

NIH Public Access

Author Manuscript

J Youth Adolesc. Author manuscript; available in PMC 2010 November 1

Published in final edited form as: *J Youth Adolesc*. 2009 March ; 38(3): 367–383. doi:10.1007/s10964-008-9333-4.

Parents, Friends, and Romantic Partners: Enmeshment in Deviant Networks and Adolescent Delinquency Involvement

Robert A. Lonardo, Peggy C. Giordano, Monica A. Longmore, and Wendy D. Manning Department of Sociology and Center for Family and Demographic Research, Bowling Green State University, Bowling Green, Ohio 43403

Abstract

Adolescent networks include parents, friends, and romantic partners, but research on the social learning mechanisms related to delinquency has not typically examined the characteristics of all three domains simultaneously. Employing data from the Toledo Adolescent Relationships Study (n = 957), we assess the relationship of romantic partners' delinquency with respondents' self-reported involvement after taking parents' and peers' deviance into account. Next, we explore the associations between enmeshment *level* (number of deviant networks), enmeshment *type* (specific combinations of deviant networks), and delinquency. Parents,' peers,' and partners' deviance are each related to respondents' self-reported behavior, but affiliation with a greater number of deviant networks is associated with higher delinquency involvement. Results that consider enmeshment type indicate that those with both above average romantic partner and friend delinquency report especially high levels of self-reported involvement. In all comparisons, however, adolescents with deviant romantic partners are more delinquent than those youths with more prosocial partners, regardless of friends' and parents' behavior. Results highlight the importance of capturing the adolescent's entire network of affiliations, rather than viewing these in isolation, and suggest the need for additional research on romantic partner influences on delinquent behavior and other adolescent outcomes.

Keywords

delinquency; social networks; adolescence; network enmeshment

Exposure to delinquent peers has frequently been associated with an adolescent's own involvement in delinquency (Haynie, 2002; Matsueda & Anderson, 1998; Sutherland, 1947; Warr, 2002). Parents, in contrast, are most often considered a source of supervision and social control (Demuth & Brown, 2004; Hirschi, 1969; Rankin & Wells, 1990). Nevertheless, studies have documented that parents' criminality and deviance are also linked with children's delinquency (Farrington, 1993, 1995; Glueck & Glueck, 1950; McCord, 1977; Sack, 1977). More recently, research has focused on the influence of romantic partners on adolescent delinquency (Haynie, 2003; Haynie, Giordano, Manning, & Longmore, 2005; Rebellon & Manasse, 2004; Wong, 2005). Haynie et al. (2005), for example, found that the delinquent behaviors of dating partners were positively associated with the adolescents' own self-reported delinquency involvement, even after controlling for the well-documented friendship effect (see Warr, 2002).

Typically, a limitation of analyses in this tradition is that they focus solely on one particular network domain (i.e., friends, parents, or romantic partners). Analyses such as that of Haynie

Direct correspondence should be addressed to Robert Lonardo, Department of Sociology, Bowling Green State University, Bowling Green, OH 43403 (rlonard@bgsu.edu)..

et al. (2005) have examined friends and romantic partners within the same analysis, but the emphasis is placed on measuring independent effects. Research has not explicitly examined the associated risks of differential exposure to deviance across the three key network domains (parents, friends, and dating partners) and, in particular, how these network domains act together in relation to self-reported delinquency.

Employing data from the Toledo Adolescent Relationships Study (TARS), the current investigation has three main objectives. First, we examine the effect of romantic partners,' friends,' and parents' deviance on the respondents' own self-reports of delinquency involvement. This study builds upon Haynie et al.'s (2005) analyses, which did not include measures of parents' deviance in assessments of network influence. Next, we identify the distributions of adolescents by level and type of enmeshment in deviance. Level of enmeshment refers to the proportion of the adolescent's network affiliations that are classified as highly deviant, while our analyses of type focuses on *specific combinations* of network affiliations characterized by above average involvement in deviant activities. Some adolescents may be classified as fully enmeshed, where parents, friends, and romantic partners are characterized as deviant, or at the other extreme, as interacting within the context of networks where none of these reference groups are engaged in above average deviance. Our next objective is to explore the association of enmeshment level and type with respondent's own delinquency involvement. Finally, analyses examine the degree to which and ways in which gender influences these network deviance and delinquency connections.

BACKGROUND

Research on delinquency has tended to focus separately on the influence exerted by friends, parents, and, to a more limited degree, romantic partners (Haynie et al., 2005; Rowe & Farrington, 1997; Warr, 1993, 2002). During adolescence, all three domains have been shown to predict significant variation in deviant behaviors, but these social spheres and their influence on the individual are rarely studied together. Friends and parents have long been recognized as important influences on adolescent offending behaviors. Sutherland (1947), in the theory of differential association, argued that, like all behaviors, crime and delinquency result from learning processes. In order for delinquency to occur, an adolescent must receive favorable definitions for deviant behavior that outweigh those definitions favorable to conformity. Typically, studies of delinquency have operationalized this notion of influence as the delinquent behaviors of one's friends. Sutherland noted that variations exist in the priority, duration, intensity, and frequency of one's associations, however, and thus parents also have ample opportunity to influence the child in a prosocial or antisocial direction. Researchers have undoubtedly focused so heavily on adolescent friendships because it is within the peer context that such behavior is most likely to be carried out. Romantic relationships may also be favorable contexts for learning and performing delinquent acts, but this has not been studied as extensively as these other domains.

Although originally focused upon social control mechanisms, Krohn (1986) suggested that social network theory adds to the emphases of differential association theory and may be useful in the explanation of delinquent behaviors. Social networks exert pressure to conform and, therefore, constrain the behaviors of their members. If a majority of those within adolescents' friendship groups are delinquent, then it is likely that they will engage in greater levels of delinquency than is the case when adolescents have few or no delinquent peers (see Haynie, 2002). Moving beyond the peer group, Thornberry et al. (2003: 15) asserted that "delinquent behavior is expected when the individual is enmeshed in some, especially many, networks that allow or encourage such behavior." Thus, complete enmeshment across the social network (parents, friends, and romantic partners) should have the strongest effect on adolescent

delinquency. Conversely, adolescents involved with relatively prosocial romantic partners, friends, and parents should exhibit the lowest levels of delinquent behaviors.

Friends

Studies of the behavioral concordance between adolescents and their friends have shown consistently strong associations (Warr, 2002). However, research on peer socialization is frequently criticized for its inability to determine the temporal order of the estimated effects. We recognize that certain characteristics are used by adolescents to elect others into their friendship circles, including attraction to those who are similarly delinquent (Glueck & Glueck, 1950). Nonetheless, longitudinal analyses such as that conducted by Matsueda and Anderson (1998) suggest that the association between delinquent peers and delinquent behavior is bidirectional. In other words, adolescents select into their peer networks those with relatively similar offending histories, but also engage in mutual influence processes that affect future behaviors. With this in mind, we may with some caution conclude that a significant association between peers and delinquency represents both processes occurring simultaneously. Generally, delinquent peers remain a strong predictor of delinquent behaviors in studies analyzing contemporaneous as well as longitudinal effects.

Peer effects are also found using different methods of obtaining information concerning peer behaviors, although direct measures often produce associations of lower magnitude. The most common methodological strategy has been to rely on respondent reports of friends' behaviors, but some researchers have noted the potential for bias, as the reports depend on the adolescent's knowledge about friends' activities, and may be influenced by their own behavioral proclivities (see, e.g., critiques by Haynie, 2002; Hirschi, 1969). Weerman and Smeenk (2005) found a positive association between peer behavior and delinquency using both direct (information gathered from nominated friends) and indirect (provided by the focal respondents) reports of peer behavior, but observed that the direct peer delinquency measure resulted in lower estimates of the association between respondents' and peers' delinquency. Analyses relying on direct measures thus present the more conservative picture, but are generally in line in documenting significant peer effects (see e.g., Kandel etc). Further, a limitation of studies relying on direct methods is that they typically exclude from the study friends who do not attend the same school or who are not in school, introducing a different form of bias in such analyses.

