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Links Between Sisters' Sexual and Dating Victimization: The Roles of Neighborhood Crime and Parental Controls

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Abstract

This study examined the extent to which a sister's prior sexual and dating victimization is a risk factor for young women being similarly victimized and the possible factors underlying a co-occurrence. The sample involved 122 young adult Latina or African American sister pairs (244 women; ages 16–25) who resided in low-income, urban neighborhoods. Results indicated that women whose sisters had been victimized had increased risk of victimization even after controlling for neighborhood crime, parental controls, age and race–ethnicity (odds ratios were 4.0 for unwanted touching, 6.2 for a forced sex act, and 16.7 for dating violence). In high-crime neighborhoods, the presence of two adult parent figures in the home was associated with women's reduced likelihood of unwanted touching, and mothers' high monitoring during adolescence was associated with women's lower risk of dating aggression. Survival analysis results showed that the risk period of a second sister being victimized lasts between 7 and 10 years after a first sister's victimization. The prevention implications of study findings are discussed.

Keywords

neighborhood crime; sexual abuse; siblings; teen dating violence; victimization

Surprisingly little research has examined the potential underlying causes of why sexual abuse co-occurs between siblings, despite well-documented evidence that the prior abuse of one child is strongly predictive of a sibling also being abused. Indeed, available evidence has indicated that multiple children within a family are often the victims of incest (Bolen, 2001; Studer, Clelland, Aylwin, Reddon, & Monra, 2000), sexual exploitation (Fischer & McDonald, 1998; Strand, 2000), physical abuse (Jean-Gilles & Crittenden, 1990), neglectful parenting (Hines, Kantor, & Holt, 2006), or some combination of each (Hamilton-Giachritsis & Browne, 2005). Most of the research on the concordance of abuse between

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siblings has retrospectively examined police records to identify the incidence of a sibling's abuse within families known to have one maltreated child (Wilson, 2004). Taking this approach, 50%–68% of cohabitating siblings have been found to have also been maltreated (Gutman, St. Claire, Weedy, Herman-Giddens, & McKinney, 1992; Hamilton-Giachritsis & Browne, 2005).

Use of police record data, however, provides an index of sibling covictimization only in families known to be affected by abuse; siblings' shared victimization within the nonclinical population cannot be deduced from this approach. Analysis of a nonclinical sample would shed light on the likelihood of a child's abuse given a sibling who has been victimized versus a sibling who has not. In addition, most studies of sibling concordance have examined physically abusive or neglectful experiences that occur within the home (Hines et al., 2006; Jean-Gilles & Crittenden, 1990). Other forms of victimization that are experienced outside of the family—such as date rape or dating violence—have not been studied from a sibling perspective. Yet it would be important to know about siblings' shared likelihood of such victimization for prevention and intervention purposes.

Insofar as sexual and dating victimization might be correlated between sisters, it would be important to consider whether a concordance of abuse stems from environmental risks common to both siblings. Two environmental risks that might explain a concordance of abuse are siblings' shared exposure to neighborhood crime and weak parental controls. Regarding neighborhood crime, much research has shown that community structural and social characteristics, such as crime, poverty, disorganization, and unemployment, are important contributors to experiences of sexual victimization (Aisenberg, Garcia, Ayon, Trickett, & Mennen, 2007; Sampson, Raudenbush, & Earls, 1997). Using a nationally representative sample, one study reported that U.S. adolescents who witnessed violent crime in their neighborhoods were more likely to be the victim of dating violence 1 year later (Spriggs, Halpern, & Martin, 2009). Because neighborhood crime would ostensibly affect all siblings in a family equally, it is possible that siblings' shared risk of sexual or dating aggression—if it exists—is linked to the high-crime neighborhood in which the siblings live.

A second possible explanation as to why multiple siblings in a family would be victimized is their shared risk resulting from weak parental controls. Indeed, social control theory contends that uninvolved parenting and low parental supervision are strongly linked to youths' involvement in delinquency and consorting with violence-prone peers (Hirschi, 2008; Sampson & Laub, 1993). Although parental control and oversight have been widely studied as a precursor to youths' delinquency and high-risk behavior, these parenting attributes have been less studied as predecessors of youths' victimization. One study, though, found a direct link between strong parental monitoring and adolescents' lesser likelihood of dating violence (Chapple, 2003), and another study found that high parental oversight was associated with youths' lower involvement in delinquency, which in turn reduced youths' risk of dating violence (Simons, Lin, & Gordon, 1998). Another indicator of parental control—or parents' ability to monitor and supervise their children—is whether the mother is a single parent. Previous research has found that children of single mothers engage in more high-risk and problematic behavior, resulting, at least in part, from their mothers' diminished ability to monitor their children's whereabouts (McLanahan & Sandefur, 1994). To the extent that siblings are parented by the same parents, it is possible that siblings' shared vulnerability to sexual and physical victimization stems from their parents' level of supervision and the presence or absence of two adult parent figures in the home.

