-Page, Campbell, Harrington, & Miller, 2000), and one found that family SES was related to antisocial behavior in females but not in males (Graham & Bowling, 1995). In the absence of any longitudinal studies, however, it is unclear how family SES may be prospectively related to either male or female antisocial behavior. In contrast, longitudinal research has demonstrated that having a single caregiver in early childhood (Dornfeld & Kruttschnitt, 1992) and a large family size at age 10 (Farrington & Painter, 2004) are related to females' but not males' self-reported antisocial behavior in late adolescence and middle adulthood, respectively.

Studies have produced mixed findings regarding the influence of caregiver variables on antisocial behavior in males and females. Some longitudinal work has found no gender difference in the influence of caregiver supervision in early adolescence on youth antisocial behavior in late adolescence (Jang & Krohn, 1995). Alternatively, other work has suggested that caregiver variables (both supervision and discipline) in late childhood are more strongly associated with female criminality than male criminality in adulthood (Farrington & Painter, 2004). Similarly, studies that have examined the influence of caregiver marital discord or dissolution on males' and females' antisocial behavior have produced inconsistent findings. For example, although one study

demonstrated that caregiver marital discord in families of young children predicted antisocial behaviors in middle adolescence for both males and females (Fergusson, Horwood, & Lynskey 1993), other work has indicated that marital disruption in families of young children put females at higher risk than males for antisocial behavior in late adolescence (Dornfeld & Kruttschnitt, 1992). Thus, findings regarding gender differences in the influence of caregiver variables on antisocial behavior have been somewhat equivocal but potentially suggest a larger effect on antisocial behavior in females than males.

Lastly, there has been little prospective research on whether family relationship quality differentially affects later antisocial behavior in males and females. In the only longitudinal study to address this issue, no gender differences were found in the effect of negative family relationships during childhood on antisocial behavior a decade later (Compton, Snyder, Schrepferman, Bank, & Wu Shortt, 2003). However, further examination of whether family relations differentially affect antisocial behavior across genders is needed.

Peer Relations

Several studies have found that males are more likely to associate with deviant peers than are females (e.g., Morash, 1986; Simons, Miller, & Aigner, 1980; Smith & Paternoster, 1987). However, a less clear picture has emerged when examining whether association with deviant peers is prospectively related to antisocial behavior across males and females. Jennings, Maldonado-Molina, and Komro (2010) and Seffrin, Giordano, Manning, and Longmore (2009) found that involvement with antisocial peers predicted

self-reported delinquency for both females and males two to four years later. In contrast, two other studies reported that deviant peer relations were more predictive of antisocial behavior in males than in females one year later (Piquero, Gover, MacDonald, & Piquero, 2005; Smith & Paternoster, 1987). Although findings regarding the effects of deviant peer association on antisocial behavior in males and females remain inconsistent, the extant literature tentatively suggests that males are more influenced by their deviant peers than are females.

To date, only correlational research has examined gender differences in the relationship between peer bonding and antisocial behavior; the results of these studies have indicated that there are no gender differences in this relationship (Houtzager & Baervelt, 1999) or that low bonding to peers is correlated only with antisocial behavior in male adolescents (Agnew & Brezina, 1997). Alternatively, two longitudinal studies have examined the influence of peer rejection on antisocial behavior in male and female youths. In the first study, Miller-Johnson, Coie, Maumary-Gremaud, Lochman, and Terry (2004) found that peer rejection in the third grade predicted males' but not females' participation in both serious and nonserious antisocial behaviors seven years later. However, Pedersen, Vitaro, Barker, and Borge (2007) reported that peer rejection in middle childhood was not related to self-reported antisocial behavior in early adolescence for either males or females.

School

In perhaps the only longitudinal study that has examined the influence of school attachment on antisocial behavior, Freidenfelt Liljeberg, Eklund, Väfors Fritz, and af

Klinteberg (2011) found that school commitment at age 14 was more strongly predictive of antisocial behavior at age 16 for males than for females. These results are consistent with those of correlational studies, which have also demonstrated that school attachment/commitment (e.g., Jenkins, 1995; Payne, 2009) are related more strongly to antisocial behaviors in males than in females.

Neighborhood/Community

Very few studies have examined the relation of neighborhood variables to antisocial behavior in males and females. However, one longitudinal study has found that exposure to community violence reported in the beginning of sixth grade predicted self-reported delinquency for females but not for males 10 months later (Farrell & Bruce, 1997). In contrast, results of an experimental study by Kling, Ludwig, and Katz (2005) indicated that both male and female adolescents exhibited less violent criminal behavior approximately two years after moving to a neighborhood with less poverty. Viewed together, these studies tentatively suggest that community violence has more of an influence on females than males, while neighborhood poverty influences both males and females.

Multiple Systems

Several studies have prospectively examined the relation of family and peer systems to later antisocial behavior in males and females. Ary, Duncan, Duncan, and Hops (1999) found that caregiver-reported monitoring in families with adolescents decreased youth antisocial behavior three years later both directly and indirectly by decreasing youth association with deviant peers; neither of these effects differed for males versus females.

Alternatively, Heimer and De Coster (1999) found that caregiver supervision of youths at age 14 was inversely related to youth antisocial behavior at age 16 in males but not females, while youth attachment to deviant peers at age 14 was positively related to antisocial behavior in both males and females two years later. In further contrast, Laird, Criss, Pettit, Dodge, and Bates (2008) found that the effect of deviant peers on antisocial behavior was stronger for males than females because females are more likely to be monitored by their caregivers than males are.

Other studies have concurrently examined the relation of family, peer, and school systems to antisocial behavior in males and females. Glasgow-Erickson, Crosnoe, and Dornbusch (2000) found that poor caregiver-youth relations, deviant peer associations, and low commitment to school were directly related to antisocial behavior one year later in both males and female adolescents, although the impact of peers was stronger for males; furthermore, youth attachment to caregivers and youth educational commitment were negatively related to peer antisocial behavior for both genders. Similarly, in a subsequent study, Crosnoe, Glasgow-Erickson, and Dornbusch (2002) found that delinquent peer associations and low academic achievement were positively related to antisocial behavior in both male and female adolescents one year later, although the effect of peers on antisocial behavior was strongest for males. However, Crosnoe et al. also found that deviant peer associations interacted with low academic achievement to increase antisocial behaviors in females but not males.

In the only study that examined risk factors from four social-ecological systems (i.e., individual, family, peer, and school), Daigle et al. (2007) found that victimization

history and age predicted antisocial behavior in both male and female adolescents one year later. In addition, males' antisocial behavior was predicted by peer delinquency and adolescent conflict with caregivers, while females' antisocial behavior was predicted by attachment to delinquent friends. The remaining variables (including attachment to school, supervision, and SES) were not predictive of antisocial behavior in either males or females. However, because the primary purpose of this study was to examine youth health behaviors (e.g., smoking, sexual behaviors), most of the independent variables associated with antisocial behavior were created from only one or two items or were created from items that were not designed to directly assess the risk factor of interest. Considering the aforementioned limitations, the findings from this study should be viewed with caution.

Current Study

In summary, a small body of literature has examined risk factors for antisocial behavior across both male and female adolescents. Findings from this literature suggest that several types of risks (specifically, coercive family interactions and neighborhood poverty) predict antisocial behavior in both genders. The extant findings also suggest that association with deviant peers and low peer bonding predict antisocial behavior in male and female adolescents, although the relationship is stronger for males than females. In addition, both intellectual ability and increased school attachment are related to males' antisocial behavior, whereas a history of victimization, single-caregiver family structure, marital discord, low caregiver warmth, and increased neighborhood violence are related to females' antisocial behavior. At present, however, it is unclear how age, race, SES, and caregiver supervision are concurrently or prospectively related to antisocial behavior in

males or females. Moreover, most of the extant studies examining gender differences tested only one or two classes of risk factors, making it difficult to determine the relative contributions of various risk factors to antisocial behavior. Thus, longitudinal research is needed to weigh the differential contributions of multiple risk factors from key systemic contexts to antisocial behavior in both males and females.

An additional limitation of the extant literature is that the majority of studies have only tested the effects of risk factors on antisocial behavior through late adolescence. In fact, in the above literature review, only three studies measured antisocial behavior into adulthood (i.e., English, et al., 2001; Farrington & Painter, 2004; Maxfield & Widom, 1996), and the results were largely inconclusive. From a developmental perspective, however, it is possible that the risk factors linked with antisocial behavior differ somewhat in late adolescence and early adulthood. Specifically, research has consistently shown that individuals transitioning from late adolescence into early adulthood begin to detach from their families of origin and become increasingly attached to and influenced by their peer groups (see Kearns, Contreras, & Neal-Barnett, 2000). Thus, a longitudinal study that includes both of these developmental periods is necessary to determine whether the relative influences of family and peer risk factors on antisocial behavior in both genders change over time.

The purpose of the present study was to test gender differences in the effects of individual, family, peer, school, and neighborhood risk factors on antisocial behavior. Using a large, longitudinal national survey designed to assess risks for antisocial behavior, a wide range of social-ecological variables in early adolescence (i.e., age 12) were used to

predict males' and females' antisocial behavior in late adolescence (i.e., age 17) and again in early adulthood (i.e., age 22). Although the data used in the present study were collected in the late 1970s and early 1980s as part of the National Youth Survey, the goal of the current project was to develop a theoretical model of risk factors for antisocial behavior in males and females that would be invariant over time and across generations. As such, the current study included several relative strengths. First, the longitudinal design allowed an examination of the effects of risk factors at two separate points in time. By predicting antisocial behavior in both late adolescence and early adulthood, the study addressed how gender differences in risk factors may vary across development. Second, the current study used well-validated measures of antisocial behavior (e.g., Jang, 1999; Mazerolle & Maahs, 2000; Stouthamer-Loeber, Loeber, Wei, Farrington, & Wikstrom, 2002). Third, the large sample in the current study allowed for complex statistical techniques (specifically, path analysis) that permitted a detailed representation of the paths between risk factors and antisocial behavior for males and females. Finally, the current study included both youth and caregiver reports, providing a more reliable estimate of key constructs than in prior research that relied on reports from a single informant.