Parents

According to Hirschi's (1969) theory of social control, parents are seen as inhibitory in their effects on adolescent deviance, constraining involvement either through behavioral monitoring and control or attachment and support. Indeed, effective parenting has consistently been shown to be negatively related to children's involvement in delinquency (Barnes et al., 2006; Cernkovich & Giordano, 1987; Rankin & Wells, 1990).

In addition to monitoring and support, parents are able to influence the behaviors of their children through their own involvement in criminal activities. Glueck and Glueck (1950) found that, when comparing a sample of delinquent boys with a prosocial group, delinquent boys were much more likely to have a criminal father. Furthermore, Sack (1977) reported that children of imprisoned fathers modeled the crimes that led to their fathers' convictions; however, the data are drawn from a non-random, clinical sample of adolescent boys, therefore limiting the generalizability of his findings. McCord (1977) also found that sons of fathers with criminal convictions are likely to engage in similar offending behaviors (such as drunkenness, violence, or theft). Additionally, the work of Farrington and colleagues (Farrington, 1993, 1995; Rowe & Farrington, 1997) consistently highlights the transmission of criminal behaviors and convictions across generations. In sum, the relationship of parents' deviance with children's offending needs to be considered in models that assess peer as well as romantic

partner effects. A focus on parenting practices such as supervision is important, but does not complete the roster of ways in which parents influence their children.

Romantic Partners

Analyses of peer effects on delinquency have typically focused on the effect of delinquency exhibited by the general peer group (Haynie et al., 2005). Until recently, researchers either ignored the romantic partner as a source of social influence or treated these relationships as an indistinct subset of the peer group (Sharabany, Gershoni, & Hofman, 1981). However, adolescents' relations with parents, peers, and romantic partners can each be understood as playing a unique role in adolescent development (Giordano, 2003; Youniss & Smollar, 1985). Thus, romantic partners should also be considered as an influence on delinquent behavior, net of the impact of friends' and parents' deviance.

Currently, the criminological literature focuses on romantic partners primarily as an influence on female delinquents and in assessments of factors associated with adult desistance. Sampson and Laub (1990) found that the social bonds of strong marital attachment and high job stability lead to male desistance from crime. Warr (1998) also found a marriage effect, noting that partners influence time spent with friends and exposure to delinquent peers (see also Giordano, Cernkovich, & Holland, 2003; Simons et al., 2002).

Dating relationships are increasingly being examined for their role in shaping adolescents' delinquency involvement; more research has focused on female delinquency, however. Giordano (1978) found that a fairly large percentage of the girls in her sample reported the presence and/or involvement of a romantic partner while engaging in delinquent acts. The work of Haynie (2003) also pointed to the importance of dating on girls' delinquency, as Haynie discovered that the early pubertal-timing effect on delinquency involvement was largely accounted for by romantic involvement. In addition, Wong (2005) found a positive association between dating involvement and delinquency, suggesting that dating serves to increase rates of offending. This association, however, was considerably reduced after the adolescents' exposure to delinquent peers was taken into account.

Rebellon and Manasse (2004) concluded that prior delinquency involvement may actually lead to increased dating behaviors. The authors also examined the association of dating behavior and interest on later offending rates. The results indicated such a relationship for females but not for males. A limitation of this prior work is that most studies do not take into account the delinquency involvement of dating partners. In our view, this may be as, if not more, important to the understanding of adolescent delinquency than simply involvement in the dating world. Haynie et al. (2005), using direct measures of partner behaviors within the context of a large, nationally representative sample of adolescents, found that romantic partner behavior explained a significant proportion of variance in adolescent delinquency, even after the association with delinquent peers was taken into account. This finding was significant for both male and female adolescents, but where the focus was on minor acts of delinquency, the relationship was significantly stronger for females. Thus, relying upon differential association theory and past research, we expect that the delinquent behavior of romantic partners will be positively associated with respondents' delinquency, net of friendship and parent effects. The general direction of prior findings suggests the importance of examining the ways in which gender may influence romantic partner effects.

Enmeshment in Deviant Social Networks

The above review indicates that the domains that are important to adolescents potentially influence their involvement in delinquent behaviors, but prior work has not included all domains simultaneously in one analysis. It is logical to expect, however, that adolescents should

differ considerably in their levels of enmeshment in deviant networks. Additionally, as mentioned above, the writings of Krohn (e.g., 1986) and Thornberry (e.g., 2003) lend theoretical support for analyzing the behaviors of multiple social networks simultaneously. This paper explores variations in network deviance enmeshment by level (proportion of domains that are relatively more deviant) and type (combination of network affiliations that are classified as deviant). At one end on the continuum is the phenomenon of full enmeshment, or the case in which all network affiliations are characterized by relatively high levels of deviant behavior. Haynie (2002), in a study of adolescent friendship networks, found that a majority of adolescents nominate both prosocial and delinquent friends. However, her analysis also documented that those adolescents who report being members of entirely delinquent friendship groups (the analysis did not consider romantic partners) were at highest risk for involvement in delinquency. An effect of full enmeshment was also suggested by the work of Giordano and Mohler-Rockwell (2001). Using qualitative interviews, the authors found that the female respondents with long criminal histories were frequently "immersed' in deviant lifestyleswhere aunts, cousins, siblings, fathers, and mothers routinely engaged in violence and criminal behavior" (p. 23). The authors suggested that since on average girls manage to avoid involvement in delinquency, those girls who are involved may be embedded in especially deviant networks.

In support of the idea of examining multiple domains of influence simultaneously, Huizinga et al. (2003) discussed the impact of deviant peers and parents on delinquency involvement. Using data from the Denver Youth Survey, the authors reported a rather large effect of peer behavior on delinquency involvement. The adolescents in the survey appeared to remain unaffected by parents' deviance itself; however, when coupled with peer deviance, the adolescents with deviant parents as well as peers were at higher risk of involvement in delinquency as compared to those with only delinquent peers. This suggests that parents' deviance, in isolation, may not prove sufficient to amplify delinquency risk but, when coupled with peer deviance, may increase an adolescent's likelihood of deviant behavior beyond the influence of peers alone.

Differences in involvement with deviant behaviors by type or level of enmeshment are also suggested by findings reported by Simons et al. (2002) and Giordano, Cernkovich, and Holland (2003). Simons et al. (2002) found a significant relationship between adult female crime and both romantic partners' and friends' behaviors. For males, only conventional friends predicted later conforming behavior. It thus appears that particular combinations of deviant social spheres are potentially important to a comprehensive understanding of involvement in criminal behavior. Further, Giordano, Cernkovich, and Holland (2003) hypothesized that being enmeshed in both criminal and conventional social networks allows for movement out of criminal involvement; that is, if individual goals and inclinations change, such individuals are likely to be more successful than those fully enmeshed in deviant networks to realign themselves with their more prosocial networks affiliations. The current study contributes beyond prior work by examining variations in the deviant characteristics of parents, peers, and romantic partners and determining the associations between these network memberships and adolescent self-reported delinquency.

Additional Factors Related to Delinquency

In addition to the well-documented influence of gender on adolescent delinquency, the above review suggests that gender may play a moderating role in the associations between social network deviance and a respondent's own self-reported delinquency. For example, some past research has shown that the effect of delinquent peers varies by gender. Piquero et al. (2005) found that male delinquency was more strongly influenced by the delinquency of one's peers,

Drawing upon Sutherland's (1947) differential association and Gilligan's (1982) socialization perspectives, Mears, Ploeger, and Warr (1998) found that the effect of delinquent peers on adolescent delinquency was moderated by both gender and moral evaluations of delinquent behaviors (i.e., whether engaging in delinquent behaviors is not wrong, wrong, or very wrong). Additionally, the authors found that actual time spent with delinquent friends is much greater for male subjects, and that the association of delinquent peers with self-reported delinquency was stronger for males. Peers and delinquency involvement were significantly correlated for female respondents, but this empirical relationship was stronger for females who evaluated delinquent behaviors in favorable moral terms. It has also been shown that the male adolescent culture generally fosters risk-taking, daring, or bravado, which may further reinforce involvement in delinquency (Giordano, Cernkovich, & Pugh, 1986).