It is also interesting to consider whether, in high-crime neighborhoods, parents' monitoring takes on added significance in protecting children from harm. Indeed, recent research has begun to explore interaction effects between neighborhood context and parents' parenting,

such that highly attentive parenting in especially disadvantaged neighborhoods is particularly advantageous for youth, able to divert them from high-risk behaviors and associates (Brody et al., 2001; Simons, Simons, Burt, Brody, & Cutrona, 2005). This approach can be applied to youths' victimization as well, such that in high-crime neighborhoods, strong parental controls might be able to reduce the likelihood that a youth will be sexually or physically victimized. Given that parents' parenting strategies have been shown to vary depending on neighborhood conditions—with parents tending to use more restrictive and controlling techniques when living in highly dangerous neighborhoods (Ceballo & McLoyd, 2002; Roche & Leventhal, 2009)—mothers' monitoring might be an especially important factor in high-crime areas for reducing the likelihood that a second child in the family experiences violence or molestation. To our knowledge, this issue has not previously been addressed.

In this study, we examined the extent to which a sister's prior sexual and dating victimization is a risk factor for young women being similarly victimized and the possible factors underlying a co-occurrence. We studied three forms of victimization: unwanted touching, a forced sexual act, and dating aggression. The sample consisted of young adult Latina and African American sister pairs residing in low-income urban neighborhoods. We should note that the sample was relatively small and confined to one urban area and, therefore, does not offer representative prevalence estimates of the various types of victimization studied. Many young women in the sample were teenage mothers, and because teenage pregnancy has been identified as being correlated with a history of both sexual abuse and teen dating violence (Adams & East, 1999; Blinn-Pike, Berger, Dixon, Kuschel & Kaplan 2002), teen parenting status was controlled analytically so as to isolate this factor from assessing whether sisters' victimization experiences are related. Also, some sister pairs were not living in the same household at the time of study. Thus, although all sisters were living within one urban area (and often within 10 mi [16 km] of each other), we also controlled for whether sisters were living in the same household because it might be associated with sisters' similarity in victimization experiences.

On the basis that siblings share several common risk factors, we hypothesized that sexual and dating victimization would co-occur between sisters, such that a young woman's likelihood of victimization will increase when she has a sister who has previously been similarly victimized. We further hypothesized that living in a high-crime neighborhood and experiencing weak parental controls (low maternal monitoring, single-parent mother) will explain the link between sisters' abuse. Here we expected that accounting for neighborhood crime, mothers' parenting, and mothers' marital status would diminish the association between sisters' victimization. We also examined whether parental controls interacted with neighborhood crime, such that when crime is high, mothers' vigilant monitoring and married status reduce the likelihood that a second sister is victimized. Finally, because little is known about the relative timing of abuse between sisters, we provide descriptive information from our data on the time period between abusive incidents within sister pairs. That is, we asked after what period of time from a first sister's abuse is a second sister most at risk of being similarly victimized, and after what period of time from a sister's first abuse will a second sister likely not experience victimization.

Method

Participants

Participants were part of a large longitudinal study investigating sibling concordance of risk behaviors. The sample included Latino and African American sibling pairs. Sibling pairs were recruited into the study by identifying adolescent girls (ages 15–18) who had a biologically related, coresiding younger sibling between the ages of 12 and 17. Twenty high

schools and alternative schools in one large school district in southern California and 12 health clinics and community clinics agreed to serve as recruitment sites for the study. All sites were located in primarily lower middle or lower socioeconomic areas as gauged by the schools' accountability reports. Potential participants were told that this was a study about adolescent girls and their younger siblings. Ninety percent of all eligible individuals invited to participate did so (10% declined). Two hundred thirty-eight older sisters and 321 of their younger siblings made up the original sample.

Most of the data presented in this report were gathered at a Round 3 follow-up conducted 5 years after the initial study time point, or between 1999 and 2001. The primary variable of interest (i.e., sexual victimization) was assessed at Round 3 only. At Round 3, 169 older sisters and 246 younger siblings participated (73% of the original sample). The individuals who participated at Round 3 did not differ from those who did not on several background factors (age, parenting or marital status, family income, etc.; described further later); however, Latino sibling pairs were more likely to participate at Round 3 (88%) than were African American sibling pairs (63%), $\chi^2(1, N = 235) = 5.47$, $p < .05$. It cannot be determined whether those who participated at Round 3 were more or less likely to experience victimization, because victimization was assessed at Round 3 only.

This report focuses on sister pairs only because the rates of sexual and dating victimization reported by younger brothers were very low (<6%). Of the 246 younger siblings who participated at Round 3, 132 were female (54%). In the 10 families in which more than one younger sister was participating, only the data from the eldest younger sister was selected for analysis to eliminate clustering of cases within family. Thus, each family was represented by only one older sister–younger sister pair. Using this criterion, the final sample for the current analyses involved 122 sister pairs.

At Round 3, older sisters were an average age of 22.1 years (range = 18–25, $SD = 1.5$), and 22% were married or living with a male partner. Fifty-six percent had at least one child, and 45% had had a child as a teen. Younger sisters were an average age of 18.6 years at Round 3 (range = 16–22, $SD = 1.8$), 5% were married, 35% had had a child, and 27% had had a child as a teen. Sixty-eight percent of sister pairs were Mexican American Latina and 32% were African American. All older sisters were living with their younger siblings at study enrollment (which was an eligibility requirement), and 74% of older sisters were living with their younger sisters at Round 3. Older sisters who were not living with their younger siblings still lived close to their families (typically within 10 mi [16 km]) and maintained frequent contact (at least biweekly visits).

The data from the mothers of the 122 sister pairs were also included in analyses. Participating mothers were an average age of 41 years at the time of study (range = 30–64, $SD = 4.9$). At Round 3, 62% of participating families were receiving some form of governmental financial assistance, and the average annual income was $16,795 for an average family of six.