The hypotheses for the present study are listed below. The first set of hypotheses pertains to those risk factors that were expected to differ across genders. The second set of hypotheses pertains to the risk factors that were expected to be identical for males and females. Finally, the third set of hypotheses addresses potential differences in the prediction of antisocial behavior in late adolescence versus early adulthood.

Hypotheses

1. The following risk factors were expected to exhibit gender differences in the prediction of late adolescent criminality:
    a. Intellectual functioning was expected to predict antisocial behavior for males but not for females (based on Koenen et al., 2006).
    b. A history of physical or sexual abuse, family structure variables (i.e., family size, single vs. two caregiver), marital discord, and neighborhood violence were expected to predict antisocial behavior for females but not for males (see Dornfeld & Kruttschnitt, 1992; Farrell & Bruce, 1997; Farrington & Painter, 2004; Maxfield & Widom, 1996).
    c. Although associating with deviant peers and having negative peer relations (e.g., peer rejection, low peer bonding) were expected to predict antisocial behaviors for both males and females, the relation between peer variables and antisocial behavior was expected to be stronger for males (see Glasgow-Erickson et al., 2000; Miller-Johnson et al., 2004; Piquero et al., 2005).
    d. The indirect pathway from school attachment to association with deviant peers was expected to predict antisocial behaviors for females but not males (see Crosnoe et al., 2002).
2. The following risk factors were expected to predict late adolescent criminality in both males and females: negative family relations and neighborhood poverty (see Compton, 2003; Kling et al., 2005).

3. The indirect pathway from caregiver monitoring to association with deviant peers was expected to predict antisocial behavior for both males and females (i.e., increased caregiver monitoring was expected to reduce association with delinquent peers and thereby to decrease antisocial behavior) (see Ary, et al., 1999).
4. It was expected that the previously stated hypotheses regarding antisocial behavior in late adolescence would largely apply to the prediction of antisocial behavior in early adulthood, with a few notable exceptions:
    a. Family variables were expected to have a weaker predictive relationship with antisocial behavior in early adulthood than in late adolescence, while peer variables was expected have a stronger effect on antisocial behavior in early adulthood than late adolescence (see Kearns et al., 2000).
    b. Based on findings from Farrington and Painter (2004), it was expected that family variables (i.e., family size and caregiver monitoring) would have a larger effect on antisocial behavior in females than in males during early adulthood.
    c. As peer influence was predicted to increase for both genders in early adulthood, it was expected that there would be no gender differences in the effect of peer bonding and association with deviant peers on antisocial behavior in early adulthood (see Kearns et al., 2000).

Variables that had not been studied in previous longitudinal work or that had equivocal results across genders (i.e., age, race, family SES, and caregiver monitoring) were also examined for their predictive relations with late adolescent and early adult

antisocial behavior, although no specific hypotheses were offered regarding potential gender differences.

METHOD

Participants

Participants included 1,033 youths and their caregivers who participated in the National Youth Survey (NYS; Elliott, Ageton, Huizinga, Knowles, & Canter, 1983; Elliott, Huizinga, & Menard, 1989), an ongoing, prospective longitudinal study of antisocial behavior in individuals in the United States. To date, 12 waves of data (from 1976 to 2003) have been collected on a nationally representative sample of individuals. The first five waves were collected in consecutive years (1976 to 1980), the next four waves were collected every 3 years (1983, 1986, 1989, 1992), and the most recent three waves were collected in consecutive years after a 9-year interval (2001, 2002, 2003). Only data from the first seven waves (from 1976 to 1986) are publicly available. Wave I of the NYS initially included 1,725 youths and their caregivers. However, in order to examine individuals who were in early adolescence, late adolescence, and early adulthood through the available waves of data collection, only youths who were 11 to 14 years old during Wave I were included in the current study. This selection process resulted in a final sample of 1,033 youths and their caregivers, and the demographic characteristics of these individuals across Waves I, V, and VII are described in Table 1. The youths sampled at Wave I had a mean age of 12.51 years (SD= 1.1); 51.9% were males; and 76.9% were Caucasian, 16.1% African American, 5.2% Hispanic, 1.2% Asian, 0.6% Native American, and 0.1% Other. With the exception of age, demographics of the individuals at subsequent waves of the study were highly consistent with those at Wave I.

Participants' primary caregivers were interviewed during Wave I (Elliott et al., 1983; Elliott et al., 1989). In the sample from the present study, the primary caregivers were predominantly biological mothers (86.0%) but also included biological fathers (6.1%), other relatives (3.2%), stepmothers (2.5%), and stepfathers (0.6%). Most of the primary caregivers were either 30-39 or 40-49 years of age (53.8% and 33.6% of the sample, respectively). The majority (81.0%) of the selected individuals lived in two-caregiver households at Wave I.

To locate participants, the NYS researchers selected a probability sample of households from the continental United States and used a self-weighting, multistage, cluster sampling design (Elliott et al., 1983). Specifically, the researchers first selected geographic regions from across the United States, then households within the selected geographic regions, and finally individuals within the selected households. At each selection stage, the researchers established probabilities of selection (based on U.S. Census Bureau information) to provide a self-weighting sample. Seventy-six sampling units were randomly selected across the United States, with the probability of a participant's selection being proportional to each unit's sample size. This sampling procedure resulted in the identification of 67,266 households, approximately 8,000 of which were randomly selected for inclusion in the sample (Huizinga, 1978). All individuals who were (a) living in the selected households; (b) 11 to 17 years of age on December 31, 1976; and (c) physically and mentally capable of being interviewed were eligible respondents for the study. Out of an estimated total of 2,360 eligible individuals, 635 (27%) did not participate in the study due to caregiver refusal, youth refusal, or the

researchers' inability to establish contact with the caregiver or youth. The remaining 1,725 youths and their caregivers agreed to participate in the study. The sample included seven cohorts of youths born in consecutive years from 1959 through 1965 (*N*s = 197, 239, 253, 258, 269, 257, and 252, respectively).

There were no significant differences between the individuals who agreed and those who did not agree to participate in the study on age, sex, race, or social class (Elliott et al., 1983). In addition, with regard to these demographic characteristics, participating youths were representative of the 11- to 17-year-old youth population in the United States, as established by the U.S. Census Bureau (United States Census Bureau, 1970) (see Table 2). Attrition over the three surveys (i.e., waves) included in the present study was relatively low (i.e., 20%).

Procedures

Youths were asked to participate in a study that would follow them into adulthood to examine their changing behaviors. In Wave I, youths and their caregivers were informed that participation in the study was voluntary and that they could chose to not participate at any time. The youths and their caregivers then participated in separate structured interviews that lasted approximately one hour. The interviews were conducted by a trained interviewer and took place in a private setting. Individual youths (later young adults) were also interviewed during subsequent waves of the study. Individuals were interviewed between January and March in each wave of the study and asked about the preceding year or three years in later waves. Because the individuals had little incentive to

participate, they were paid a modest amount of money for their participation in each wave (i.e., $5 for Waves I through V, and $20 for Waves VI and VII).

In most instances, structured interviews occurred in the family's home. In the small number of instances when privacy of the interview could not be guaranteed, the interview was conducted in other settings (e.g., community center) in which privacy could be assured. The investigators explained to the family that any information provided by the youth was confidential and could not be released to any person or agency without the family's consent. All data were protected by a Privacy Certification from the United States Department of Justice and a Certificate of Confidentiality from the United States Department of Health and Human Services.

Although descriptive information regarding the interviewers is not available for Waves I and VII, information was available for a large subsample (68 of 76) of the interviewers included in Wave V (see Esbensen & Menard, 1991). The interviewers from this subsample ranged in age from 22 to 61 years (M = 33 years); 95% were Caucasian; 75% were female; and 41% were middle class, 35% were working class, and 24% were lower class (according to Hollingshead's [1975] index).

Predictor Variables

The NYS was designed to assess antisocial behavior across the adolescent and early adult years and to examine the trajectories of such behaviors (Elliott, Huizinga, & Ageton, 1985). As such, the NYS included measures that are consistent with contextual/systemic theories of antisocial behavior (i.e., individual characteristics, family relations, peer relations, academic commitment, and neighborhood qualities). See Table 3

for the percentages or means and standard deviations for each of the predictor variables for males only, females only, and the total sample.

Individual demographics. Each youth's report of his or her age and race (i.e., Caucasian, African American, Hispanic, Asian, Native American, and Other) was assessed in Wave I of the study. Due to the small number of youth's who identified as African American, Hispanic, Asian, Native American, and Other, as well as to improve parsimony in the model, these youths were collapsed into a single non-Caucasian group for all analyses.

Intellectual functioning. Each youth's report of his or her grade point average (GPA; e.g., mostly A's, mostly D's) was assessed in Wave I, with higher scores indicating higher GPAs. This variable was used as a proximal measure for intellectual functioning, as the NYS data set does not contain a specific measure of intelligence.

Victimization. Each youth's history of victimization was measured in Wave I via self-report on two questions that assessed physical abuse and sexual assault, respectively (see Appendix A). Youths were asked how many times in the preceding year they had experienced (a) physical abuse or (b) sexual assault. In the current study, both victimization variables were dummy coded separately for presence (1) or absence (0).