Most of these prior investigations have focused on a single source of network influence. Thus, it is important to explore whether high levels of enmeshment across multiple network domains may have a stronger influence on females' relative to males' risk of involvement in delinquent behaviors. Giordano and Mohler-Rockwell (2001), based on a qualitative investigation of female delinquents, noted that the women with extensive criminal histories were often highly enmeshed in social networks almost entirely composed of highly antisocial individuals. Girls, who in general are less delinquent than boys, typically are affiliated with networks characterized by low levels of deviance. It is thus possible that girls' delinquency is more strongly influenced by a situation of complete enmeshment, where such girls have fewer "degrees of freedom" with respect to more prosocial definitions. However, an alternative hypothesis is that male adolescents are more susceptible to network influence, a hypothesis that follows from some of the results of single domain studies described above.

Although our primary focus here is upon network deviance as observed across the domains of parents, peers, and romantic partners, several socio-demographic variables related to delinquency involvement are also important to consider (e.g., Hirschi, 1969). First, academic achievement is consistently linked to delinquent behavior (Maguin & Loeber, 1996). Second, parental attachment has been a robust predictor in prior research. Two measures frequently used to represent control and attachment are parental monitoring and support (e.g., Cernkovich & Giordano, 1987; Rankin & Wells, 1990). Third, household structure has also exhibited significant relationships with delinquency involvement in prior research (Demuth & Brown, 2004). Finally, socioeconomic status may play a role in adolescent delinquency in that a lack of resources and living in a disadvantaged neighborhood have also been associated with greater risk of involvement (see Wright et al., 1999).

METHOD

Data

The sample for the TARS was drawn from the enrollment records of registered students in the 7th, 9th, and 11th grades in Lucas County, Ohio (n = 1,321). The county is largely an urban, metropolitan area that includes the city of Toledo. The sample universe encompassed the records of 62 schools across seven school districts. Devised by the National Opinion Research Center, a stratified, random sample was obtained, which includes over-samples of African American and Hispanic youths. Interviews were conducted at home using laptop computers preloaded with the survey questionnaire. Also, school attendance was not a requirement for inclusion in the sample. U.S. Census data indicate that our sample mirrors the characteristics of the Toledo MSA and the socio-demographic characteristics of the Toledo area closely parallel those of the nation in terms of education (80% in the Toledo MSA vs. 84% in the U.S.

are high school graduates), median family income (\$50,046 vs. \$50,287), and marital status (73.5% vs. 75.9% married two-parent households), and race (13% vs. 12% African American). Of the total 1,321 adolescents sampled, our focus is primarily on the 971 respondents who reported either dating currently or having dated recently (in the past year). Of the dating subset, fourteen reported a different race/ethnicity than White, African American, or Hispanic. Due to the low number, these adolescents are not included in this analysis, leaving the number of observations at 957.

Measures

Respondents', friends', and romantic partners' delinguency—Respondents' delinquency is measured using a 10-item revised version of the inventory developed by Elliott and Ageton (1980). An identical index was used to elicit information about the respondent's assessment of friends' and subsequently romantic partner's delinquency. The romantic partner index focused on the respondent's current or most recent partner, and the questions about friends elicited information about "the friends you hang around with," [This is exact, but the "you" is awkward.] rather than about the behaviors of each friend considered separately. As discussed above, the adolescent is undoubtedly an imperfect reporter. Thus, we recognize that the perceptual measure may introduce bias in that: a) romantic partners and/or friends may engage in behaviors of which the respondent is unaware, and b) adolescents may to an unknown degree make attributions based on the extent of their own current involvement in illegal behaviors. However, especially during adolescence, delinquent acts are often committed with same-age peers, placing them in a relatively favorable position for observing the behaviors in question. In addition, it is potentially useful to gauge respondent's views about the behavior of peers and dating partners as, according to theories of symbolic interaction (see e.g., Thomas 19xx), these understandings (rather than others' actual behaviors) may be most important as a source of definitions/meanings that influence the individual's own behavioral choices. The questions assess frequencies of alcohol and drug use, theft (minor and major), breaking and entering, assault and battery, property damage, selling drugs, public drunkenness, and carrying a hidden weapon. The responses for each item are coded 0 for never, 1 for once or twice a year, 2 for once every 2 to 3 months, 2 for once a month, 4 for once every 2 to 3 weeks, 5 for once a week, 6 for 2 to 3 times a week, 7 for once a day, and 8 for more than once a day. The values of Cronbach's alpha for respondents' (mean = .33), romantic partners' (mean = .43), and friends' delinquency (mean = .71) are .88, .89, and .86, respectively.

Parents' deviance is constructed from items drawn from the questionnaire administered directly to the adolescents' parents or guardians. The parents were asked how often during the past year they (1) used alcohol to get drunk, (2) gone out to party with your spouse or partner, and (3) gone out to party with friends ($\alpha = .72$). Possible responses for each question are 0 for never, 1 for once or twice a year, 2 for once every 2 to 3 months, 3 for once a month, 4 for once every 2 to 3 weeks, 5 for once a week, 6 for 2 to 3 times a week, and 7 for almost daily. The resulting measure (mean = 1.22) is the average of the three item responses for each parent. Given the nature of the age-crime curve, we did not expect that a large number of parents would be actively involved in the traditional range of criminal acts; thus our decision to focus on what might be considered lifestyle or party deviance. As we note below, this emphasis on minor deviance and our reliance on direct reports from parents may have some influence on the pattern of our results. However, we also conducted supplemental analyses focusing on parents reports of adult arrests as a proxy measure for criminal involvement and the results are generally similar (?)

To test the associations of different network deviance characteristics on adolescent delinquency involvement, adolescent networks are categorized in two ways. First, *enmeshment level* is represented by a count of the individual networks in which above average deviance is observed.

Four possible categories result: full enmeshment (all three networks characterized by above average deviance), high enmeshment (two networks), low enmeshment (one network), and no enmeshment (none of the respondent's networks are characterized by above average deviance). The other classification is for *enmeshment type*. This variable indexes the specific network domains that are above the mean for deviance or delinquency. Eight mutually exclusive, exhaustive combinations are created: all, romantic partner/friends, romantic partner/parent, friends/parent, romantic partner only, friends only, parent only, and none. The categories for type and level are recoded into separate blocks of dummy variables.

To account for other variables known to influence delinquency, several measures are entered into the regression equations as controls in order to reduce the risk of obtaining spurious estimates. *Gender* is coded as two dummy variables for male and female. The sample is evenly divided by gender with females representing 51 percent of the dating subset. *Race/ethnicity* is composed of white, African-American, and Hispanic. Dummy variables are created for each race category. *Age* is coded in years, ranges from twelve to nineteen, and has a mean of approximately fifteen years.

The variable *academic achievement* is represented by the adolescents' reports of the grades they received in the previous school year. If the adolescent reported not attending school in the most recent academic year, the respondent was asked what grades he/she typically received. Responses are coded as follows: 0 for mostly F's, 1 for mostly D's and F's, 2 for mostly D's, 3 for mostly C's and D's, 4 for mostly C's, 5 for mostly B's and C's, 6 for mostly B's, 7 for mostly A's and B's, and 8 for mostly A's (mean = 5.17, or mostly B's or C's).

Parental monitoring is a scale composed of the adolescent's perceptions of how often his/her parents allowed him/her to make decisions concerning (1) people to hang out with, (2) what to wear, (3) social life, (4) who to date, and (5) the frequency of dates. Each item has these possible responses: 0 for very often, 1 for often, 2 for sometimes, 3 for hardly ever, and 4 for never. The mean of the five item responses for each respondent are used as the values for parental monitoring (mean = .95; α = .88)

Parental support is constructed from ten survey items representing the adolescent's perception of how caring and supportive his/her parents are.¹ Respondents were asked how much they agree with the following statements: "my parents often ask about what I am doing in school;" "my parents give me the right amount of affection;" "my parents trust me;" "I can go to my parents when I have concerns or questions about the opposite sex;" "I'm closer to my parents than a lot of kids my age;" "my parents sometimes put me down in front of other people" (reverse coded); "my parents seem to wish I were a different type of person" (reverse coded); "my parents are clueless about a lot of things I do" (reverse coded), "sometimes I want to leave home" (reverse coded); and "I feel close to my parents." The response categories are coded 0 for strongly disagree, 1 for disagree, 2 for neither agree nor disagree, 3 for agree, and 4 for strongly agree (mean = 2.80; $\alpha = .83$).