Procedure

Sister pairs and their mothers were visited in their homes by two female research assistants who were bilingual in English and Spanish. Participants completed a short interview and a self-administered questionnaire (in English) in separate rooms and separate from the rest of the household to provide as much privacy as possible. Older sisters and younger sisters completed identical forms, which required about 1 hr to complete. Questions about victimization were on the questionnaire, which participants completed on their own with the interviewer nearby to answer any questions. All participants and their parents had been informed that if a child under age 18 reported past abuse that had not been previously

reported to authorities, a report would be filed with Child Protective Services, and they would be referred to counseling or to a domestic violence center, if appropriate. In addition, Joyce A. Adams, M.D. and Ashley Maier, M.S.W. are medical experts on sexual abuse and domestic violence and were available for consultation and counseling if necessary. Participants were paid $20 each for their participation at Round 3, and they were assured that their data would be stripped of any personal identifiers and that the storage and use of their data would be confidential. This study's procedures were approved by the institutional review board of the Human Research Protections Program at the University of California, San Diego.

Measures—All measures except for mothers' reports of child monitoring were gathered at the Round 3 follow-up. Mothers' reports of monitoring were gathered at a Round 2 follow-up, which was conducted 3 years before Round 3 (from 1996 to 1998). This was done because mothers' monitoring was not assessed at Round 3 and because mothers' monitoring of their children at Round 2 (when their children were ages 15 and 18 for younger siblings and older sisters, respectively) is a more appropriate indicator of mothers' attentive parenting than when their children are young adults (i.e., ages 18 and 21 years, respectively).

Sexual and dating victimization—Questions about sexual and dating victimization included "Has anyone ever touched you in a sexual way (such as on a private spot on your body) when you didn't want them to?" "Has anyone ever forced you to do something sexual (like perform a sexual act or have sexual intercourse) against your will?" and "Has a boyfriend, husband, date, or ex-boyfriend ever hit, slapped, or punched you so hard that it left a mark or bruise?" Response options were *no* (coded as 0) and *yes* (1). If the response to a question was positive, the age at first occurrence was asked.

Relative timing of sisters' victimization—Using sisters' reports of their ages at Round 3 and their age at first occurrence of victimization, we determined which sister was victimized first for cases in which both sisters reported abuse. In these cases, we also calculated the time period between each sister's first incidence of abuse.

Neighborhood crime—Older sisters and younger sisters responded to questions on the questionnaire about how safe their neighborhood is (ranging from 1 = *very safe* to 5 = *very unsafe*) and how often crime happens in their neighborhood (1 = *never or hardly ever* to 5 = *very often*). Reports from both items and both sisters were averaged to yield one score of the prevalence of neighborhood crime (α = .71).

Mothers' monitoring—Mothers' monitoring was assessed by means of five questionnaire items (adapted from Brown, Mounts, Lamborn, & Steinberg, 1993) that asked how much mothers really knew about their children's activities and whereabouts, with high scores indicating high knowledge (ranging from 1 = *don't know at all* to 4 = *know a lot*). Thus, this study's assessment of mothers' monitoring was not child specific but rather generalized across the mother's various children. Items were averaged to form one score (α = .84).

Mothers' marital status—In the study interview at Round 3, mothers responded to a series of questions about their marital status and the presence of a coresident adult partner. Using this information, we determined that 35% of mothers were single parenting without a coresident adult partner at the time of the study.

Analytic Plan

To first address whether sexual and dating victimization co-occur between sisters, we computed intraclass correlations between sisters' victimization experiences. A two-way

mixed-effect model specifying absolute agreement was used, an approach recommended when one wants to know how similar paired individuals are (McGraw & Wong, 1996). To address whether living in a high-crime neighborhood and weak parental controls explain the link between sisters' victimization experiences, we computed a series of logistic regressions. For these analyses, we used the relative timing of abuse between sisters, so that a first incidence of abuse of one sister was used to predict whether a subsequent instance of abuse occurred for the other sister. Thus, the logistic regressions yield an odds ratio of women's likelihood of abuse given a sister's prior experience of that form of abuse relative to women whose sisters had not experienced that form of abuse. We computed five separate regressions on each form of victimization, entering a series of blocks according to the procedures outlined by Tabachnick and Fidell (2006). In Step 1, the background control variables of women's age and race–ethnicity, whether the sisters were living together at follow-up, and whether the woman was a teen parent were entered. In cases in which both sisters were victimized, the characteristics of the sister who was abused first were entered. In instances in which only one sister was abused, the characteristics of this sister were entered. In instances in which neither sister was victimized, characteristics of the older sister were entered. In Step 2 (shown as Model 1), whether a sister had been victimized was entered (using the same form of abuse as that predicted). In Step 3, the three scores representing siblings' shared risks were added in three separate equations; that is, the score for neighborhood crime was added in Model 2, the score for mothers' monitoring was added in Model 3, and whether the mother was a single parent was added in Model 4. Using this approach, if the association between sisters' victimization diminishes with the introduction of a shared risk measure, then this factor is thought to account for or contribute to the association between sisters' abusive experiences (Tabachnick & Fidell, 2006). In Step 4 (Model 5), we tested the possibility that neighborhood crime interacts with mothers' monitoring and marital status to affect women's likelihood of victimization. In this case, we analyzed the interactive effects on women's likelihood of victimization between neighborhood crime and mothers' monitoring and, separately, between neighborhood crime and mothers' single parenting. To form the interaction terms, the scores for neighborhood crime and mothers' monitoring were centered (computed as deviations from their respective means). Significant interactions were then explored using simple slope tests as recommended by Aiken and West (1991).