Family relations. Each youth's report of his or her family relations was assessed in Wave I with 24 items tapping family involvement (e.g., the amount of time spent with family members) and emotional closeness (e.g., being comforted by caregivers) (see Appendix B). Each item was rated on a 5-point Likert scale. Responses to the 24 items

were averaged to create a single family relations score, with higher scores indicating greater family closeness and time spent together.

Family structure/disruption. Each caregiver's report of family structure (see Appendix C) was measured in Wave I using four items that assessed his or her marital status (e.g., divorced, remarried), number of other adults in the home (e.g., other adult relatives), number of other children under 18 years of age living in the home (including siblings), and number of recent disruptive family events (e.g., caregiver moved in or out of the home, recent separation of caregivers).

Caregiver monitoring and discipline. Each caregiver's report of his or her monitoring (see Appendix D) was measured in Wave I using three items that assessed how many of the youth's peers the caregiver knew, how many of the youth's peers had been invited to family activities, and how many of the peers' caregivers the caregiver knew personally. Each item was rated on a 5-point Likert scale ranging from 1 ("none of them") to 5 ("all of them"). In the current study, the average of the scores on the three items was calculated, with higher scores indicating higher levels of caregiver monitoring.

Caregiver discipline (see Appendix D) was assessed in Wave I with three groups of items examining disciplinary techniques. Caregivers were asked to select the disciplinary techniques from each group that they commonly used when the youth became involved in negative behaviors. Each technique was scored with a point value, indicating whether the technique was inductive (2 points) or noninductive (1 point). The sum of the scores on the three selected techniques was calculated, with higher scores indicating that

the caregiver used more inductive (i.e., more explanatory) disciplinary techniques with the youth.

Family socioeconomic status (SES). Caregivers' self-reported education and occupation were used by Elliott et al. (1983) to calculate a family SES score on the Hollingshead Four Factor Index of Social Status (Hollingshead, 1975). When only one caregiver was present in the household, the determination of SES was based on the single caregiver's education and occupation. When two caregivers were present in the household and both caregivers had occupations, their scores were averaged to determine the family SES score. When one caregiver in a two-caregiver household did not have an occupation, only the information from the employed caregiver was used to determine family SES.

Emotional bonding to peers. Each youth's self-report of emotional bonding to peers was assessed at Wave I using a 18-item measure (see Appendix E), and each item was rated on a 5-point Likert scale ranging from 1 ("none of them") to 5 ("all of them"). The items tapped levels of involvement with peers, emotional quality of peer relations, and rejection by peers. In the current study, the average score of all of the items was calculated, with higher scores indicating greater closeness to and more time spent with peers.

Association with deviant peers. Each youth's report of his or her association with deviant peers was assessed in Wave I using a 10-item measure assessing how many of the youth's friends engaged in delinquent behaviors (see Appendix F). Each item was rated on a 5-point Likert scale. As before, the average of the 10 items was calculated. Higher scores

indicated that the youth's peers reportedly engaged in antisocial behaviors more frequently.

Academic commitment. Each youth's report of his or her commitment to school (see Appendix G) was assessed in Wave I using a 20-item measure that assessed the youth's emotional connection with school, level of involvement with homework (i.e., time spent studying after school or on weekends), and perceived importance of school. Again, each item was rated on a 5-point Likert scale. The average of the scores on the 20 items was calculated, with higher scores indicating more positive feelings towards school and greater time devoted to academic endeavors.

Neighborhood quality. Each caregiver's report of neighborhood characteristics (see Appendix H) was measured in Wave I using two items that assessed the extent of poverty in the neighborhood (e.g., abandoned houses) and five items that assessed neighborhood safety concerns (e.g., burglaries and thefts). Each item was rated on a 5-point Likert scale. The two items assessing poverty were averaged to create a mean neighborhood poverty score, whereas the five items assessing safety concerns were averaged to create a mean neighborhood safety score. Both scores were used in subsequent analyses.

Dependent Variables

The NYS included comprehensive measures of antisocial and other problem behaviors at each wave in the current study, providing both prevalence and frequency estimates of antisocial behavior. See Table 4 for descriptive statistics on the dependent variables for males only, females only, and the total sample.

Antisocial behavior. The primary index of antisocial behavior employed in the NYS was a 39-item self-report delinquency (SRD) measure (see Appendix I). The SRD is the one of the most widely used self-report delinquency measure in the social science research literature and is thought to provide a more valid estimate of delinquency than do criminal records (Kazemian & Farrington, 2005). The items included in the SRD measure include (a) index felonies (e.g., robbery, aggravated assault, larceny over $50) that are measured in the Federal Bureau of Investigation Uniform Crime Reports (UCR), (b) non-index felonies (e.g., non-aggravated assault, drug offenses, vandalism), and (c) status offenses (i.e., behaviors that are illegal only for juveniles). In the current study, status offenses were excluded to maintain consistency in the measurement of antisocial behavior across the different waves (i.e., young adults cannot be charged with status offenses).

Participants were asked how many times in the preceding year that they had committed specific offenses. Test-retest reliabilities (Pearson *r*s) for the measure have ranged from .70 to .95 over a 2- to 4-week interval (Dembo & Schmeidler, 2003; Huizinga & Elliott, 1986; Joliffe et al., 2003; Piquero, Macintosh, & Hickman, 2002). Internal consistencies (alphas) for the measure have ranged from .79 to .99 (e.g., Beyers & Loeber, 2003; Huizinga & Elliott, 1986). There is also an extensive literature on the convergent validity of the SRD with arrest records (e.g. Huizinga, Menard, & Elliott, 1989; Kazemian & Farrington, 2005; Piquero et al., 2002). Following the recommendations of Oudekerk, Erbacher, and Reppucci (2012), the present study used a "weighted diversity" scoring method; specifically, items were initially dummy coded for presence (1) or absence (0) and then weighted for severity from 2 (i.e., least serious crimes not including status

offenses; e.g., stolen things worth $5 or less) to 5 (i.e., most serious; e.g., forced someone to have sexual relations against their [*sic*] will). The weighted items were then summed to create a total antisocial behavior score. Antisocial behavior in Waves V (i.e., late adolescence) and VII (i.e., early adulthood) were also assessed and scored in this manner.

Data Analytic Plan

Path analyses were conducted in Mplus version 7 (Muthén & Muthén, 2012). The entire sample (N = 1,033) was initially used to determine a model that provided a good fit to the data. As a first step, all of the predictor variables selected from Wave I were entered into the model to predict self-reported antisocial behavior in both late adolescence and early adulthood, including self-reported antisocial behavior in early adolescence (i.e., antisocial behavior at Wave I). In addition, two indirect pathways were modeled: an indirect pathway from caregiver monitoring to association with deviant peers, and an indirect pathway from academic commitment to association with deviant peers. See Figure 1 for the initial hypothesized model of the direct and indirect paths between independent variables and later antisocial behavior. Second, the resulting model was examined for goodness-of-fit using several indices. Traditionally, a chi-square test would be conducted to determine goodness-of-fit (Schumacker, & Lomax, 2010), with a significant chi-square value indicating poor model fit. However, Kenny (2014) cautions that chi-square values are frequently significant with larger sample sizes (i.e., over 400) but are not necessarily indicative of poor fit; he recommends examining other fit indices to assess goodness of fit, such as the comparative fit index (CFI), the Tucker-Lewis index (TLI), and the root mean squared error of approximation (RMSEA). Models with TLI/CLI greater than 0.9 are

considered to have a good fit to the data (Hoyle & Panter, 1995), while a RMSEA of less than 0.05 indicates a good fit (Browne & Cudeck, 1993). Finally, once a finalized model with a good fit to the data was determined, this model was compared across genders. Specifically, two models were compared: a model in which all pathways were constrained across genders and a second model in which pathways were free to vary across genders.

RESULTS

Preliminary Analyses

The data were screened for systematic missing values, and missing data were imputed using the maximum likelihood estimation procedure (as described by Enders, 2001a; Graham, 2003). Maximum likelihood methods use each case (or data point) available to compute the estimate of a parameter; this estimate represents the value of the parameter that is most likely to have resulted in the observed data (Enders & Bandalos, 2001). Furthermore, the dependent variables were screened for normality, given that path analysis procedures include assumptions of normality (Enders, 2001b). Both of the dependent variables (i.e., total delinquency in late adolescence and total delinquency in early adulthood) were determined to be non-normal. Thus, these variables were transformed using a logarithm transformation (i.e., $\log_{10}+1$); all subsequently reported statistical tests were conducted on the transformed variables. Finally, data were also examined for multivariate outliers, and no outliers were found.

Path Analysis Model Evaluation and Modification

All previously listed predictor variables from Wave I were initially entered into the model statement, including the direct pathway from each variable to each dependent variable, as well as the indirect pathways discussed above. Despite undergoing transformation, both dependent variables (i.e., antisocial behavior in late adolescence and in early adulthood) were still significantly skewed. Thus, the path analysis model was estimated using the maximum likelihood with robust standard errors (MLR) estimator,

which has been shown to be robust to deviations from normality (Muthén & Muthén, 2012). All pathways were left free to be estimated. This model resulted initially in χ^2 (19) = 129.64, p = 0.000, RMSEA = .075, CFI = .871, and TLI = .552, suggesting poor model fit. Modification indices suggested adding two additional pathways (1) from age to association with deviant peers and (2) from peer bonding to association with deviant peers. Furthermore, several variables had nonsignificant pathways to both late adolescent and early adulthood antisocial behavior, suggesting that these variables were not necessary in the model. In order to be conservative with model modification, only variables with pathways that were nonsignificant at $p > .10$ were removed (e.g., Pedhazur, 1997). Specifically, intellectual functioning (i.e., grades in school), all family status variables (e.g., caregiver marital status, number of adults in the home), caregiver discipline, family SES, and both neighborhood variables were removed. The final model (i.e., with the additional pathways added and variables removed) resulted in χ^2 (4) = 8.83, p = 0.0654, RMSEA = 0.034, CFI = 0.994, and TLI = 0.958, which indicated that the model provided a good fit to the data.