Mother's education is calculated from items taken from the parent questionnaire. If the adolescent's mother was the parent filling out the questionnaire, the response to the question, "how far did you go in school?" was used. If the responding parent was male, he was asked "how far did your spouse or partner go in school?" Responses indicating the highest level of mother's education are recoded into categories representing less than a high school education,

¹Both the parent and adolescent data sets include measures of parenting practices. Cottrell et al. (2003) found that parent reports are not significantly related to adolescent risk behaviors while the adolescents' perceptions of these parenting practices were. Additionally, Thomas ([1923] 1967) presented the idea that any definition of a situation has real consequences, regardless of objective reality. Although one may argue that actual parenting behavior is important for adolescent development, in this paper, the adolescent's perceptions are preferable and chosen for use as controls.

J Youth Adolesc. Author manuscript; available in PMC 2010 November 1.

equal to a high school education, and more than a high school education. Dummy variables are constructed for each response category.

As an additional measure of socioeconomic status, *receipt of public assistance* is included as a control. Parents were asked if they have ever received any type of government or public assistance. If this question was answered affirmatively, the parent was then asked if they are currently receiving assistance. Respondents answering "yes" are coded 1; all others are assigned a value of 0.

Household structure is composed of dummy variables indicating the household type in which the adolescent reported living in the past year. The household type classifications are constructed into dummy variables indicating two-parent, single parent, step-parent, and "other."

Analytic Strategy

This study includes three sets of analyses. First, the associations of parents', friends', and partners' deviance with respondents' delinquency will be explored. Next we examine the distributions within the sample by level (number of domains with above average deviance) and type (particular combinations of network deviance). Models are subsequently estimated to test the relationship between enmeshment level and type and self-reported delinquency involvement. In connection with these analyses, we assess the degree to which deviant romantic partners explain additional variance once parent and peer factors are considered together. Finally, the moderating influence of gender is examined in each of these analyses. For this purpose, multiplicative interaction terms were chosen over other methods, such as splitting the sample by gender, estimating separate equations, and comparing coefficients across groups (Chow, 1960). Interaction terms present information about specific coefficient differences across groups, which may be sufficient as we are interested in testing the gender moderation involved with the various deviance measures.

The observed responses for respondents' self-reported delinquency involvement crowd at zero (no delinquent behaviors reported) as well as other very low values. This may violate the assumptions of OLS and may provide biased estimates. Tobit regression employs maximum-likelihood estimation and is used for analyzing self-reported delinquency involvement because these measures are usually characterized by large numbers of null responses on self-reported delinquency—characterizing a distribution with high, positive skew (Tobin, 1958; Osgood, Finken, & McMorris, 2002). Tobit regression estimates the associations between the predictor variables and an underlying, latent delinquency measure. This latent measure is allowed to take on negative values and therefore has a range potentially much larger than the observed respondents' delinquency variable. The measure for respondents' delinquency includes 407 (43%) observations with a zero value. This suggests a need for the use of Tobit regression over traditional OLS estimation, but we estimate models using both strategies and the findings are similar (see results section).

RESULTS

Table 1 displays the descriptive, univariate statistics for the sample of 957 romantically-active respondents. At the bivariate level (table not included), it appears that the delinquency of romantic partners and friends are strongly and positively correlated (Pearson's r = .50; p < . 001). Parents' deviance is generally related to the delinquency of the respondents' friends although the association is weak (r = .07; p < .05). The deviance of one's parent, however, is not significantly correlated with romantic partner delinquency (r = .02; p > .05).

Network Deviance and Self-Reported Delinquency

Table 2 presents the results of the Tobit regression for respondents' self-reported delinquency. Column 1 lists the zero-order relationships of the independent variables with respondents' delinquency involvement. As expected, romantic partner delinquency is significantly and positively associated with respondents' delinquency (b = .58; p < .001). The other two measures of deviant behavior in adolescent networks, friends' delinquency (b = .61; p < .001) and parents' deviance (b = .10; p < .001), also have significant, positive relationships with self-reported delinquency.

Model 1 includes only the three network deviance measures. The association between partners' and respondents' delinquency remains significant and positive (b = .27; p < .001). Friends' delinquency (b = .48; p < .001) and parents' deviance (b = .06; p < .001) are both positively related to respondents' self-reported delinquency as well.

Model 2 represents the full model. With the inclusion of the controls, the coefficients for the measures of network deviance maintain their magnitudes and significance levels in general. The effect of friends' delinquency on respondents' delinquency is attenuated slightly but remains statistically significant. In this model, gender is significantly related to respondents' delinquency indicating that female adolescents on average are less delinquent than males (b =-.10; p < .05). Gender is not related to self-reported delinquency at the zero-order because we find that girls who are dating have somewhat higher delinquency levels on average than girls who do not date. We find that only after controlling for romantic partner delinquency is the coefficient for gender significantly related. The African American adolescents report significantly lower levels of involvement (b = -.25; p < .001) while Hispanics appear to be similar to Whites (b = .12; p > .05). Older adolescents also report significantly more delinquency involvement (b = .04; p < .01), but grades are not significant at conventional levels (b = -.08; p > .05). Parental monitoring (b = -.08; p < .01) and support (b = -.20; p < .001)are significant and associated in the expected direction; higher values on both measures are associated with lower involvement in delinquency. Unexpectedly, mother's education is inversely related to delinquency-youths whose mothers have less than a high school education on average report lower delinquency compared to those reporting having earned a high school diploma (b = -.18; p < .05). Receiving some form of public assistance at the time of the parent interview and family structure are not significantly related to delinquency involvement.

In model 3, the interaction of partners' delinquency with gender is not significant (b = -.07; p > .05), indicating a similar association of romantic partners' delinquency for boys and girls. Notably, the mean report of romantic partner delinquency for the male respondents is significantly lower than the mean for females (t = 5.24; p < .001). Results described in model 4 indicate that the interaction of friends' delinquency with gender is significant and negative (b = -.16; p < .001). This suggests that friends' delinquency is more strongly related to male than female delinquency. The coefficient for friends' delinquency reveals that, for male adolescents, friends' delinquency is positively and significantly related to respondents' involvement (b = .49; p < .001). For females, the coefficient of friends' delinquency (b = .32; p < .001) is also significantly related to respondents' delinquency; however, the magnitude of the association is smaller. In model 4, the main effect for gender is not significant, similar to the coefficient for gender at the zero-order. Model 5 indicates that gender does not significantly interact with parents' deviance (b = -.05; p > .05) in its effect on respondents' self-reported delinquency.

Distributions of Network Enmeshment by Level and Type

The scores adolescents report on delinquency are classified according to whether they report that their romantic partners and friends are involved in levels of delinquency higher than the

mean and also whether their parents self-report above mean deviance. This specification helps in interpretation of the results. One-quarter (26%) of the sample reported above average delinquency of the romantic partner, thirty-two percent of the respondents report friends that are involved in above average delinquency, and about forty-one percent of parents report involvement in above average deviance. We again note that the parent measure is not ideal as it indexes relatively "low level" deviant behaviors.

Table 3 displays the distribution of respondents across level of enmeshment (full, high, low and no). The respondents in the sample are heterogeneous in terms of level and type of enmeshment in deviant networks, indicating that adolescents' social networks vary considerably with respect to deviant behavior. The most common level (37%) is the low enmeshment category (only one social network domain reflects above average reports of involvement) followed by the no enmeshment level (36%). One-fifth of teens are in the high enmeshment level (two social network domains have above average involvement). Finally, having all three networks characterized by above average deviance (full enmeshment) is relatively rare (7%).

The next set of columns shows the distributions according to gender. The separate frequency distributions presented in table 3 indicate that the distributions are generally similar. Even though roughly similar percentages of girls (6.2%) and boys (8.6%) are in the full enmeshment category, the mean level of delinquency for boys in this category is approximately double the girls' mean self-reported involvement. These results lend support for the hypothesis that full enmeshment in deviant networks may have a stronger association with boys' self-reports of delinquency involvement.

Enmeshment levels do not convey what network domains are involved in above average deviance. Table 3 presents the type of enmeshment as well as level. Both low and high enmeshment levels may refer to three distinct types each. Obviously, the no enmeshment and full enmeshment types are identical to the enmeshment levels. Most teens in the low enmeshment level have a parent who scores above average on deviance and this is similar for males and females. In the high enmeshment type the most typical combination is above average partner and friends deviance and the least common is above average partner and parent deviance is most common and among females the above average partner and friend deviance is more typical.

