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Links Between Childhood Exposure to Violent Contexts and Risky Adolescent Health Behaviors

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A B S T R A C T

Purpose: To assess whether childhood exposure to violent contexts is prospectively associated with risky adolescent health behavior and whether these associations are specific to different contexts of violence and different types of risky behavior.
Methods: Data come from 2,684 adolescents in the Fragile Families and Child Wellbeing Study, a population-based birth cohort study of children born between 1998 and 2000 in 20 large American cities. Using logistic regression models, we evaluate whether exposure to 6 indicators of community violence and 7 indicators of family violence at ages 5 and 9 is associated with risky sexual behavior, substance use, and obesity risk behavior at age 15.
Results: Controlling for a range of adolescent, parent, and neighborhood covariates, each additional point on the community violence scale is associated with 8% higher odds of risky sexual behavior but not substance use or obesity risk behavior. Alternatively, each additional point on the family violence scale is associated with 20% higher odds of substance use but not risky sexual behavior or obesity risk behavior.
Conclusions: Childhood exposure to violent contexts is associated with risky adolescent health behaviors, but the associations are context and behavior specific. After including covariates, we find no association between childhood exposure to violent contexts and obesity risk behavior.

IMPLICATIONS AND CONTRIBUTION

Using a national sample of 2,684 children followed from birth in 1998–2000 to age 15, this study finds that childhood exposure to violent communities predicts higher odds of risky adolescent sexual behavior and that childhood exposure to family violence predicts higher odds of adolescent substance use.

Adolescents who have unprotected sex, use tobacco, abuse alcohol, or become obese are at increased risk of morbidities and preventable death [1]. Therefore, examining the social determinants of adolescent health behavior is critical to developing a better understanding of health disparities [2]. Growing up in a violent environment is one aspect of childhood adversity that is understudied with regard to its consequences for adolescent health. Although a large literature has documented that victims of childhood violence suffer a range of negative consequences [3], less is known about the consequences of indirect exposure to violence (defined as witnessing violent acts, hearing about violence from others, and/or interacting with persons and institutions affected by violence).

Although most people who live in violent environments do not become victims of violence [4], indirect exposure to

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violence may affect health and health behaviors by creating physical and psychological stress [3,5–7]; diminishing cognitive performance, attention, and impulse control [8,9]; and/or changing the perceived costs and benefits of risky behavior [10]. Additionally, the presence of violence may create structural changes in the institutions on which children and adolescents depend. Violence in the family may negatively affect parenting quality and parent-child attachment [11], whereas violence in the community may undermine neighborhood social organization (e.g., social cohesion and informal control of behavior) and positive socialization (via peer networks) [10]. In particular, the chronic stress resulting from exposure to violent contexts is likely to elicit subsequent coping behaviors that create pleasurable sensations or a sense of escape [12]. The leading causes of preventable morbidity and mortality fall within this range of coping behaviors: risky sexual behavior, substance use, overeating, and physical inactivity [13].

Despite the range of pathways through which violent contexts are likely to affect behavior, few studies have investigated whether childhood exposure to violent contexts matters for risky adolescent health behavior. In two clinical samples of girls, a retrospective report of ever witnessing violent acts was associated with unsafe sexual activity [14], having a risky sexual partner, using drugs or alcohol before sexual activity, and using tobacco or marijuana [15]. Similarly, in the 1995 National Survey of Adolescents, the retrospective report of witnessing violent acts was associated with substance abuse among 12- to 17-year-old adolescents [16]. With regard to violent acts that occurred in the home, ever witnessing domestic violence was associated with higher odds of overweight/obesity in a small sample of adolescents [17], and a large national survey found that adolescent girls (but not boys) who retrospectively reported ever wanting to leave home due to violence had higher rates of regular smoking and drinking than their peers [18]. However, the 2005 National Survey of Adolescents found an elevated risk of alcohol abuse and nonexperimental drug use among adolescents who witnessed violent acts in their community but not among those who witnessed violent acts between parents [19].

Only one study has examined the prospective association between exposure to violence and risky adolescent health behavior. Among 1,655 adolescents from the Project on Human Development in Chicago Neighborhoods, exposure to community (but not family or school) violence, including both indirect exposure and violent victimization, at ages 9–19 was associated with a higher frequency of marijuana use (but not alcohol use) 3 years later [20].

We extend this literature in three ways. First, we measure the extent of violence in the environments in which children grew up. This approach is distinct from the large literature investigating the negative consequences of violent victimization. Second, we examine both community and family violence and their prospective associations with three health behaviors: risky sexual behavior, substance use, and obesity risk behavior. To our knowledge, no other study has modeled a range of risky health behaviors as a function of exposure to violence across multiple contexts. Finally, we use prospective data from a longitudinal, population-based birth cohort study.

Based on theory related to stress and decision-making, we hypothesize that higher levels of childhood exposure to violent contexts will be associated with risky adolescent health behavior. Because violence may also affect behavior through institution-specific mechanisms, such as by changing family or community functioning, we do not assume that family and community violence will be similarly associated with all risky health behaviors. Indeed, violence at different ecological levels operates through distinct pathways and is likely to have unique implications for particular health behaviors. For example, family violence is believed to interfere with adolescents' ability to develop trust in intimate relationships [11], which may affect sexual health behavior. Additionally, growing up in an unsafe community decreases children's opportunities for outdoor exercise [21,22], an important component of obesity risk behavior. By examining multiple violent contexts and several risky health behavior outcomes, we aim to provide insight into the connection between childhood experiences and adolescent health behavior.

Methods

Data

The Fragile Families and Child Wellbeing Study (FFCWS) is a population-based, birth cohort study of 4,898 children born between 1998 and 2000 in 20 large American cities (population over 200,000). Because FFCWS oversampled nonmarital births, the study includes a large and diverse sample of children from low-income families and neighborhoods. Sample recruitment is described in Reichman et al. [23]; subsequent data collection procedures are documented at https://fragilefamilies.princeton.edu/documentation. The Institutional Review Boards of Princeton University and Columbia University approved data collection.

Of the 3,444 adolescents who participated in the year 15 survey, 143 were excluded from analyses because they did not answer questions about the outcomes of interest. Another 456 adolescents were excluded because their mothers did not participate in either the age 5 or age 9 interview and therefore did not provide any information on violence predictors at one or both of these ages. An additional 143 cases were dropped because mothers reported that the child lived with them less than half the time at age 5, age 9, or both. Finally, 18 of the remaining adolescents were excluded because their mothers did not answer questions about one or more indicator of violence at both ages 5 and 9. These exclusions resulted in a final sample size of 2,684. Table A1 compares this analytic sample to the baseline and 15-year samples.

We used multivariate imputation using chained equations (M = 20) to impute missing data on covariates. Violence indicators were only imputed for cases that had data on a given indicator at either age five or age nine but were missing a value at the other wave. We also limited analyses to a sample created using listwise deletion (N = 1,414) and found results to be substantively unchanged.

Measures

Each measure is described in Table 1, including the source of the measure, the time frame to which it refers, and its prevalence or mean.

Risky health behaviors. Our outcomes are three risky health behaviors: risky sexual behavior, substance use, and obesity risk behavior. For each behavior, we created a dichotomous indicator of whether the adolescent reported engaging in one or more (1) or none (0; reference) of the relevant behaviors. Risky sexual