Group Comparison

A multigroup structural equation modeling approach was then used to determine if the pathways of the model varied across males and females. The initial null model determined above was constrained so that all direct and indirect pathways were held equal across both males and females, which resulted in χ^2 (34) = 66.27 p = 0.001, RMSEA = .043, CFI = .954, and TLI = .926, suggesting that the model fit was good. A comparative model was then run to examine model fit when all pathways were free to vary across

genders. This model resulted in χ^2 (8) = 12.90, p = 0.1155, RMSEA = 0.035, CFI = 0.983, TLI = 0.918, also suggesting a good fit to the data.

The null and comparative models were then contrasted statistically to determine if one provided a better fit. When models are estimated using MLR, the resulting chi-square values are scaled, which does not allow for traditional chi-square difference scores to be computed (Muthén & Muthén, 2012). Instead, the Satorra-Bentler scaled chi-square should be used (Bryant, & Satorra, 2012; Satorra, 2000). The Satorra-Bentler scaled chi-square is given by:

$$cd = (d_0 * c_0 - d_1 * c_1)/(d_0 - d_1)$$

$$TRd = (T_0 * c_0 - T_1 * c_1)/cd$$

where d_0 refers to the degrees of freedom of the null model, d_1 is the degrees of freedom of the comparative model, c_0 is the scaled factor for the null model, c_1 is the scaled factor for the comparative model, T_0 is the chi-square value for the null model, and T_1 is the chi-square value for the comparative model. The resulting TRd is the chi-square difference between the two models and can be examined for significance. The results of this test, χ^2 (26) = 53.87 $p < .01$, indicated that the two models did significantly differ in their fit, such that the model in which pathways were free to vary across genders provided a better fit to the data. See Figures 2 and 3 for the final models for males and females, respectively.

The results of the path analysis indicated that risk factors varied in their predictive power for antisocial behavior in both late adolescence and early adulthood across genders. For males, results of the path analysis indicated that having lower academic commitment, lower bonding to peers, more positive family relations, more association with deviant

peers, and less antisocial behavior in early adolescence all predicted antisocial behavior in late adolescence. Furthermore, lower academic commitment, more positive family relations, and more antisocial behavior in late adolescence all predicted antisocial behavior in early adulthood. Finally, higher academic commitment as well as higher bonding to peers both predicted association with deviant peers. For females, results of the path analysis suggested that having an older age at Wave I, a history of physical abuse, and more positive family relations predicted antisocial behavior in late adolescence. Alternatively, only having more positive family relations and more antisocial behavior in late adolescence predicted antisocial behavior in early adulthood for females. Lastly, being older at Wave I also predicted associating with deviant peers.

Indirect Pathways

The indirect pathway from caregiver monitoring to association with deviant peers, as well as the indirect pathway from academic commitment to association with deviant peers, were examined for their ability to predict antisocial behavior in late adolescence and in early adulthood. Table 5 presents the results of the tests of these indirect pathways across both genders. The results indicated that neither indirect pathway was significant for late adolescent or early adult antisocial behavior for females, and the pathway from caregiver monitoring to association with deviant peers was not significant for males for either late adolescent or adult criminality. However, the pathway from academic commitment to association with deviant peers for males was marginally significant for late adolescent criminality (p = .086).

DISCUSSION

There is a pressing need to understand how risk factors for antisocial behavior differ for male and female adolescents in order to develop effective prevention and treatment programs for adolescent criminality. Although research on this issue has increased over the past two decades, previous studies examining gender differences in youth antisocial behavior have frequently evidenced methodological problems. Indeed, much of the extant literature has failed to account for gender differences (see Cernkovich et al., 1992), has relied on cross-sectional data (see Giordano, Cernkovich, & Lowery, 2004), or has focused on a small number of risk factors (see Javdani, Sadeh, & Verona, 2011). In an effort to improve on these limitations, the present study examined gender differences across a broad range of social-ecological risk factors for adolescent and young adult antisocial behavior. Path analysis was conducted with a large, nationally representative sample of youth who participated in the NYS and were followed from early adolescence (i.e., age 12.5 years) into both late adolescence (i.e., age 16.5 years) and early adulthood (i.e., age 22.5 years). Although the data in the present study were several decades old, the NYS remains the only large, nationwide survey that has been designed to directly assess risks for antisocial behavior over the lifespan. Thus, the goal of the study was to determine a theoretical model of risk factors for antisocial behavior in males and females that would be invariant across generations. The results indicated that there were gender-specific risks for antisocial behavior in late adolescence, suggesting that the pathways to later antisocial behavior may be different for males and females. In addition,

the results showed that these gender-specific risks exist primarily for antisocial behavior in late adolescence but not early adulthood.

Several risk factors were found to be significant predictors for males' but not females' antisocial behavior in late adolescence. Specifically, in line with recent research (e.g., Miller-Johnson, et al., 2004; Piquero, et al., 2005), both low bonding with peers in general and high association with deviant peers in particular were found to predict antisocial behavior for males. These results suggest that peers play an important role in shaping the behaviors of adolescent males, especially behaviors that involve criminal activity. In addition, low academic commitment was a significant predictor of antisocial behavior for males. This latter result suggests that males who feel less connected to school and spend less time engaging in academic activities are more likely to engage in later antisocial behavior. However, the indirect pathway from academic commitment to association with deviant peers was not significant for antisocial behavior in late adolescence or early adulthood, indicating that poor academic commitment and deviant peer affiliations are both independently important risk factors. Lastly, high levels of antisocial behavior in early adolescence (i.e., at Wave I) were negatively predictive of antisocial behavior in late adolescence for males. It is possible that males who were engaged in antisocial behavior in early adolescence were subject to sanctions from family members and school officials, which subsequently decreased the youths' involvement in antisocial behavior over time. In sum, the findings suggest that negative or antisocial peer relationships and decreased commitment to school are the key predictors of males' antisocial behavior in late adolescence.

In contrast to the results for males, the path analyses also revealed two female-specific predictors of antisocial behavior in late adolescence. First, females who were older at Wave I (i.e., closer to 14 than 11 years of age) were more likely to associate with deviant peers and to engage in antisocial behavior at later waves. These findings may be related to the onset of puberty for females in the present sample. Indeed, the onset of menarche at the time of the first wave of data collection in the National Youth Survey (Elliott et al., 1983) was approximately 13 years of age (Anderson, Dallal, & Must, 2003; Harlan, Harlan, & Grillo, 1980). Moreover, previous research has suggested that pubertal onset in females coincides with the commencement of antisocial behavior by increasing girls' association with older, male peers (e.g., Moffitt & Caspi, 2001). Thus, it is possible that the females' who were older at Wave I had already gone through puberty, placing them at greater risk for engaging in antisocial behavior. In addition to older age, physical abuse was also a female-specific predictor of antisocial behavior. Although females reported lower overall rates of physical abuse than did males, the present results suggest that females may be more likely than males to model physical aggression and other antisocial behaviors once they have been victimized. Overall, the results for females suggest that girls are at greater risk for engaging in antisocial behavior after puberty and also when they have experienced previous physical abuse.

As opposed to the risk factors that were identified for only males' or females' antisocial behavior, positive family relations (e.g., increased time with family, greater warmth) represented a risk factor for antisocial behavior in both genders in late adolescence. This finding is at first somewhat surprising and appears to be inconsistent

with previous research showing that negative family relations put youth at high risk for engaging in delinquent and antisocial acts (e.g., Compton et al., 2003). However, the non-predictive (i.e., correlational) associations between positive family relations and antisocial behavior in late adolescence and early adulthood were both negative (i.e., -.226 and -.098, respectively), suggesting that the link between family relations and later antisocial behavior are in the hypothesized direction. As such, it is likely that the positive path estimates from family relations to antisocial behavior were due to a suppression effect caused by other variables. When included in a statistical model, suppression variables artificially strengthen the effect of another independent variable on the dependent variable (MacKinnon, Krull, & Lockwood, 2000). Within the current model, nonsignificant risk factors (e.g., parental monitoring, sexual abuse) likely served as suppression variables and spuriously strengthened the positive path estimates from family relations to antisocial behavior in late adolescence and early adulthood. Due to these likely suppression effects, the positive predictive link from family relations and later antisocial behavior should be interpreted with caution.

Although several gender-specific risks were found for antisocial behavior in late adolescence, very few risks were identified for antisocial behavior in early adulthood. In fact, only one risk factor was found to be gender-specific: low academic commitment for males. This result suggests that an early connection to school protects males from engaging in antisocial behavior into adulthood, possibly by allowing them to find successful and consistent employment. In addition, antisocial behavior in late adolescence was the only significant predictor of antisocial behavior in early adulthood for both males

and females. This latter result suggests that those youth who engage in antisocial behavior in late adolescence are more likely to remain on an antisocial trajectory (i.e., become life-course-persistent offenders; Moffitt, 1993) that will lead them to engage in criminal acts throughout their lives. On the other hand, it is possible that antisocial behavior in early adulthood is less dependent on life events that occurred during adolescence than on current life circumstances, such as steady employment or marriage to a prosocial partner (see Samson & Laub, 2003). As such, it is possible that unmeasured proximal variables from the current sample, such as marriage to a spouse with no criminal involvement, may have a larger influence on adult antisocial behavior than events that occurred during adolescence. Thus, it will be important to examine both longitudinal and concurrent risks for antisocial behavior during early adulthood in future work.