Enmeshment Level and Self-Reported Delinquency

The models presented in table 4 test the hypothesis that adolescent delinquency increases with higher levels of enmeshment (number of deviant network domains). Column 1 presents the zero-order Tobit regressions of the block of enmeshment level variables as well as all of the zero-order regressions of the control variables (identical to the coefficients from the first column of table 2). The contrast category for the regression equation is "no enmeshment." As expected, having three deviant network affiliations (b = 1.56; p < .001), or being fully enmeshed in a deviant network, is associated with the greatest level of delinquency compared to having a prosocial network. In addition, results indicate that any level of enmeshment is significantly (p < .001) associated with increases in respondents' delinquency relative to adolescents with completely non-deviant network memberships.

Models 1 through 3 test how level of enmeshment is associated with delinquency in the full models and each includes a different reference category. Model 1 is similar to the zero-order model and shows that teens involved in each level of enmeshment experience significantly higher adolescent delinquency involvement in contrast to teens who have no delinquent friends, partners, or parents (see figure 1). Model 2 shows that, compared with adolescents who are in

the low enmeshment category, delinquency involvement is significantly greater with increasing levels of network deviance. Model 3 indicates that the teens in the fully enmeshed category report significantly higher levels of delinquency than their counterparts in the high enmeshment category. These models indicate the importance of distinguishing enmeshment level when studying delinquency involvement. The coefficients and significance levels for the remaining covariates in these models are similar to the findings from model 2 of table 2 with three exceptions. Gender is not related to delinquency in these models, indicating the importance of accounting for level of enmeshment. Grades are significantly related to self-reported delinquency (b = -.07; p < .001) and we find no significant differences with respect to mother's highest level of education (b = -.09; p > .05).

The last column of table 4 shows the interaction of enmeshment level with the gender of the respondent. Compared to no enmeshment, the association between low or high enmeshment and respondents' delinquency does not vary by gender. A significant interaction exists between full enmeshment and gender, however. The coefficient is -.69 and is significant at the .01 level. These findings suggests that fully enmeshed girls and boys score higher on delinquency than their counterparts who are not enmeshed, but the effect of being fully enmeshed in deviant networks is greater for the male teens.

Enmeshment Type and Self-Reported Delinquency

The next set of models in table 5 employs the more detailed measures of type of deviant network enmeshment. Specific comparisons are highlighted to showcase the influence of partner delinquency. The zero-order associations of enmeshment type and covariates with self-reported delinquency involvement are presented in the first column. The relationships exhibited between enmeshment type and respondents' delinquency show that those adolescents in all types of network enmeshment (with exception of adolescents characterized by only deviant parents) are significantly more delinquent compared to adolescents with low levels of deviance across all three domains of their networks. The control variable regression coefficients are identical to those found in the first column of table 2.

Model 1 includes both controls and the enmeshment type dummy variables (see figure 2). Net of controls, enmeshment type still appears to be related to delinquency involvement in a similar way. Networks characterized by a deviant parent only are not significantly related to delinquent behavior (b = .14) when compared to respondents with low deviance exhibited across all three network affiliations. However, networks reflecting a deviant romantic partner only exhibit significantly greater levels of respondents' delinquency involvement compared to no deviant enmeshment (b = .46; p < .001). While the coefficient for friends-only delinquency is smaller in magnitude, it is indeed statistically significant (b = .28; p < .01). Recall from models 2 and 3 in table 2 that friends' delinquency involvement appears to have a larger effect on respondents' involvement when compared to the romantic partner's behavior. This may be an artifact of the threshold point used (above mean deviance) to determine which social networks are particularly deviant and could reflect a greater effect on respondents' delinquency at high levels of romantic partners' delinquency. In order to test this, squared measures of friends' and romantic partners' deviance were added to the full model. The estimated Tobit regression indicates that the quadratic terms of romantic partners' and friends' delinquency are not statistically significant, lending support for the conclusion that the effects of romantic partners' and friends' delinquency are linear. Thus at all levels of romantic partners' and friends' delinquency, the estimated impact on respondents' delinquency is similar. In the full models gender is negatively related to self-reported delinquency (b = -.12; p < .05). Thus, taking into account the specific nature of respondents' networks determines in part the effect of gender. The remaining control variables for models 1 through 5 exhibit similar relationships with selfreported delinquency as those discussed above for table 4.

The next series of models adjust the reference group to test how different network types influence self-reported delinquency. The key comparison in model 2 is the partner/parent enmeshment as contrasted with parent only deviant network enmeshment. Results indicate that adolescents with networks where both parents and romantic partners exhibit high deviance are significantly more delinquent than those with only a deviant parent (b = .31; p < .05). In addition, the delinquency involvement of adolescents exposed only to deviance of their parents is not significantly different than those respondents with relatively delinquent friends or no deviant network enmeshment. All other enmeshment types are related to significant increases in respondents' delinquency.

Further evidence of the importance of romantic partner deviance in adolescent social networks is shown in model 3, which indicates the differences in respondents' self-reported delinquent behavior for teens with delinquent partners and friends compared to the involvement of those with only delinquent friends. Romantic partner deviance along with friends' delinquency seems to be related to increased levels of delinquency above that reported by adolescents with just delinquent friends (b = .90; p < .001). Results from model 3 also show that delinquency involvement related to parent only (b = -.13), partner only (b = .19), and partner/parent (b = .18) deviance are not significantly different than friends only networks.

Next, model 4 describes the results of comparing fully enmeshed respondents with the adolescents affiliated with deviant parent and friendship networks as the contrast category. As expected, fully enmeshed (partner/friends/parent enmeshment type) adolescents are significantly more delinquent than those in the friends/parent enmeshment category (b = .62; p < .001). Partners' deviance then significantly adds to the association between respondents' delinquency and friends/parent deviance enmeshment, indicating that completely enmeshed adolescents are more delinquent on average.

Results in model 5 show that fully enmeshed adolescents (partner/friends/parent category) are not significantly more delinquent (b = .12; p > .05) than those affiliated with a entirely deviant peer group (both romantic partner and friends exhibiting high levels of delinquency).

Taken together, these results indicate that partner's delinquency has a significant influence on respondents' delinquency, regardless of other network characteristics. Each comparison shows that being in networks with deviant partners is related to significant increases in respondents' delinquency when compared to those enmeshment types with a more prosocial romantic partner. These results further suggest that level of enmeshment may not provide enough information about the specific deviant characteristics of adolescents' networks. Indeed, type of enmeshment is a preferable measure of network deviance, especially after adopting the broader perspective of social influence in which multiple network domains are taken into account simultaneously.

The final column of table 5 reveals the estimation of the interaction of enmeshment type with gender. It appears that the only significant interaction with gender is the partner/friends/parent, or full enmeshment, category (b = -.70; p < .001). This finding is consistent with our prior analyses focused on enmeshment level (table 4). The association of partner/friends/parent enmeshment is stronger for male (b = 1.69; p < .001) than for female respondents (b = .99; p < .001) and both enmeshed male and female teens have greater delinquency scores than teens with prosocial networks. Thus, generally the type of enmeshment has similar effects for male and female adolescents.

It is important to note that these results were compared with those of three other modeling strategies (results not shown). First, the models including control variables for each set of analyses are estimated using Tobit regression and a logged outcome variable. Next, ordinary least squares (OLS) models were estimated using an untransformed measure of self-reported

delinquency involvement and then again using its natural log. We find that the pattern of significance levels and magnitudes are consistent regardless of the analytical technique employed. These results suggests that the findings reported in this study appear to be relatively robust to the choice of transformation imposed on the dependent variable and in choosing to Tobit over OLS.

DISCUSSION

Parents and friends play a prominent role in our understanding of delinquent behavior, and more recently studies have focused on the involvement of romantic partners (Haynie et al., 2005; Thornberry et al., 2003; Warr, 2002). Dating partners' delinquent behaviors have been shown to explain additional variance in adolescent self-reported delinquency after controlling for friends' behaviors (Haynie et al., 2005). This attention to romantic relationships fits well with a broader literature that has focused increased attention on the developmental significance of these relationships (Collins, 2003). This is obviously a time where delinquency may also flourish, suggesting the utility of examining linkages between such experiences and behavioral outcomes.