To identify the time period after a sister's victimization in which a second sister is likely to be similarly victimized, we used discrete-time survival analysis (Singer & Willett, 2003). Because our intent is purely descriptive, no predictors were used. Survival analysis accounts for censored cases, or cases with unknown event times because of the end of data collection. In our case, censoring occurred at the study's Round 3. Because time was measured as years after the first sister was abused (which was different for each individual), censoring occurred at a different time point for each case. We conducted survival analysis separately for unwanted touching ($N = 59$) and dating aggression ($N = 42$). The occurrence of a forced sexual act was not analyzed because insufficient sister pairs had indicated their age at first forced sex. In addition, because we are addressing when after a girl's victimization is a sister most likely to be victimized, sister pairs in which neither sister experienced abuse were excluded from these analyses. Finally, because we asked sisters to recall how old they were at the time of first abuse (in number of whole years), we treated time as discrete.

Results

Preliminary Analyses

Table 1 presents the incidence of sexual and dating aggression among older sisters and younger sisters. All forms of sexual and dating aggression were more common among older sisters than among younger sisters ($p < .05$). When contrasting age at first abuse, we found

no differences between younger sisters and older sisters. However, when considering sisters' age difference and their age at first abuse, the older sister was abused first in 69% of cases of unwanted touching, in 50% of cases of forced sex, and in 63% of cases of dating aggression.

Sisters' Concordance of Victimization

The intraclass correlations between an older sister's and younger sister's victimization experiences were significant for all three forms of abuse (Table 1). Thus, these forms of abuse significantly co-occurred within sister pairs.

Influence of a Sister's Prior Abuse, Neighborhood Crime, and Parental Controls on Young Women's Risk of Victimization

We computed five separate regressions on each of the three forms of victimization. Results of the first regression models (which included only the controls and whether a sister had been previously victimized) are shown in Table 2 for each form of victimization (under Model 1). Results indicate that, for all three forms of abuse, a sister's prior victimization significantly increased young women's likelihood of being similarly victimized relative to women whose sisters had not been abused, net of effects of age, race–ethnicity, whether the sisters lived together and whether they were teen parents. The odds ratios associated with a sister's prior abuse were 3.4 for unwanted touching ($p = .05$), 4.7 for a forced sex act ($p < .05$), and a nearly 12-fold increased likelihood for dating violence ($p = .01$) relative to women whose sisters had not been abused. When examining the amount of variance accounted for (shown in the bottom portion of Table 2), the control variables added insignificant amounts of variance to the forms of abuse studied here. Only older age contributed significant variance to the likelihood of experiencing dating violence.

Models 2, 3, and 4 examine the impact of a sister's prior abuse on young women's likelihood of abuse after adding neighborhood crime (Model 2), mothers' monitoring (Model 3), and mothers' single-parenting status (Model 4) as predictors. (The results of these models are not shown in Table 2 because they are virtually identical to those of Model 5, which are described later and shown in Table 2.) Results indicated that none of these variables was associated with the likelihood of unwanted touching or dating aggression. However, both neighborhood crime and mothers' monitoring were associated with an increased likelihood of forced sex (ORs = 1.8 and 8.2, respectively, both ps < .05). In none of these cases, however, did the relation between a sister's prior victimization and women's victimization diminish when adding these variables.

Model 5 tested the interactive effects of neighborhood crime and mothers' monitoring and, separately, neighbor-hood crime and mothers' single parenting on women's likelihood of victimization. Two significant interactive effects were found: Crime × Mothers' Single Parenting was related to the likelihood of unwanted touching (OR = 4.0, $p < .05$), and Crime × Mothers' Monitoring was associated with the likelihood of dating aggression (OR = 0.02, $p < .05$; see Table 2). Using the median of the neighborhood crime score to yield high and low neighborhood crime groups, results of the simple slope tests indicated that mothers' single parenting was associated with an increased risk of unwanted touching in high-crime neighborhoods ($\beta = .31$, $p < .01$) but was unrelated to unwanted touching in low-crime neighborhoods ($\beta = .01$). Also, in high-crime neighborhoods, mothers' high monitoring was associated with a reduced likelihood of dating violence ($\beta = -.24$, $p < .05$), whereas monitoring was unrelated to dating violence in low-crime neighborhoods ($\beta = .06$).

Survival and Hazard Analysis for When a Second Sister Is Most Likely to Be Victimized

The survival and hazard functions for unwanted touching and dating aggression are shown in Figures 1 and 2. The survival function for unwanted touching (top, Figure 1) shows that

the proportion of girls experiencing unwanted touching increased steadily until 11 years after a sister experienced unwanted touching, as indicated by the decreasing survival function (i.e., fewer girls are surviving, or avoiding the event of unwanted touching). After 11 years had elapsed, no sisters experienced unwanted touching; the survival function is flat. The survival function also shows that, of girls whose sisters experienced unwanted touching, by 17 years after the event, 69% had avoided being similarly victimized. The hazard function for unwanted touching (bottom, Figure 1) shows that the risk of unwanted touching is greatest 0–4 years after a sister's experience (ranges from 2% to 7%). From 4 to 10 years after a sister's experience, the risk is still present but somewhat lower (ranges from 0% to 4%). Eleven years after the event, the risk goes to zero. This suggests that girls' risk of a first experience of unwanted touching is zero if a sister first experienced unwanted touching more than 11 years ago.