Despite the differences in risks for antisocial behavior in late adolescence and early adulthood, the results of this study may still shed light on how best to model risk factors for male and female adolescents. There is little consensus in the literature about whether there are gender differences in risk factors for antisocial behavior, with some researchers arguing for a gender-neutral model of risks (e.g., Moffitt et al., 2001) and others arguing for gender-specific models of risks (e.g., Daigle, et al., 2007). However, the path analyses performed in the present study provide support for the idea that there are gender-specific risks (i.e., peer relationships and academic commitment for males, age and physical abuse for females), suggesting that that males and females may follow different pathways to antisocial behavior. In addition, the model in the current study that allowed the paths to

vary across genders provided the best fit to the data, indicating that risk factors for antisocial behavior should be modeled separately for males and females.

Although the present study identified a number of important predictors of antisocial behavior in males and females, it is important to note that several of the hypotheses were not supported. Indeed, a number of risk factors identified in previous research (e.g., intellectual functioning, sexual abuse, family structure variables, caregiver discipline, SES, neighborhood poverty, and neighborhood safety) were not significant predictors in the current models. Although these findings may seem somewhat surprising, it should be noted that the present study is the first to examine risk factors across all domains of youths' social-ecological environments. The path analyses in the current study examined all predictors in one model, which changed the variance accounted for by each risk factor. As such, variables that were identified as risk factors in prior research may be less pertinent than previously thought. Of course, replication of the present findings across other samples of youth and over varying developmental periods are needed before determining which risk factors are most important for predicting males' and females' antisocial behavior.

Although the present study included a number of major strengths, two limitations should be noted. First, the measures used in the present study were based primarily on one reporter (i.e., either the youth or the caregiver). Data from multiple informants for each measure (e.g., youth, caregiver, teacher) and multiple methods (e.g., official arrest records) would provide more valid measurement of the systems in which youths are embedded (e.g., family) as well as a broader understanding of youths' criminal histories.

Second, it is possible that there are other important risk factors that were not measured in the current study. For example, mental health concerns in childhood and early adolescence are common in youths who have been adjudicated for antisocial behavior. Moreover, males and females frequently exhibit different mental health concerns (e.g., males display more symptoms of inattention and hyperactivity, while females display more symptoms of depression; Cauffman, 2004; Fazel, Doll, & Langstrom, 2008). As such, it is possible that there are also gender differences in the relation of mental health problems to antisocial behavior in youths.

Although the present study is not without limitations, the findings yield some tentative recommendations for intervention efforts with male and female juvenile offenders. First, it is important that prevention and treatment models comprehensively address risk factors from multiple systems (i.e., individual, family, peer, and school) to ameliorate or decrease antisocial behavior. Second, treatment models for male and female youth offenders should be flexible, with the capacity to address those risk factors that are most important for each gender (e.g., peer relations for males, physical abuse and trauma-related symptoms for females). Third, interventions should be implemented prior to late adolescence in order to help decrease the likelihood that youth will continue to engage in antisocial behavior into early adulthood. Interventions such as multisystemic therapy (MST; Henggeler, Schoenwald, Borduin, Rowland, & Cunningham, 2009) and multidimensional treatment foster care (MTFC; Chamberlain & Mihalic, 1998) are both designed to address key social-ecological domains for youths to reduce antisocial and delinquent behavior. Moreover, both treatment models have been shown to be effective

with male and female juvenile offenders in early to middle adolescence (e.g., Borduin et al., 1995; Chamberlain et al., 2008). Considering the results of the current study, MST and MTFC might achieve even better outcomes with male juvenile offenders if these treatment models were to focus early intervention efforts on engaging these males in prosocial activities (e.g., organized school activities, sports) to improve their peer relations and increase their engagement at school (cf. van der Stouwe, Asscher, Stams, Deković, & van der Laan, 2014). Furthermore, for female juvenile offenders, MST and MTFC providers may want to assess and provide suitable interventions for the outcomes of previous physical abuse (e.g., providing trauma-focused interventions for youth with PTSD symptoms) early in treatment.

In conclusion, the results of this study suggest that antisocial behaviors in males and females are influenced by separate risk factors, particularly in late adolescence. Males appear to be affected primarily by risk factors originating from their broader social-ecological systems (i.e., peer and school), while females are affected by risk factors originating from their more immediate social-ecological systems (i.e., individual and family). However, gender specific risks largely vanished when examining antisocial behavior in early adulthood. In fact, very few of the tested risk factors were significant predictors of antisocial behavior in early adulthood, suggesting that further research should examine antisocial behavior into adulthood to better understand what places males and females at risk for offending past late adolescence.

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TABLES

Table 1

Summary Demographics for the Three Waves of the Present Study from the National Youth Survey

Variable	Wave Number (Year of Study)		
	1 (1976)	5 (1980)	7 (1986)
Sample Size (*N)*	1033	918	838
Proportion of Original Sample (%)	100	88.6	80.9
Age (in years)			
M	12.51	16.48	22.47
SD	1.11	1.10	1.10
Sex (%)			
Male	51.9	51.2	49.0
Female	48.1	48.8	51.0
Race (%)[a]			
Caucasian	76.9	76.9	79.5
African American	16.1	16.3	14.8
Hispanic	5.2	4.8	4.1
Asian	1.1	1.2	1.1
Native American	0.6	0.7	0.5
Other	0.1	0.1	0.1

Note. [a]Due to rounding, total percent does not equal 100.

Table 2

Summary Demographics for the Initial Sample (*N* = 1,033) *of the National Youth Survey (NYS) and the United States Census Bureau Estimate of the 1976 Adolescent Population*

Variable	NYS[a]	U.S. Population[a]
Age (years) [b]		
11	250 (24.2)	3,900,000 (23.9)
12	257 (24.9)	4,100,000 (25.2)
13	268 (25.9)	4,100,000 (25.2)
14	258 (25.0)	4,200,000 (25.8)
Gender		
Female	498 (48.1)	14,300,000 (49.0)
Male	538 (51.9)	14,900,000 (51.0)
Race		
Caucasian	797 (76.9)	24,600,000 (84.2)
African American	167 (16.1)	4,100,000 (14.0)
Other	72 (7.0)	500,000 (1.8)

Note. [a]*n* (percent) [b]Due to rounding, total percent for the U.S. population is greater than 100.

Table 3

Summary Statistics for Males, Females, and Total Sample on the Independent Variables

Measure	Group		
	Females	Males	Total Sample
Age (in years)			
M	12.47	12.56	12.52
SD	1.09	1.13	1.11
Race (%)			
White	78.0	76.0	77.0
Non-white	22.0	24.0	23.0
Grades in school (%)[a]			
Mostly A's	22.8	14.7	18.6
Mostly B's	51.0	41.9	46.3
Mostly C's	23.0	40.0	30.8
Mostly D's	2.0	4.8	3.5
Mostly F's	1.2	0.6	0.9
Incidence of victimization (%)			
Physical abuse	4.2	7.1	5.7
Sexual abuse	2.0	1.5	1.7
Family relations[b]			
M	3.96	3.90	3.93
SD	0.51	0.50	0.50

(Table continues)

Measure	Group		
	Females	Males	Total Sample
Caregiver marital status (%)			
Single	1.6	0.4	1.0
Married	78.4	83.6	81.1
Divorced	9.7	7.7	8.7
Separated	6.0	4.3	5.0
Other	4.3	4.2	4.2
Number of youth under age 18 in the home			
M	3.14	3.02	3.08
SD	1.54	1.54	1.54
Number of adults in the home			
M	2.70	2.82	2.76
SD	0.94	0.91	0.92
Number of disruptive events			
M	0.44	0.40	0.42
SD	0.83	0.77	0.80
Caregiver monitoring[b]			
M	3.86	3.79	3.82
SD	0.87	0.90	0.89

(Table continues)

Measures		Group		
		Females	Males	Total Sample
Caregiver discipline[c]				
	M	5.40	5.35	5.37
	SD	0.77	0.83	0.80
SES[d]				
	M	44.32	44.40	44.36
	SD	16.50	16.74	16.16
Emotional bonding with peers[b]				
	M	3.38	3.33	3.35
	SD	0.46	0.44	0.45
Association with deviant peers[b]				
	M	1.53	1.68	1.61
	SD	0.51	0.53	0.53
Academic commitment[b]				
	M	3.50	3.39	3.45
	SD	0.45	0.43	0.44
Neighborhood poverty[b]				
	M	1.17	1.21	1.19
	SD	0.34	0.39	0.38

(Table continues)

Measures	Group		
	Females	Males	Total Sample
Neighborhood safety[b]			
M	1.32	1.32	1.32
SD	0.37	0.39	0.38
Total delinquency in early adolescence (Wave I)[e]			
M	6.40	10.45	8.51
SD	8.90	10.83	10.15

Note. [a]Grades in school were used as a proxy for intellectual functioning; [b]Responses were on a Likert scale from 1 to 5; [c]Responses were on a scale from 3 to 6, with higher scores indicating more inductive parenting; [d]Hollingshead Index; [e]Weighted diversity score

Table 4

Summary Statistics for Males, Females, and Total Sample on the Dependent Variables