Our analysis first examined reports of the levels of deviance of the three key social network domains. As expected, romantic partner behavior is significantly related to self-reported delinquency, even after statistically controlling for the associations with friends' and parents' deviance. This replicates the work of Haynie et al. (2005) and shows that romantic partners explain additional variance even when parents' deviance is included in the model.

Next, we classified the sample of adolescents according to variations in the characteristics of each of the three networks. The results of this categorization indicate that the most commonly occurring pattern was low involvement in deviance across all three network domains. This finding is not surprising, given that the interviews were conducted with a random, community sample of youth. However, of greater interest is the finding that over half of the sample provided responses that indicate the presence of a "mixed" social network, or a situation in which some domains are characterized by deviance, and others by a relatively prosocial orientation. This finding is reminiscent of Haynie's (2002) results focused on peer networks, which revealed that more than half of the study's subjects nominated both delinquent and nondelinquent friends. Finally, the most common network type in the "mixed" group category is that in which the parent reports above average deviance while the adolescents state that their friends and romantic partners are below the mean on delinquency involvement.

The second phase of the analysis above focused on the relationship between self-reported delinquency and enmeshment level. The findings point to the importance of the number of deviant network domains in explaining variation in delinquency involvement. Higher levels of enmeshment are associated with higher reports of delinquency. Haynie (2002) found similar results when investigating the delinquent composition of friendship groups and the relationship between network composition and respondents' delinquency; higher proportions of delinquency in the peer group were related to greater self-reported involvement by the respondents.

The more nuanced classification of enmeshment type was analyzed in its relationship to adolescent delinquency. It was expected that adolescents in social networks with a deviant romantic partner should report significantly higher average levels of delinquency than those in networks with more prosocial dating partners, regardless of the characteristics of the other two domains. For example, the parent/partner enmeshment type is associated with increased delinquency involvement in contrast with those adolescents reporting being enmeshed in a network with deviant parents but prosocial partners and friends. Likewise, adolescents with

both delinquent romantic partners and delinquent friends were significantly more delinquent than those adolescents reporting only delinquency among their friends. Taken together, these findings support the notion that romantic partner delinquency is important to a comprehensive understanding of the characteristics and potential influence of adolescent social networks, although some of this behavioral concordance may well be due to selection effects.

The results of our analyses of the role of gender in relation to these associations indicate partial support for a gendered pattern. Contrary to expectations based on the direction of prior research, we did not find that the romantic partner's delinquency was more strongly related to female relative to male self-reported involvement. Results did indicate, however, that friends' delinquency was significantly associated with male and female delinquency, but interaction results indicate a stronger effect on male involvement. Our analyses focused on enmeshment in general did not indicate strong gender differences in the influence of levels and types of enmeshment. The exception was the case of complete enmeshment, which was more strongly related to male than female delinquency involvement. These results contradict the hypothesis developed by Giordano and Mohler-Rockwell (2001) who speculated that complete enmeshment might be more pivotal as an explanation of female than male delinquency. The findings do, however, support the idea that males may be more relationally oriented than some early depictions would lead us to expect and accord well with other analyses of the TARS data, which showed that boys scored higher on general measures of both romantic partners' and friends' influence (Giordano, Longmore, & Manning, 2006).

Although we expected that fully enmeshed adolescents would in general evidence greater delinquency than those with delinquent friends and romantic partners, but nondeviant parents, this difference was not significant. This finding highlights the importance of the peer group (both friends and dating partners) and the reality that these groups are proximal social influences affecting not only attitudes and normative beliefs, but in many instances actually engaging in these behaviors together.

Limitations of the study include the cross-sectional nature of the design, the somewhat limited measure of parents' deviance, and our focus on one geographic area. Our reliance on respondents' reports about friends' and romantic partners' deviance are also potentially limiting, as data obtained directly from adolescents' friends and romantic partners would aid in diminishing the possible bias from "assumed similarity" in reports of behavior (Jussim & Osgood, 1989). Studies which employ longitudinal data, encompass other geographical areas, and different measures of network deviance would add to our understanding of network influences.

The findings reveal that adolescent networks vary greatly in the levels and types of deviance reported across the separate network domains assessed. As most studies only focus attention on one particular network domain, these future analyses would benefit from a broader perspective on adolescent social networks and incorporating measures of the deviant behavior exhibited by the full complement of the adolescent network of affiliations. Further, adopting this perspective and methodological approach may benefit empirical research pertaining to the role of networks as influences on a wider array of outcomes in adolescence (e.g., academic achievement, smoking, or other health risk behaviors).

Acknowledgments

This research was supported by a grant from the National Institute of Child Health and Human Development (HD36223) and by the Center for Family and Demographic Research at Bowling Green State University, which has core funding from the National Institute of Child Health and Human Development (HD042831-01).

REFERENCES

- Barnes GM, Hoffman JH, Welte JW, Farrell MP, Dintcheff BA. Effects of parental monitoring and peer deviance on substance use and delinquency. Journal of Marriage and Family 2006;68:1084–1104.
 Cernkovich SA, Giordano PC. Family relationships and delinquency. Criminology 1987;2:295–321.
- Chesney-Lind, M.; Sheldon, RG. Girls, Delinquency, and Juvenile Justice. Wadsworth Publishing; Belmont, CA: 1998.
- Chow GC. Tests of equality between sets of coefficients in two linear regressions. Econometrica 1960;28:591–605.
- Collins WA. More than myth: The developmental significance of romantic relationships during adolescence. Journal of Adolescent Research 2003;13:1–24.
- Cottrell L, Li X, Harris C, D'Alessandri D, Atkins M, Richardson B, Stanton B. Parent and adolescent perceptions of parental monitoring and adolescent risk involvement. Parenting: Science and Practice 2003;3:179–195.
- Demuth S, Brown SL. Family structure, family processes, and adolescent delinquency: the significance of parental absence versus parental gender. Journal of Research in Crime and Delinquency 2004;41:58–81.
- Elliott DS, Ageton SS. Reconciling race and class differences in self-reported and official estimates of delinquency. American Sociological Review 1980;45:95–110.
- Farrington DP. Childhood origins of teenage antisocial-behaviour and adult dysfunction. Journal of the Royal Society of Medicine 1993;86:13–17. [PubMed: 8423566]
- Farrington DP. The development of offending and antisocial-behavior Key findings from the Cambridge Study in Delinquent Development. Journal of Child Psychology and Psychiatry 1995;36:929–964. [PubMed: 7593403]
- Gilligan, CG. In a Different Voice: Psychological Theory and Women's Development. Harvard University Press; Cambridge, MA: 1982.
- Giordano PC. Girls, guys, and gangs: The changing social context of female delinquency. Journal of Criminal Law and Criminology 1978;69:126–132.
- Giordano PC. Relationships in adolescence. Annual Review of Sociology 2003;29:257-281.
- Giordano PC, Cernkovich SA, Holland DD. Changes in friendship relations over the life course: Implications for desistance from crime. Criminology 2003;41:293–327.
- Giordano PC, Cernkovich SA, Pugh MD. Friendships and delinquency. American Journal of Sociology 1986;91:1170–1202.
- Giordano PC, Longmore MA, Manning WD. Gender and the meanings of adolescent romantic relationships: A focus on boys. American Sociological Review 2006;71:260–287.
- Giordano, PC.; Mohler Rockwell, S. Differential association theory and female crime. In: Simpson, SS., editor. Of Crime and Criminality: The Use of Theory in Everyday Life. Pine Forge; Thousand Oaks, CA: 2001.
- Glueck, S.; Glueck, E. Unraveling Juvenile Delinquency. Harvard University Press; Cambridge, MA: 1950.
- Haynie DL. Friendship networks and delinquency: The relative nature of peer delinquency. Journal of Quantitative Criminology 2002;18:99–134.
- Haynie DL. Contexts of risk? Explaining the link between girls' pubertal development and their delinquency involvement. Social Forces 2003;81:355–397.
- Haynie DL, Giordano PC, Manning WD, Longmore MA. Adolescent romantic relationships and delinquency involvement. Criminology 2005;43:177–210.
- Hirschi, T. Causes of Delinquency. University of California Press; Berkley, CA: 1969.
- Huizinga, D.; Weiher, AW.; Espiritu, R.; Esbensen, F. Delinquency and crime: Some highlights from the Denver Youth Survey. In: Thornberry, TP.; Krohn, MD., editors. Taking Stock of Delinquency: An Overview of Findings from Contemporary Longitudinal Studies. Kluwer Academic; New York: 2003.
- Jussim L, Osgood DW. Influence and similarity among friends: An integrative model applied to incarcerated adolescents. Social Psychology Quarterly 1989;52:98–112.