Turning to the survival function for dating aggression (top, Figure 2), the proportion of girls experiencing dating aggression increased steadily until 8 years after a sister experienced dating aggression, as indicated by the decreasing survival function. After 8 years, no sisters experienced dating aggression; the survival function is flat. The survival function also shows that, of girls whose sister experienced dating aggression, only 45% had avoided the same experience 13 years after the event. The hazard function for dating violence (bottom, Figure 2) shows that 0–5 years after a sister experiences dating aggression, girls' risk of dating aggression is moderate (risk ranges from 0% to 14%). Six and 7 years after a sister's experience, the risk increases (20% and 29%, respectively). Eight years after a sister experiences dating aggression, though, girls' risk goes to zero. Thus, girls' risk of a first experience of dating aggression is zero if a sister first experienced dating aggression more than 8 years ago.

Discussion

Study findings indicate that sisters' sexual and dating victimization experiences are significantly correlated, such that a sister's victimization increases the likelihood that a woman will be similarly victimized. When a sister had been victimized, women experienced more than a threefold likelihood of unwanted touching, close to a fivefold increase in a forced sexual act, and a 12-fold increase in dating violence relative to women whose sisters had not been abused, net of age, race–ethnicity, coresidence status, and teen parenting effects. Thus, even in a nonclinical sample and when examining forms of victimization that are likely experienced outside of the home, sisters share a vulnerability to sexual and dating victimization.

Associations between sisters' victimization experiences persisted after accounting for neighborhood crime and parental controls. Thus, neither neighborhood crime nor poor parental controls can be said to explain sister concordance of abuse. Rather, neighborhood crime and mothers' monitoring had independent effects on women's victimization. Specifically, the probability of experiencing a forced sexual act increased threefold for every increase in neighborhood crime, and increased nearly 13-fold for every increase in mothers' monitoring. That high maternal monitoring and forced sex were positively associated is somewhat surprising and inconsistent with expectations. One possible explanation is that mothers more closely supervised daughters who had been sexually abused. Recall that a forced sex act first occurred among most young women in the sample at age 13 and mothers' monitoring was assessed when younger sisters were, on average, 15 years old and older sisters were, on average, 18 years old; thus, this interpretation could be possible. However, we note that the use of maternal monitoring in this study was not to detect its relation to a specific daughter's victimization, but rather as a potential explanatory factor underlying sister's concordance of abuse. In this regard, we can conclude that mothers'

monitoring in and of itself does not account for the association between sisters' victimization experiences. This raises the possibility that other factors not assessed in this study underlie sisters' shared vulnerability to victimization. It may be that sisters share access to a common perpetrator (Whealin, Davies, Shaffer, Jackson, & Love, 2002), exposure to domestic violence (which is a known predictor of dating violence; Foshee, Bauman, & Linder, 1999), models of poor relationship dynamics (Stocker & Richmond, 2007), or some combination of each. Additional research is needed to corroborate that sisters' experiences of abuse are correlated and to further investigate why this occurs.

Findings pertaining to whether maternal controls have an especially protective effect in high-crime neighborhoods were confirmed in two cases. That is, when neighborhood crime was high, the presence of mothers' coresiding adult partner was associated with daughters' reduced likelihood of molestation, and mothers' high knowledge of their children's whereabouts was associated with daughters' reduced likelihood of dating aggression. Stated another way, for unwanted touching, mothers' single-parenting status in high-crime neighborhoods increased girls' risk of unwanted touching nearly fourfold relative to girls who lived with two coresident adults and in low-crime neighborhoods. These results are consistent with a compensatory effect discussed by Roche and Leventhal (2009), such that highly restrictive and controlling parenting strategies are especially beneficial for children living in dangerous settings. More studies confirming this interaction between neighborhood-level characteristics and family management practices for forecasting youths' risk of victimization are needed.

Results of survival analysis show that the risk of a second sister experiencing unwanted touching is greatest within 4 years of a first sister's unwanted touching but persists up to 10 years. For dating violence, the highest risk period is somewhat later, between 6 and 7 years after a sister's first incidence of dating aggression. This information is important for the parents and counselors of victimized young women: A sister is at risk of these forms of abuse for a relatively long period. We caution, however, that these findings are purely descriptive and based on a relatively small, local sample that included relatively few sister pairs in which both women had been abused. Moreover, this study had abuse data only up to a certain age; we did not have information of victimization beyond age 22, on average, for older sisters, and beyond age 18, on average, for younger sisters. Longer periods of study would likely have reduced the survival rates and increased the time period between sisters' respective incidences of abuse. More research is needed to corroborate the findings pertaining to the period of risk for a second sister's abuse.

Study Limitations

Foremost among this study's limitations was a lack of ability to temporally link neighborhood and parenting effects to the timing of daughters' victimization. Although we gathered information on girls' ages at first abuse, we did not collect information on how long the abuse occurred or whether it was currently ongoing. Such information would have helped locate incidences of abuse relative to our measures of parental control and neighborhood crime. In addition, families might have moved after a victimization incident. Furthermore, approximately one quarter of sister pairs were living in separate residences at the study follow-up. Both of these scenarios likely weaken the association between neighborhood crime and sisters' covictimization and warrant that these relations be considered cautiously.