Measure	Group		
	Females	Males	Total Samples
Total delinquency in late adolescence (Wave V) [a]			
M	6.50	11.19	8.90
SD	13.75	19.36	17.01
Total delinquency in early adulthood (Wave VII) [a]			
M	4.09	8.14	6.06
SD	5.25	8.56	7.34

Note. [a]Weighted diversity score

Table 5

Summary of the Indirect Pathways for Males and Females

Indirect Pathway	Sample			
	Males		Females	
	Estimate (SE)	p-value	Estimate (SE)	p-value
Antisocial behavior in late adolescence				
Monitoring → Deviant peers	-.001 (.002)	.644	.000 (.002)	.841
Academic commitment → Deviant peers	.009 (.005)	.086	-.001 (.004)	.843
Antisocial behavior in early adulthood				
Monitoring → Deviant peers	-.001 (.001)	.647	-.002 (.002)	.467
Academic commitment → Deviant peers	.007 (.005)	.152	.003 (.005)	.565

Note. SE = Standard error

FIGURES

Figure 1

Hypothesized Model

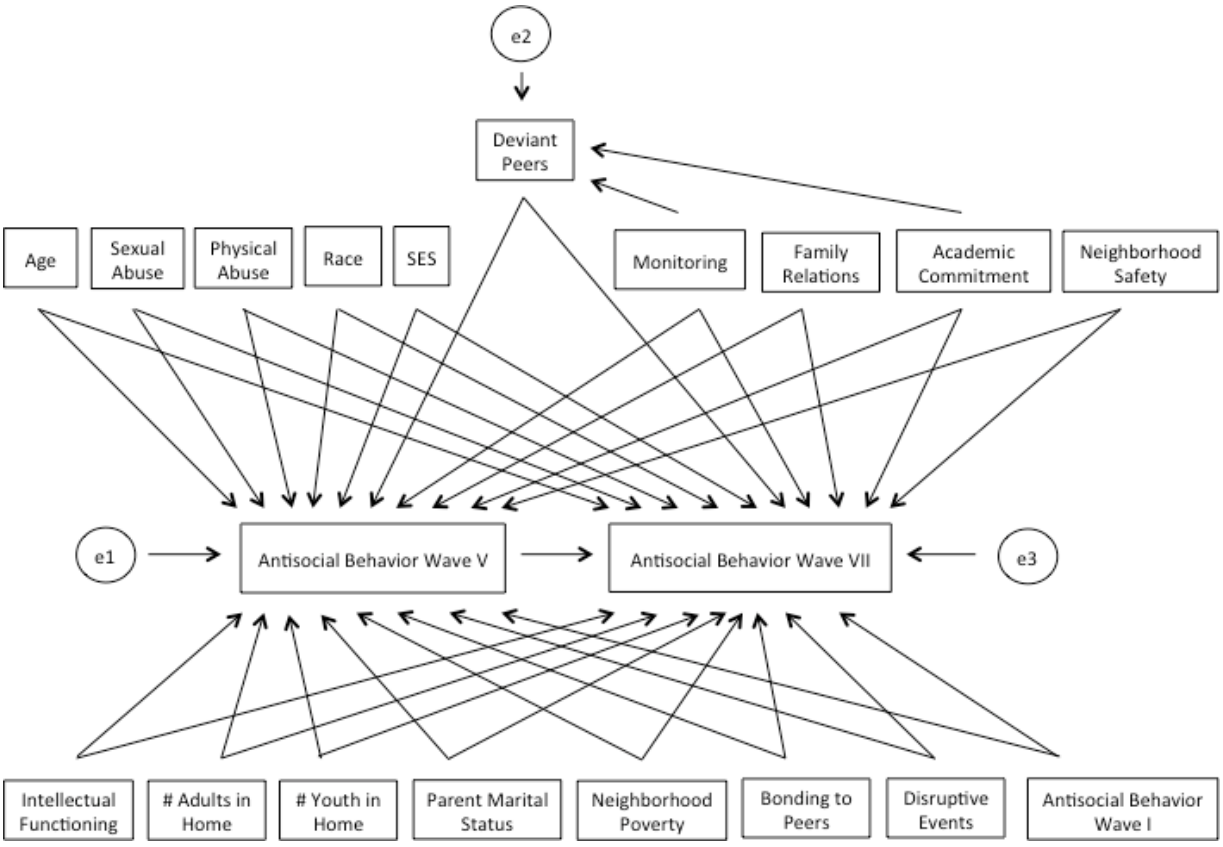


Figure 2

Final Model for Males

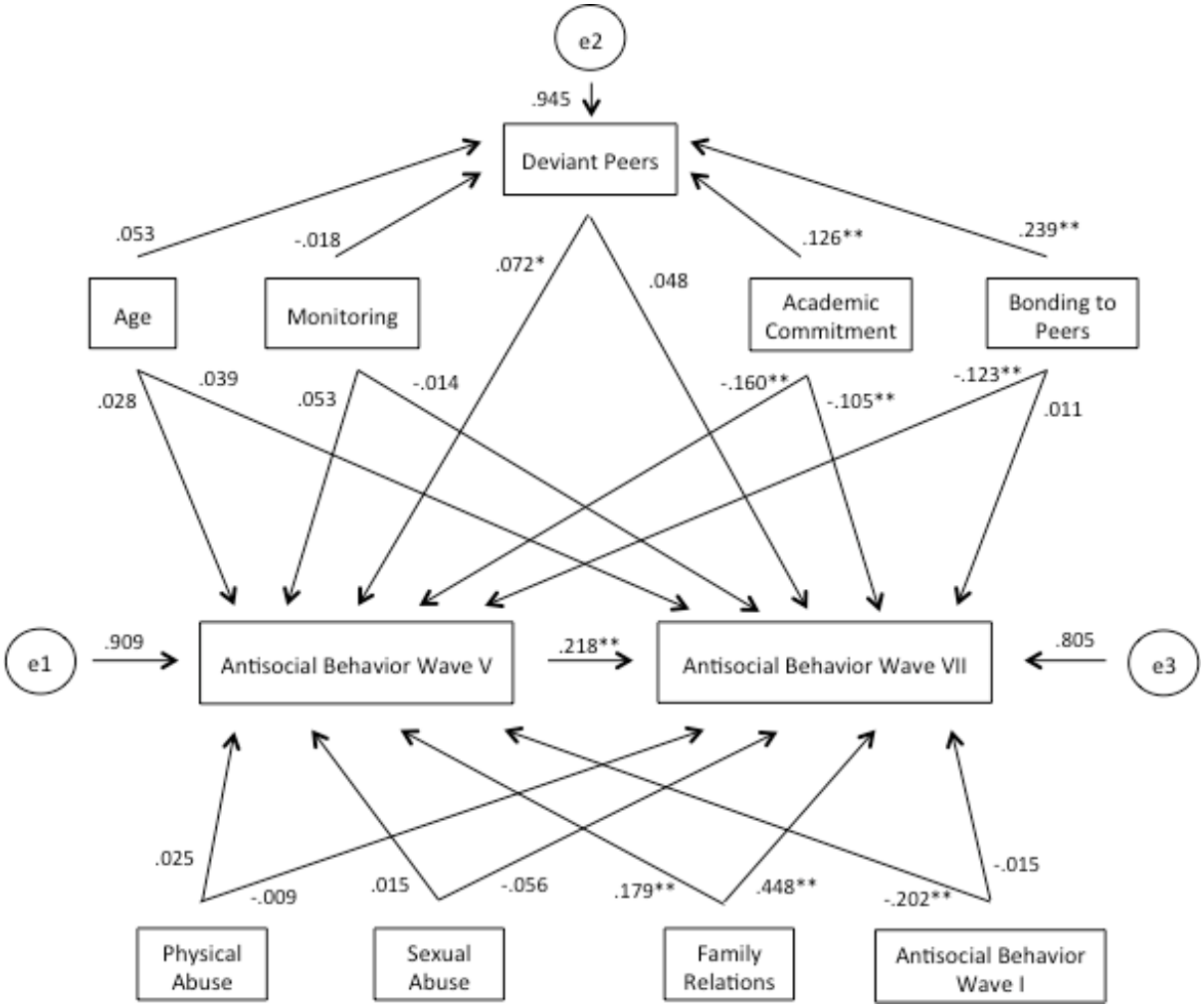
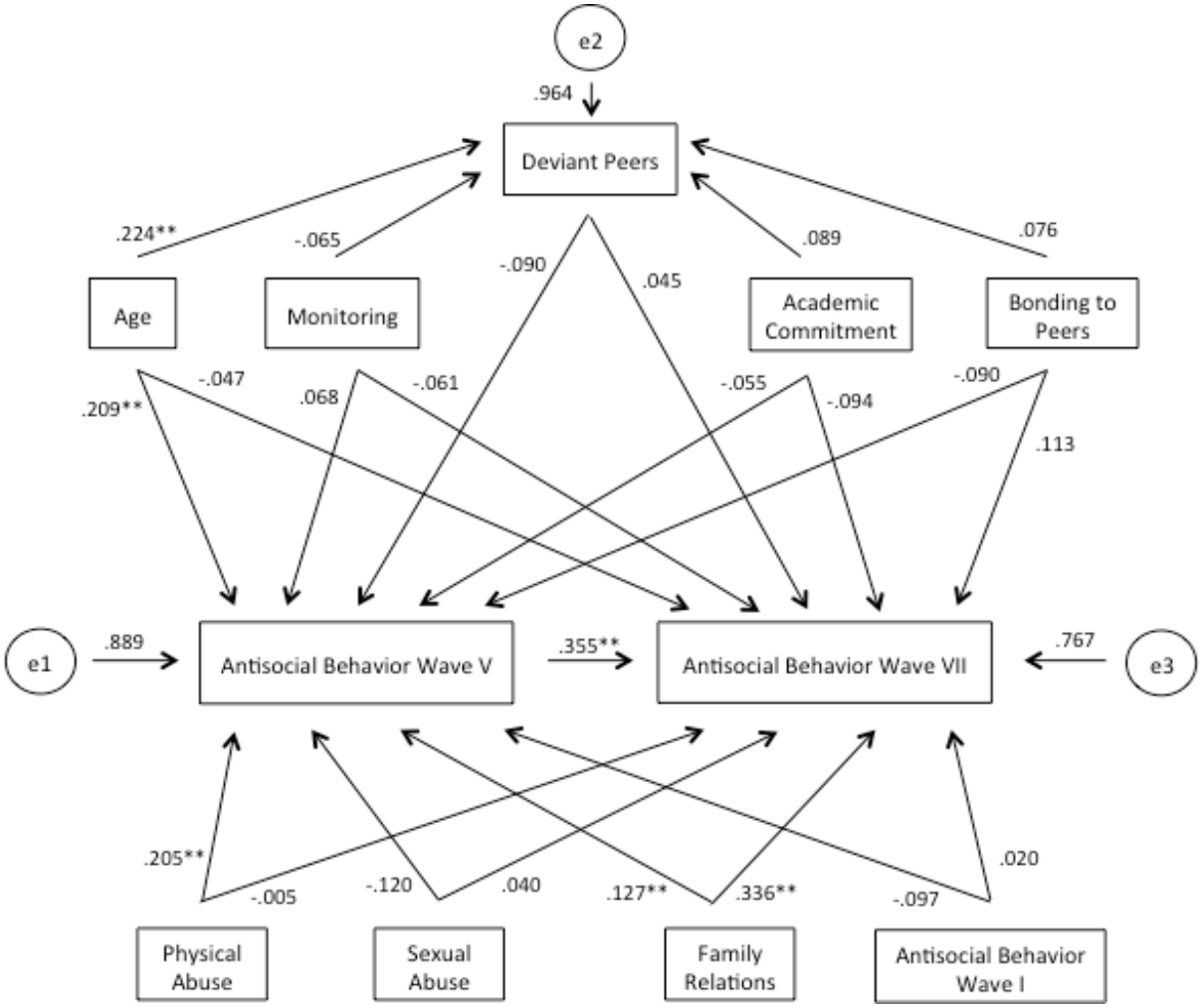