Page 16

- Krohn MD. The web of conformity: A network approach to the explanation of delinquent behavior. Social Problems 1986;33:S81–S93.
- Maguin E, Loeber R. Academic performance and delinquency. Crime and Justice 1996;20:145–264.
- Matsueda RL, Anderson K. The dynamics of delinquent peers and delinquent behaviors. Criminology 1998;36:269–308.
- McCord, J. A comparative study of two generations of Native Americans. In: Meier, RF., editor. Theory in Criminology: Contemporary Views. Sage; Beverly Hills, CA: 1977.
- Mears DP, Ploeger M, Warr M. Explaining the gender gap in delinquency: Peer influence and moral evaluations of behavior. Journal of Research in Crime and Delinquency 1998;35:251–266.
- Osgood DW, Finken LL, McMorris BJ. Analyzing multiple-item measures of crime and deviance II: Tobit analysis of transformed scores. Journal of Quantitative Criminology 2002;18:319–347.
- Piquero NL, Gover AR, McDonald JM, Piquero AR. The influence of delinquent peers on delinquency: Does gender matter? Youth and Society 2005;36:251–275.
- Rankin JH, Wells LE. The effect of parental attachments and direct controls on delinquency. Journal of Research in Crime and Delinquency 1990;27:140–165.
- Rebellon CJ, Manasse M. Do "bad boys" really get the girls? Delinquency as a cause and consequence of dating behavior among adolescents. Justice Quarterly 2004;21:355–389.
- Rowe DC, Farrington DP. The familial transmission of criminal convictions. Criminology 1997;35:177–201.
- Sack WH. Children of imprisoned fathers. Psychiatry 1977;40:163–174. [PubMed: 870921]
- Sampson RJ, Laub JH. Crime and deviance over the life course: The salience of adult social bonds. American Sociological Review 1990;55:609–627.
- Sharabany R, Gershoni R, Hofman JE. Girlfriend, boyfriend: Age and sex differences in intimate friendships. Developmental Psychology 1981;17:800–808.
- Simons RL, Stewart E, Gordon LC, Conger RD, Elder GH. A test of life-course explanations for stability and change in antisocial behavior from adolescence to young adulthood. Criminology 2002;40:401– 434.
- Sutherland, EH. Principles of Criminology. 4th ed., J. B. Lippincott; Philadelphia: 1947.
- Thomas, WI. The Unadjusted Girl, with Cases and Standpoint for Behavior Analysis. Harper & Row; New York: 1967. 1923
- Thornberry, TP.; Lizotte, AJ.; Krohn, MD.; Smith, CA.; Porter, PK. Causes and consequences of delinquency: Findings from the Rochester Youth Development Study. In: Thornberry, TP.; Krohn, MD., editors. Taking Stock of Delinquency: An Overview of Findings from Contemporary Longitudinal Studies. Kluwer Academic; New York: 2003.
- Tobin J. Estimation of relationships for limited dependent variables. Econometrica 1958;26:24–36.
- Warr M. Parents, peers, and delinquency. Social Forces 1993;72:247-264.
- Warr M. Life-course transitions and desistance from crime. Criminology 1998;36:83-216.
- Warr, M. Companions in Crime: The Social Aspects of Criminal Conduct. Cambridge University Press; New York: 2002.
- Weerman FM, Smeenk WH. Peer similarity in delinquency for different types of friends: A comparison using two measurement methods. Criminology 2005;43:499–524.
- Wong SK. The effects of adolescent activities on delinquency: A differential involvement perspective. Journal of Youth and Adolescence 2005;34:321–333.
- Wright BRE, Caspi A, Moffitt TE, Miech RA, Silva PA. Reconsidering the relationship between SES and delinquency: Causation but not correlation. Criminology 1999;37:175–194.
- Youniss, J.; Smollar, J. Adolescent Relations with Mothers, Fathers, and Friends. University of Chicago Press; Chicago: 1985.

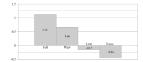


Figure 1. Predicted Delinquency Involvement by Enmeshment Level

Note: Mean delinquency rates estimated using model 1 from table 4; Significant differences not shown here, see table for details.

Source: Toledo Adolescent Relationships Study (n = 957), 2001-2002



Figure 2. Predicted Delinquency Involvement by Enmeshment Type

Note: R = above mean romantic partner delinquency; F = above mean friends delinquency; P = above mean parent deviance

Note: Mean delinquency rates estimated using model 1 from table 5; significant differences not shown here, see table for details

Source: Toledo Adolescent Relationships Study (n = 957), 2001-2002

Table 1

Descriptive Statistics

Variable	Mean/Prop.	SD	Range
Dependent Variable			
Respondent Delinquency	0.32	0.66	0.00-8.00
Independent Variables			
Romantic Partner Delinquency	0.42	0.83	0.00-8.00
Friends Delinquency	0.69	0.95	0.00-8.00
Parent Deviance	1.21	1.16	0.00-6.67
Controls			
Gender			
Male	0.51		
Female	0.49		
Race/Ethnicity			
White	0.69		
African American	0.24		
Hispanic	0.07		
Age	15.37	1.67	12.00-19.00
Grades	5.17	2.01	0.00-8.00
Parental Monitoring	0.96	0.98	0.00-4.00
Parental Support	2.80	0.64	0.60-4.00
Mother's Education			
Less than HS	0.11		
HS graduate	0.36		
More than HS	0.53		
Receipt of Public Assistance			
No	0.88		
Yes	0.12		
Household Structure			
Two-parent	0.50		
Single-parent	0.25		
Step-parent	0.18		
Other	0.07		

Note: Mean/Prop. = mean or proportion; SD = standard deviation

Source: Toledo Adolescent Relationship Study (n = 957), 2001-2002

	Zero-Order	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept		0.06	0.24 **	0.17 **	0.16 **	0.16 **
Romantic Partner Delinquency [^]	0.58 ***	0.27 ***	0.27 ***	0.32 ***	0.30 ***	0.27 ***
Friends Delinquency [^]	0.61 ***	0.48 ***	0.42 ***	0.42 ***	0.49 ***	0.42 ***
Parent Deviance [^]	0.10^{***}	0.06 **	0.06^{**}	0.05 **	0.06 **	0.08 **
Gender Interactions						
Female x Partner Delinquency $^{\wedge}$				-0.07		
Female x Friends Delinquency ^{Λ}					-0.16 ***	
Female x Parent Deviance [^]						-0.05
Gender						
Male	I					
Female	-0.04		-0.10 *	-0.10 *	-0.09	-0.10 *
Race/Ethnicity						
White	I		Ι	I		
African American	-0.26 **		-0.25 ***	-0.25 ***	-0.27 ***	-0.25 ***
Hispanic	0.24 *		0.12	0.12	0.12	0.12
Age^	0.15 ***		0.04 **	0.04 **	0.04	0.04 **
Grades ^A	-0.08 ***		-0.02	-0.02	-0.02	-0.02
Parental Monitoring [^]	-0.20 ***		-0.08 **	-0.08 **	-0.08	-0.08
Parental Support [^]	-0.43 ***		-0.20 ***	-0.20 ***	-0.20 ***	-0.19 ***
Mother's Education						
Less than HS	0.01		-0.18 *	-0.18 *	-0.17 *	-0.17 *
HS graduate						
More than HS	-0.07		-0.00	-0.00	-0.00	-0.00
Receipt of Public Assistance						
No	I			I		
11						

Table 2 Tobit Results for Respondent Delinquency Regressed on the Interval-Level Deviance Variables and Controls