It should also be recognized that similarities and differences in sisters' reports of victimization might derive from specific characteristics of each individual. For example, some women might be reluctant to classify sexual touching as unwanted, whereas others might readily acknowledge touching by another that was not initiated or was done by a

nonromantic partner as unwanted. It is also possible that sisters are dissimilar in their reporting of abusive experiences because of differences in cognitive abilities, maturity, or social desirability tendencies (Rausch & Knutson, 1991). Moreover, this study lacked information as to whether the participants had reported their abuse to anyone, and if so, whether the case was investigated by authorities. We also do not know whether other sisters in the home had been abused. The number of families with three or more sisters was too small to test this possibility.

Readers should also be mindful that sister pairs were exclusively Mexican American or African American and that results reflect relations for these racial–ethnic groups only. Moreover, Latina women were more likely than African American women to participate at follow-up, which could have influenced results. Also, because victimization was not measured at the study's initial time point, we do not know whether victimization was related to study dropout. Young women who had been victimized might have been more likely to drop out, or perhaps more likely to continue, because this study was conducted by psychologists and pediatricians at a well-known university, and victims might have stayed in the study in attempt to receive counseling.

It is also important to bear in mind that our measures of neighborhood crime reflect young women's perception of crime, which may be heightened by a victimization incident. However, it is useful to note that, for the most part, individuals' appraisals of neighborhood characteristics match closely with those based on census data (Brody et al., 2001). Finally, we caution that these data do not provide representative prevalence estimates of the types of victimization studied; rather, victimization rates reflect those from a relatively small, geographically confined sample.

Programmatic Implications

Notwithstanding these limitations, from a programmatic standpoint our findings underscore the high risk of sexual and dating victimization among young women who have a sister who has been similarly victimized. Indeed, professionals who work with abuse victims need to be alert to the likelihood that other young women in the household have been or may be victimized (Jean-Gilles & Crittenden, 1990; Wilson, 2004). Dating violence and sexual abuse prevention programs that target young women according to a sister's abuse history might be a worthwhile approach (Baker, Tanis & Rice, 2001). Prevention efforts targeted at the sisters of abuse victims might be best timed during childhood or early adolescence, or before victimization is most likely. Prevention efforts implemented several years after a sister's abuse incident also appear justified given that the risk period of a second sister being victimized is up to 10 years after a first sister's victimization. Results further suggest that the level of neighborhood safety and parental controls predict young women's risk of victimization. Thus, after-school programs that offer a safe and supervised environment for youths who reside in dangerous neighborhoods might help protect young women from sexual victimization (Lord & Mahoney, 2007).

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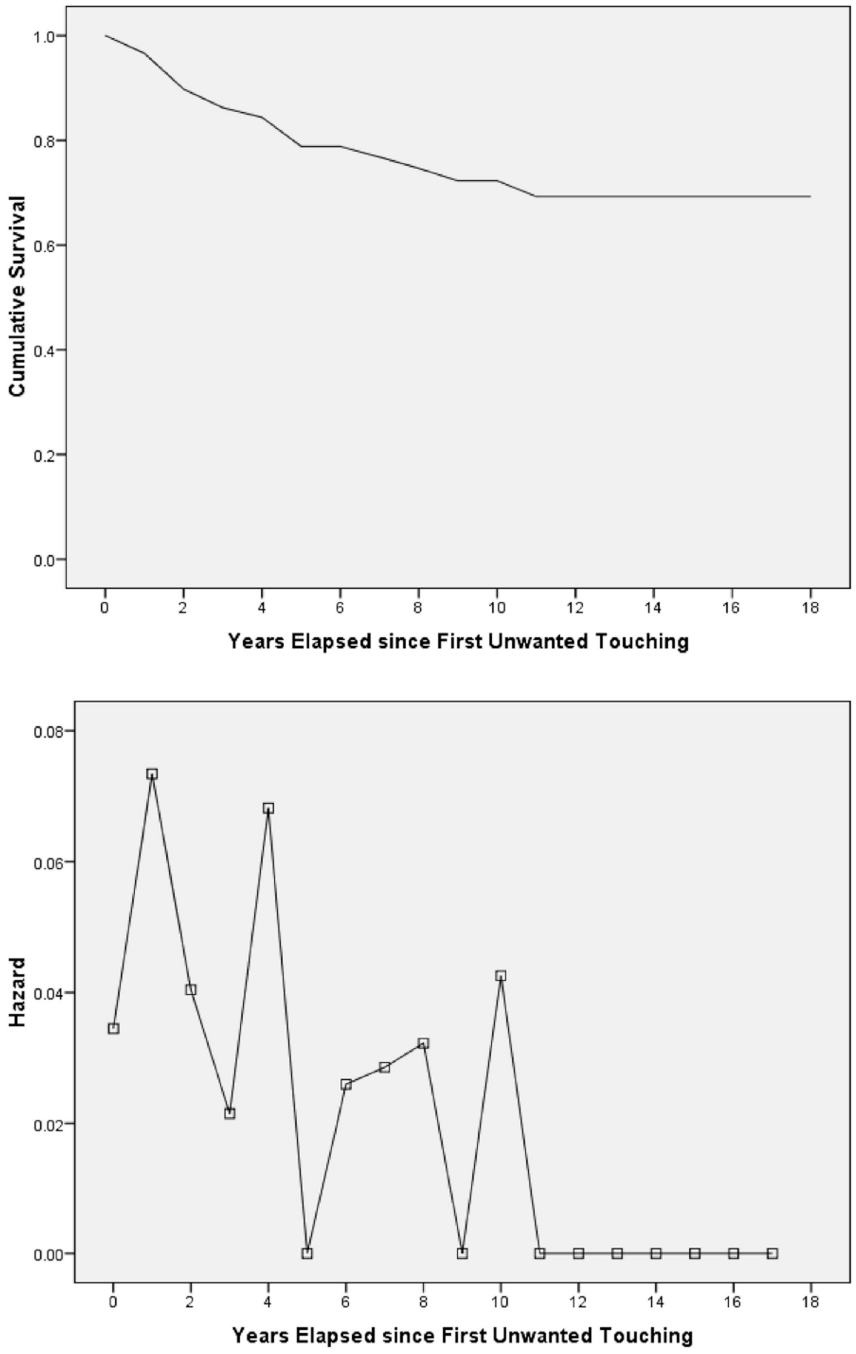