Figure 3

Final Model for Females



APPENDICES

Appendix A

Now, I'd like to know how many times each of the following things have happened to you in the last year, from the Christmas a year ago to the Christmas just past.

How many times in the last year:

1. Have you been beaten up by your mother or father? _____

2. Have you been sexually attacked or raped (or an attempt to do so)? _____

Appendix B

Family Relations

1. On the average, how many weekday afternoons, from the end of school or work to dinner, have you spent talking, working, or playing with your family?

0	1	2	3	4	5

2. On the average, how many weekday evenings, from dinnertime to bedtime, have you spent talking, working, or playing with your family?

0	1	2	3	4	5

3. On the weekends, how much time have you generally spent talking, working, or playing with your family?

5	4	3	2	1
A Great Deal	Quite a Bit	Some	Not too Much	Very Little

4. How important have the things you've done with your family been to you?

5	4	3	2	1
Very Important	Pretty Important	Somewhat Important	Not too Important	Not Important at All

5. How much have your parents influenced what you've thought and done?

5	4	3	2	1
A Great Deal	Quite a Bit	Some	Not too Much	Very Little

In the next set of questions, I'd like to ask about some of your feelings and beliefs. Please tell me how much you agree or disagree with these statements about you.

6. I feel like an outsider with my family. (reverse scored)

5	4	3	2	1
Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

7. My family is willing to listen if I have a problem.

5	4	3	2	1
Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

8. Sometimes I feel lonely when I am with my family. (reverse scored)

5	4	3	2	1
Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

9. I feel close to my family.

5	4	3	2	1
Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

10. My family doesn’t take much interest in my problems. (reverse scored)

5	4	3	2	1
Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

11. It's important to be honest with your parents, even if they become upset or you get punished.

5	4	3	2	1
Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

12. Making a good impression is more important than telling the truth to parents. (reverse scored)

5	4	3	2	1
Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

13. Sometimes it's necessary to lie to your parents in order to keep their trust. (reverse scored)

5	4	3	2	1
Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

14. It may be necessary to break some of your parent's rules in order to keep some of your friends. (reverse scored)

5	4	3	2	1
Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

Now I'd like to ask you how important certain things are to you and how well you are doing at these things.

How important is it to you . . .

15. to have a family that does lots of things together.

5	3	1
Very Important	Somewhat Important	Not Important At All

16. to have parents you can talk to about almost everything.

5	3	1
Very Important	Somewhat Important	Not Important At All

17. to have parents who comfort you when you're unhappy about something.

5	3	1
Very Important	Somewhat Important	Not Important At All

18. to have your parents think you do things well.

5	3	1
Very Important	Somewhat Important	Not Important At All

19. to get along well with your parents.

5	3	1
Very Important	Somewhat Important	Not Important At All

How well are you doing at these things?

20. to have a family that does lots of things together.

5	3	1
Very Well	O.K.	Not Well At All

21. to have parents you can talk to about almost everything.

5	3	1
Very Well	O.K.	Not Well At All

22. to have parents who comfort you when you're unhappy about something.

5	3	1
Very Well	O.K.	Not Well At All

23. to have your parents think you do things well.

5	3	1
Very Well	O.K.	Not Well At All

24. to get along well with your parents.

5	3	1
Very Well	O.K.	Not Well At All

Appendix C

Family Structure

1. What is your marital status?

1) Single
2) Married
3) Divorced
4) Separated
5) Other

2. How many children or youth under 18 (including subject) live in this home?

1) One	4) Four	7) Seven
2) Two	5) Five	8) Eight
3) Three	6) Six	9) Nine or more

3. Including yourself, which of the following adults, 18 and over, are now living in this home with subject? I will read you a list of people in terms of their relationship to subject and you tell me if they are living in the home:

No	Yes	
1	2	Mother
1	2	Stepmother or foster mother
1	2	Father
1	2	Stepfather or foster father
1	2	Any other relatives
1	2	Any other adults who are not relatives

4. Which of the following events has occurred in your home in the or to member of your family in the past year?

No	Yes	
1	2	Divorce
1	2	Separation
1	2	Remarriage
1	2	Mother (or mother figure) moved out
1	2	Father (or father figure) moved out
1	2	Any other relatives moved in or out
1	2	Any other adults (not relatives) moved in or out

Appendix D

Parental Monitoring and Discipline

1. How many of your child's close friends do you know?

5	4	3	2	1
All of Them	Most of Them	Some of Them	Very Few of Them	None of Them

2. How many of your child's close friends have you invited to your home or included in family activities outside the home such as picnics or movies?

5	4	3	2	1
All of Them	Most of Them	Some of Them	Very Few of Them	None of Them

3. How many parents of your child's close friends do you know personally?

5	4	3	2	1
All of Them	Most of Them	Some of Them	Very Few of Them	None of Them

The next set of items is directed to the way in which you discipline your son or daughter. For each of three groups of disciplinary behaviors, please select the one action you would take first in disciplining your son or daughter [items are scored so that a higher score reflects a more inductive type of discipline].

Group 1:

A. **Point out the hurtful consequences of his or her behavior** (2 points)

B. **Take away his or her privileges** (1 point)

C. **Never accuse him or her unfairly, even if I am angry with him or her** (2 points)

D. **Demand that he or she correct the damage he or she has done** (1 point)

Group 2:

A. **Discuss the importance of his or her acting in a mature and thoughtful way** (2 points)

B. **Threaten him or her with discipline from someone else** (1 point)

C. **Yell at him or her** (1 point)

D. **Let him or her know that I am disappointed by his or her behavior** (2 points)

Group 3:

A. **Hit or threaten to him or her** (1 point)

B. **Explain that he or she should accept responsibility for his or her behavior and request that he or she make up for it** (2 points)

C. **Discuss his or her behavior with him or her as well as my reasons for being upset with it** (2 points)

D. **Send him or her to his or her room** (1 point)

[Overall Discipline type: One or fewer inductive scores implies non-inductive discipline, two inductive scores implies semi-inductive, and three inductive scores implies inductive discipline.]

Appendix E

Emotional Bonding to Peers

Your answers to the next set of questions cover things which have happened during the LAST YEAR. Whenever I say the LAST YEAR, I mean the time from Christmas a year ago to the Christmas just past.

1. On the average, how many weekday afternoons, from the end of school or work to dinner, have you spent with your friends?

0	1	2	3	4	5

2. On the average, how many weekday evenings, from dinnertime to bedtime, have you spent with your friends?

0	1	2	3	4	5

3. On the weekends, how much time have you generally spent with your friends?

5	4	3	2	1
A Great Deal	Quite a Bit	Some	Not too Much	Very Little

4. How much have your friends influenced what you've thought and done?

5	4	3	2	1
A Great Deal	Quite a Bit	Some	Not too Much	Very Little

In the next set of questions, I'd like to ask about some of your feelings and beliefs. Please tell me how much you agree or disagree with these statements about you.