	Zero-Order Model 1 Model 2 Model 3 Model 4 Model 5	Model 1	Model 2	Model 3	Model 4	Model 5
Household Structure						
Two-parent						
Single-parent	0.13		0.04	0.04	0.04	0.04
Step-parent	0.03		-0.02	-0.02	-0.03	-0.01
Other	-0.13		-0.17	-0.17	-0.16	-0.16
Sigma		0.66	0.64	0.64	0.63	0.63
Log Likelihood		-780.81	-739.85	-739.06	-734.03	-739.16

Source: Toledo Adolescent Relationship Study (n = 957), 2001-2002

Variable is re-centered with a mean of 0

* p < .05

** p < .01

*** p <.001

Table 3 Distributions of Respondents by Type and Level of Enmeshment

	To	Total		Males $(n = 469)$	n = 469		Females (n = 488)	(n = 48	8
	Mean Del.	Z	%	Mean Del.	Z	%	Mean Del.	Z	%
Full Enmeshment	1.14	71	7.4	1.63	29	6.2	0.80	42	8.6
Romantic Partner/Friends/Parent	1.14	71	7.4	1.63	29	6.2	0.80	42	8.6
High Enmeshment	0.73	188	19.6	0.81	86	18.3	0.67	102	20.9
Romantic Partner/Friends	1.01	91	9.5	1.23	26	5.5	0.92	65	13.3
Romantic Partner/Parent	0.24	33	3.5	0.25	11	2.3	0.23	22	4.5
Friends/Parent	0.59	64	6.7	0.71	49	10.4	0.19	15	3.0
Low Enmeshment	0.18	357	37.3	0.22	182	38.8	0.14	175	35.9
Romantic Partner	0.25	51	5.3	0.33	12	2.6	0.23	39	8.0
Friends	0.33	83	8.7	0.43	53	11.3	0.16	30	6.1
Parent	0.11	223	23.3	0.12	117	24.9	0.11	106	21.7
No Enmeshment	0.09	341	35.6	0.10	172	36.7	0.08	169	34.6
None	0.09	341	35.6	0.10	172	36.7	0.08	169	34.6

Note: Italicized numbers represent the values for the enmeshment level variables

Source: Toledo Adolescent Relationship Study (n = 957), 2001-2002

Table 4	cy Regressed on Enmeshment Level Variables and Controls
	Tobit Results for Respondent Delinquend

	Zero-Order	Model 1	Model 2	Model 3	Model 4
Intercept		-0.15	0.08	0.73 ***	-0.31 ***
Level of Enmeshment					
Full	1.56 ***	1.28 ***	1.05 ***	0.40 ***	1.68 ***
High	1.10^{***}	0.89 ***	0.65 ***		0.92 ***
Low	0.30 ***	0.23 **		-0.65 ***	0.24 *
No			-0.23 **	-0.88 ***	
Gender Interactions					
Female x Full Enmeshment					-0.69 **
Female x High Enmeshment					-0.09
Female x Low Enmeshment					-0.03
Female x No Enmeshment					
Gender					
Male					
Female	-0.04	-0.07	-0.07	-0.07	0.02
Race/Ethnicity					
White					
African American	-0.26 **	-0.25 **	-0.25 **	-0.25 **	-0.25 **
Hispanic	0.24 *	0.12	0.12	0.12	0.12
Age^	0.15 ***	0.06 ***	0.06 ***	0.06 ***	0.06 **
Grades ^A	-0.08 ***	-0.07 ***	-0.07 ***	-0.07 ***	-0.07 ***
Parental Monitoring [^]	-0.20 ***	-0.15 ***	-0.15 ***	-0.15 ***	-0.15 ***
Parental Support ^A	-0.43 ***	-0.31 ***	-0.31 ***	-0.31 ***	-0.31 ***
Mother's Education					
Less than HS	0.01	-0.09	-0.09	-0.09	-0.08
HS graduate	I				
More than HS	-0.07	-0.01	-0.01	-0.01	-0.01

	Zero-Order	Model 1	Model 2	Model 3	Model 4
No					
Yes	0.08	0.12	0.12	0.12	0.12
Household Structure					
Two-parent					
Single-parent	0.13	0.05	0.05	0.05	0.06
Step-parent	0.03	-0.01	-0.01	-0.01	-0.01
Other	-0.13	-0.19	-0.19	-0.19	-0.17
Sigma		0.77	0.77	0.77	0.76
Log Likelihood		-853.17	-853.17	-853.17	-847.42
Note: Contrast categories for blocks of dummy variables are indicated by ""	r blocks of dummy va	riables are inc	licated by "—	£,	
Source: Toledo Adolescent Relationship Study (n = 957), 2001-2002	Relationship Study (n	= 957), 2001-	-2002		
$^{\wedge}$ Variable is re-centered with a mean of 0	a mean of 0				
$^{*}_{P < .05}$					
** p < .01					
*** p <.001					

Intercept		-0.12	0.02	0.15	0.55 ***	1.05 ***	-0.29 ***
Type of Enmeshment							
Partner/Friends/Parent	1.55 ***	1.29	1.15 ***	1.02 ***	0.62 ***	0.12	1.69 ***
Partner/Friends	1.41 ***	$1.18 \ ^{***}$	1.03 ***	0.90^{***}	0.50 ***		1.39 ***
Partner/Parent	0.51 **	0.45 **	$0.31 \\ *$	0.18	-0.22	-0.72 ***	0.31
Friends/Parent	0.89 ***	0.67 ***	0.53 ***	0.40 **		-0.50 ***	0.81 ***
Partner	0.53 ***	0.46 ***	0.32 *	0.19	-0.21	-0.72 ***	0.61 **
Friends	0.52 **	0.28 **	0.13		-0.40 **	-0.90 ***	0.43 **
Parent	0.13	0.14		-0.13	-0.53 ***	-1.03 ***	60.0
None			-0.14	-0.28	-0.67 ***	-1.18 ***	
Gender Interactions							
Female x Partner/Friends/Parent							-0.70 ***
Female x Partner/Friends							-0.34
Female x Partner/Parent							0.18
Female x Friends/Parent							-0.40
Female x Partner							-0.26
Female x Friends							-0.39
Female x Parent							0.11
Female x None							
Gender							
Male	Ι		I	I	I	Ι	I
Female	04	-0.12 *	-0.12 *	-0.12 *	-0.12 *	-0.12 *	0.02
Race/Ethnicity							
White							
African American	-0.26 **	-0.23 **	-0.23 **	-0.23 **	-0.23 **	-0.23 **	-0.23 **
Hispanic	0.24 *	0.14	0.14	0.14	0.14	0.14	0.13

 Table 5

 Tobit Results for Respondent Delinquency Regressed on Enmehsment Type Variables and Controls

NIH-PA Author Manuscript

NIH-PA Author Manuscript

Lonardo et al.

	Zero-Order	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Age^	0.15 ***	0.06 **	0.06 **	0.06 **	0.06 **	0.06 **	0.05 **
Grades [^]	-0.08 ***	-0.06 ***	-0.06 ***	-0.06 ***	-0.06 ***	-0.06 ***	-0.06 ***
Parental Monitoring [^]	-0.20 ***	-0.14 ***	-0.14 ***	-0.14 ***	-0.14 ***	-0.14 ***	-0.13 ***
Parental Support ^A	-0.43 ***	-0.27 ***	-0.27 ***	-0.27 ***	-0.27 ***	-0.27 ***	-0.28 ***
Mother's Education							
Less than HS	0.01	-0.10	-0.10	-0.10	-0.10	-0.10	08
HS graduate							I
More than HS	-0.07	-0.02	-0.02	-0.02	-0.02	-0.02	03
Receipt of Public Assistance							
No							I
Yes	0.08	0.11	0.11	0.11	0.11	0.11	0.10
Household Structure							
T wo-parent							
Single-parent	0.13	0.05	0.05	0.05	0.05	0.05	0.05
Step-parent	0.03	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02
Other	-0.13	-0.20	-0.20	-0.20	-0.20	-0.20	-0.21
Sigma		0.75	0.75	0.75	0.75	0.75	0.74
Log Likelihood		-737.76	-737.76	-737.76	-737.76	-737.76	-826.02

Variable is re-centered with a mean of 0

*** p < .001 b < .05p < .05b < .01