Figure 1.
Survival (top) and hazard (bottom) functions for incidence of unwanted touching, after a first instance has occurred for a sister ($n = 59$).

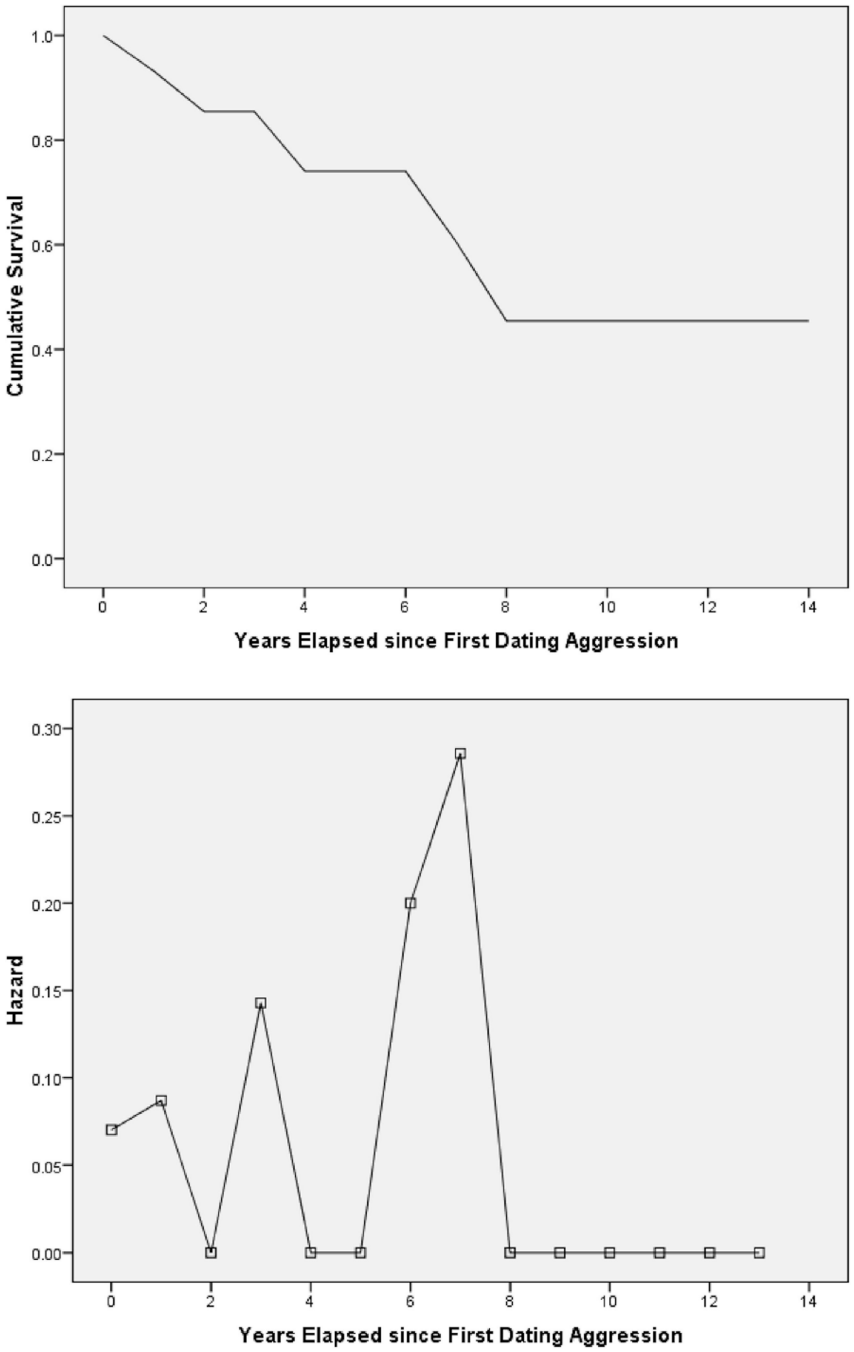

Figure 2.
Survival (top) and hazard (bottom) functions for incidence of dating aggression, after a first instance has occurred for a sister ($n = 42$).