5. I don’t feel that I fit in very well with my friends. (reverse scored)

5	4	3	2	1
Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

6. My friends don’t take much interest in my problems. (reverse scored)

5	4	3	2	1
Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

7. I feel close to my friends.

5	4	3	2	1
Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

8. My friends are willing to listen if I have a problem.

5	4	3	2	1
Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

9. Sometimes I feel lonely when I am with my friends. (reverse scored)

5	4	3	2	1
Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

10. You are better off without friends if you have to break rules or laws to keep them.

5	4	3	2	1
Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

11. Making a good impression is more important than telling the truth to friends. (reverse scored)

5	4	3	2	1
Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

12. It's okay to lie if it keeps your friends out of trouble.

5	4	3	2	1
Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

13. In order to gain the respect of your friends, it's sometimes necessary to beat up on other kids.

5	4	3	2	1
Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

14. You have to be willing to break some rules if you want to be popular with your friends.

5	4	3	2	1
Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

Now I'd like to ask you how important certain things are to you and how well you are doing at these things.

How important is it to you . . .

15. to be asked to take part in things your friends do, such as going to parties and games?

5	3	1
Very Important	Somewhat Important	Not Important At All

16. to have friends ask to spend time and do things with you?

5	3	1
Very Important	Somewhat Important	Not Important At All

How are you doing at these things?

17. to be asked to take part in things your friends do, such as going to parties and games?

5	3	1
Very Well	O.K.	Not Well At All

18. to have friends ask you to spend time and do things with you ?

5	3	1
Very Well	O.K.	Not Well At All

Appendix F

Association with Deviant Peers

Now let's talk about your friends' behavior during the period between Christmas a year ago to the Christmas just past. I'd like you to tell me how many of your close friends have done each thing I will read to you. Think of the people you listed as your close friends. During the last year how many of them have:

1. cheated on school tests.

5	4	3	2	1
All of Them	Most of Them	Some of Them	Very Few of Them	None of Them

2. purposely damaged or destroyed property that did not belong to them.

5	4	3	2	1
All of Them	Most of Them	Some of Them	Very Few of Them	None of Them

3. used marijuana or hashish.

5	4	3	2	1
All of Them	Most of Them	Some of Them	Very Few of Them	None of Them

4. stolen something worth less than $5.

5	4	3	2	1
All of Them	Most of Them	Some of Them	Very Few of Them	None of Them

5. hit or threatened to hit someone without any reason.

5	4	3	2	1
All of Them	Most of Them	Some of Them	Very Few of Them	None of Them

6. used alcohol.

5	4	3	2	1
All of Them	Most of Them	Some of Them	Very Few of Them	None of Them

7. broken into a vehicle or building to steal something.

5	4	3	2	1
All of Them	Most of Them	Some of Them	Very Few of Them	None of Them

8. sold hard drugs such as heroin, cocaine, and LSD.

5	4	3	2	1
All of Them	Most of Them	Some of Them	Very Few of Them	None of Them

9. stolen something worth more than $50.

5	4	3	2	1
All of Them	Most of Them	Some of Them	Very Few of Them	None of Them

10. suggested you do something that was against the law.

5	4	3	2	1
All of Them	Most of Them	Some of Them	Very Few of Them	None of Them

Appendix G

Academic Commitment

1. On the average, how many weekday afternoons, from the end of school to dinner, have you spent studying?

0	1	2	3	4	5

2. On the average, how many weekday evenings, from dinnertime to bedtime, have you spent studying?

0	1	2	3	4	5

3. On the weekends, how much time have you generally spent studying?

5	4	3	2	1
A Great Deal	Quite a Bit	Some	Not too Much	Very Little

4. How important has your school work been to you?

5	4	3	2	1
Very Important	Pretty Important	Somewhat Important	Not too Important	Not Important at All

In the next set of questions, I'd like to ask about some of your feelings and beliefs. Please tell me how much you agree or disagree with these statements about you.

5. I'm not asked to take part in school activities as often as I'd like to be. (reverse scored)

5	4	3	2	1
Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

6. Teachers don't call on me in class, even when I raise my hand. (reverse scored)

5	4	3	2	1
Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

7. I often feel like nobody at school cares about me. (reverse scored)

5	4	3	2	1
Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

8. I don't feel as if I really belong at school. (reverse scored)

5	4	3	2	1
Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

9. Even though there are lots of kids around, I often feel lonely at school. (reverse scored)

5	4	3	2	1
Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

10. Teachers don't ask me to work on special classroom projects. (reverse scored)

5	4	3	2	1
Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

11. To stay out of trouble, it is sometimes necessary to lie to teachers. (reverse scored)

5	4	3	2	1
Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

12. At school it is sometimes necessary to play dirty in order to win. (reverse scored)

5	4	3	2	1
Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

13. You can make it in school without having to cheat on exams/tests.

5	4	3	2	1
Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

14. It is important to do your own work at school even if it means some kids won't like you.

5	4	3	2	1
Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

15. Making a good impression is more important than telling the truth to teachers. (reverse scored)

5	4	3	2	1
Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

Now I'd like to ask you how well you are doing at certain things.

How are you doing at these things?

1. to have other students think of you as a good student?

5	3	1
Very Important	Somewhat Important	Not Important At All

2. to do well even in hard subjects?

5	3	1
Very Important	Somewhat Important	Not Important At All

3. to do your own school work without help from anybody?

5	3	1
Very Important	Somewhat Important	Not Important At All

4. to have teachers think you are a good student?

5	3	1
Very Important	Somewhat Important	Not Important At All

5. to have a high grade point average?

5	3	1
Very Important	Somewhat Important	Not Important At All

How well you doing at these things?

1. to have other students think of you as a good student?

5	3	1
Very Well	O.K.	Not Well At All

2. to do well even in hard subjects?

5	3	1
Very Well	O.K.	Not Well At All

3. to do your own school work without help from anybody?

5	3	1
Very Well	O.K.	Not Well At All

4. to have teachers think you are a good student?

5	3	1
Very Well	O.K.	Not Well At All

5. to have a high grade point average?

5	3	1
Very Well	O.K.	Not Well At All

Appendix H

Neighborhood Characteristics

Now I'd like to ask you some questions about your community and neighborhood, whether you've moved or not. I'm going to read a list of problems that sometimes occur in neighborhoods. Please tell me whether you think each is a problem in this neighborhood.

1. Vandalism, buildings and personal belongings broken and torn up.

3	2	1
Big Problem	Somewhat of a Problem	Not a Problem

2. Winos and junkies.

3	2	1
Big Problem	Somewhat of a Problem	Not a Problem

3. Traffic

3	2	1
Big Problem	Somewhat of a Problem	Not a Problem

4. Abandoned houses

3	2	1
Big Problem	Somewhat of a Problem	Not a Problem

5. Burglaries and thefts

3	2	1
Big Problem	Somewhat of a Problem	Not a Problem

6. Run down and poorly kept buildings and yards.

3	2	1
Big Problem	Somewhat of a Problem	Not a Problem

7. Assaults and muggings

3	2	1
Big Problem	Somewhat of a Problem	Not a Problem

Appendix I

Self-Reported Delinquency

This section deals with your own behavior. I'd like to remind you that all your answers are confidential. I'll read a series of behaviors to you. Please give me your best estimate of the exact number of times you've engaged in each behavior during the last year from approximately Christmas a year ago to the Christmas just past.

How many times in the last year have you:

1. purposely damaged or destroyed property belonging to your parents or other family members _____
2. purposely damaged or destroyed property belonging to a school or employer _____
3. purposely damaged or destroyed other property that did not belong to you (not counting family, school, or employer property) _____
4. stolen (or tried to steal) a motor vehicle, such as a car or motorcycle _____
5. stolen (or tried to steal) something worth more than $50 _____
6. knowingly bought, sold or held stolen goods (or tried to do any of these things) _____
7. carried a hidden weapon other than a plain pocket knife _____
8. stolen (or tried to steal) things worth $5 or less _____
9. attacked someone with the idea of seriously hurting or killing him/her _____
10. been paid for having sexual relations with someone _____
11. been involved in gang fights _____
12. sold marijuana or hashish (“pot,” “grass,” “hash”) _____
13. hitchhiked where it was illegal to do so _____
14. stolen money or other things from your parents or other members of your family _____
15. hit (or threatened to hit) a teacher or other adult at school or someone at work _____
16. hit (or threatened to hit) one of your parents or other members of your family _____
17. hit (or threatened to hit) anyone else (not counting family members, teachers, or coworkers) _____
18. been loud, rowdy, or unruly in a public place (disorderly conduct) _____
19. sold hard drugs, such as heroin, cocaine, and LSD _____
20. taken a vehicle for a ride (drive) without the owner’s permission _____

21. had (or tried to have) sexual relations with someone against their will _____
22. used force (strong-arm methods) to get money or things from other students or coworkers _____
23. used force (strong-arm methods) to get money or things from a teacher or other adult at school _____
24. used force (strong-arm methods) to get money or things from other people (not students, teachers, or coworkers) _____
25. avoiding paying for such things as movies, bus or subway rides, and food _____
26. been drunk in a public place _____
27. stolen (or tried to steal) things worth between $5 and $50 _____
28. stolen (or tried to steal) something at school, such as someone's coat from a classroom, locker, or cafeteria, or a book from the library _____
29. broken into a building or vehicle (or tried to break in) to steal something or just to look around _____
30. begged for money or things from strangers _____
31. failed to return extra change that a cashier gave you by mistake _____
32. made obscene telephone calls, such as calling someone and saying dirty things _____

How often in the last year have you used:

33. alcoholic beverages (beer, wine, and hard liquor) _____
34. marijuana—hashish ("grass," "pot," "hash") _____
35. hallucinogens ("LSD," "Mescaline," "Peyote," "Acid") _____
36. amphetamines ("Uppers," "Speed," "Whites") _____
37. barbiturates ("Downers," "Reds") _____
38. heroin ("Horse," "Smack") _____
39. cocaine ("Coke") or crack _____

VITA

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