Table 1

Incidence and Co-Occurrence of Sexual and Dating Victimization of Older Sisters (n = 122) and Younger Sisters (n = 122)

Incidence and age 1st occurred	Unwanted touching	Forced sex act	Dating aggression[a]
Older sister experienced (% [*n*])	41 (50)	23 (28)	29.5 (36)
M age 1st occurrence	10.5 yrs	13.5 yrs	18.2 yrs
Age range 1st occurred (years)	5–23	5–22	10–24
Younger sister experienced (% [*n*])	20.5 (25)	13.1 (16)	11.5 (14)
M age 1st occurrence (years)	9.5	12.8	17.1
Age range 1st occurred (years)	5–18	7–17	10–21
Both sisters experienced[b] (% [*n*])	13 (16)	7 (8)	7 (8)
Only older sister[b] (% [*n*])	28 (34)	16 (20)	23 (28)
Only younger sister[b] (% [*n*])	7 (9)	7 (8)	5 (6)
Neither[b] (% [*n*])	52 (63)	70 (86)	65 (80)
Older sister abused 1st[c] (% [*n*])	69 (11)	50 (4)	62.5 (5)
Younger sister abused 1st[c] (% [*n*])	31 (5)	50 (4)	37.5 (3)
Intraclass correlation[d]	.35**	.38**	.31*

[a] Includes being hit, slapped, or punched so hard by a male partner it left a mark or bruise.

[b] Out of the total sample of 122 sister pairs.

[c] Out of sister pairs in which both had experienced that form of victimization.

[d] Two-way mixed effect model.

* $p < .05$.

** $p < .01$.

Table 2

Regression Results Predicting Young Women Experiencing Sexual and Dating Victimization (N = 122)

	Unwanted touching						Forced sex		
	Model 1			Model 5			Model 1		
	b (*SE*)	Wald	OR [CI]	*b* (*SE*)	Wald	OR [CI]	*b* (*SE*)	Wald	OR [CI]
Sister's prior victimization[a]	1.21 (0.52)	5.34	3.36 * [1.2–9.4]	1.39 (0.59)	5.62	4.03 * [1.3–12.7]	1.54 (0.71)	4.77	4.67 * [1.2–18.6]
Neighborhood crime				−0.03 (0.42)	0.01	0.97 [0.4–2.2]			
Mothers' monitoring[b]				0.11 (0.81)	0.02	1.11 [0.2–5.5]			
Mother single parent[c]				0.05 (0.64)	0.01	1.05 [0.3–3.7]			
Crime × Monitoring[b]				0.17 (0.59)	0.08	1.18 [0.4–3.7]			
Crime × Single parent[c]				0.70 (0.34)	1.96	3.97 * (1.0–16.5)			
	R^2	ΔR^2		R^2	ΔR^2		R^2	ΔR^2	
Step 1. Covariates	.01	.01		.01	.01		.01	.01	
Step 2. Sister's victimization[a]	.06	.05 *		.06	.05 *		.07	.06 *	
Step 3. Predictors[d]				.09	.03				
Step 4. Interactive effects				.11	.03				

	Forced sex			Dating aggression					
	Model 5			Model 1			Model 5		
	b (*SE*)	Wald	OR [CI]	*b* (*SE*)	Wald	OR [CI]	*b* (*SE*)	Wald	OR [CI]
Sister's prior victimization[a]	1.82 (0.92)	3.93	6.17 * [1.0–37.3]	2.46 (0.82)	9.12	11.73 ** [2.4–58.0]	3.94 (1.45)	7.44	16.65 ** [2.2–98.3]
Neighborhood crime	1.15 (0.58)	3.92	3.16 * [1.0–9.8]				3.19 (2.03)	2.45	3.19 [1.0–9.8]
Mothers' monitoring[b]	2.56 (1.22)	4.41	12.95 * [1.2–41.2]				− 2.09 (1.63)	1.65	0.12 [0.1–3.0]
Mother single parent[c]	−0.46 (0.94)	0.24	0.63 [0.10–3.9]				1.23 [1.04]	1.08	3.36 [1.2–9.3]
Crime × Monitoring[b]	− 1.77 (0.96)	3.43	0.17 [0.03–1.1]				− 3.01 [1.37]	4.80	0.02 * [0.0–1.9]
Crime × Single parent[c]	−0.08 (0.60)	0.02	0.93 (0.3–3.0)				− 3.72 (2.21)	2.83	0.05 (0.003–0.7)
	R^2	ΔR^2		R^2	ΔR^2		R^2	ΔR^2	
Step 1. Covariates	.01	.01		.13 **	.13 **		.13 *	.13 *	
Step 2. Sister's victimization[a]	.07	.06 *		.21 ***	.08 **		.21 **	.08 **	

	Forced sex			Dating aggression					
	Model 5			Model 1			Model 5		
	***b* (*SE*)**	**Wald**	**OR [CI]**	***b* (*SE*)**	**Wald**	**OR [CI]**	***b* (*SE*)**	**Wald**	**OR [CI]**
Step 3. Predictors[d]	.14 *	.07 *					.22 **	.01	
Step 4. Interactive effects	.17	.03					.28 **	.05 *	

Note. Model covariates were women's age, race-ethnicity, whether live with sister, and whether a teen parent. Unstandardized coefficients are shown. OR = odds ratio; CI = 95% confidence interval.

[a] The specific form as predicting.

[b] High scores reflect attentive monitoring.

[c] Coded as 0 = *no*, 1 = *yes*.

[d] Predictors were neighborhood crime, mothers' monitoring, and mothers' single-parent status.

* $p < .05$.

** $p < .01$.

*** $p < .001$.