The long-term effects of childhood maltreatment experiences on subsequent illicit drug use and drug-related problems in young adulthood

Shi Huang a,⁎, Edward Trapido d, Lora Fleming a, Kristopher Arheart a, Lee Crandall c, Michael French b, Shandey Malcolm a, Guillermo Prado a

a Department of Epidemiology and Public Health, Miller School of Medicine, University of Miami, 1120 NW 14th street, 10th floor, Miami, FL 33136, United States
b Department of Sociology, University of Miami, 121F Merrick Building, 5202 University Drive, Coral Gables, FL 33146, United States
c College of Health, Education, and Human Development, Clemson University, 503 Edwards Hall, Clemson, SC 29634, United States
d School of Public Health, Louisiana State University, 615 Poydras Street, New Orleans, LA 70112, United States

Abstract

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Objectives: The objective of this study was to examine the associations between (a) childhood maltreatment (i.e., physical abuse, sexual abuse, and neglect) and subsequent illicit drug use and (b) childhood maltreatment and drug-related problems in young adulthood.

Methods: Wave 1 and Wave 3 public-use data from the National Longitudinal Study of Adolescent Health were used. Logistic regressions, controlling for adolescent drug use and other important family and peer contextual processes, were estimated to determine the associations between (a) childhood maltreatment experiences and subsequent illicit drug use and (b) childhood maltreatment and drug-related problems in young adulthood.

Results: Among the participants, 31.9% reported some form of childhood maltreatment. Childhood physical abuse was associated with a 37% (OR=1.37; 95% CI=1.04, 1.80) increase in illicit drug use during the 30 days prior to the Wave 3 survey, a 48% (OR=1.48; 95% CI=1.16, 1.89) increase in illicit drug use during the year prior to the Wave 3 survey, and a 96% (OR=1.96; 95% CI=1.40, 2.76) increase in drug-related problems in young adulthood. The latter two associations persisted even after controlling for illicit drug use in adolescence. Neglect among females was associated with a higher likelihood of past year illicit drug use in young adulthood (OR=1.31; 95% CI=1.002, 1.71). However, this association was not significant once the effect of illicit drug use in adolescence was statistically controlled for.

Conclusions: The present findings suggest that childhood maltreatment is related to subsequent illicit drug use and drug-related problems in young adulthood and that some of these associations differ by gender.

Implications for preventive intervention are discussed.

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1. Introduction

Young adulthood (i.e., ages 18–25) is considered a period during which people are prone to engage in various risky behaviors, including the use of illicit drugs (Arnett, 2000). According to the 2008 National Survey on Drug Use and Health (Substance Abuse and Mental Health Services Administration-SAMHSA, 2009), the 18–20 and 21–25 age groups have the highest prevalence rate of current illicit drug use (21.5% and 18.4%, respectively). Childhood maltreatment (i.e., sexual abuse, physical abuse, and neglect that occurs under the age of 18) has been reported to be a significant risk factor for subsequent illicit drug use and drug-related problems in adulthood. The association between childhood maltreatment experiences and adult illicit drug use has been found in a wide range of settings and in different race/ethnic and socio-economic populations, including women recruited from STD clinics (NIMH Multisite HIV Prevention Trial Group, 2001), African-American and Hispanic males at risk for HIV infection (Dilorio, Hartwell, & Hansen, 2002), college women (Johnsen & Harlow, 1996) and women recruited from outpatient family practice clinics (Springs & Friedrich, 1992). A review by Polusny and Follette (1995) also noted that in clinical samples, 21% to 57% of sexual abused females had drug-related problems compared to only 2% to 27% of their non-abused counterparts. Several population-based retrospective studies have been conducted to examine the association of childhood maltreatment to subsequent adult illicit drug use and drug-related problems. For example, a study by Thompson and colleagues analyzing data from the National Violence against Women Survey, found that physical abuse in childhood was...
significantly related to current illicit drug use in adulthood (Thompson, Kingree, & Desai, 2004). Similarly, studies have found that childhood sexual abuse was an important risk factor contributing to illicit drug use and drug abuse/dependency in adulthood (Burnam et al., 1988; Wilsnack, Vogtelnitz, Klassen, & Harris, 1997). A dose–response relationship of adverse childhood experiences on illicit drug use and having drug problem in adulthood has also been found in previous studies (Dube et al., 2003; Felitti et al., 1998).

In addition to cross-sectional and retrospective studies, there have been at least two prospective studies that have examined the association of childhood maltreatment experiences to subsequent illicit drug use and substance-use-related problems. In a prospective cohort study of a representative community sample of young adults, Silverman and colleagues found that among men who reported physical abuse before age 18, 40% developed drug abuse/dependence at age 21 compared to only 8% of their non-abused counterparts (Silverman, Reinherz, & Gaconoia, 1996). In contrast, a study by Widom and colleagues found that childhood physical abuse, sexual abuse and neglect did not increase the likelihood of drug abuse/dependence in adulthood (mean age = 29 years) for both males and females (Widom, Weiler, & Cottler, 1999). However, by following up this cohort to middle adulthood (mean age = 40 years), they found that child abuse/neglect was related to past year illicit drug use and the mean number of substance-use-related problems for females, but not for males (Widom, Marmorstein, & White, 2006).

Although previous studies have provided evidence suggesting that a history of childhood maltreatment is associated with illicit drug use in adulthood, a number of limitations in these previous studies exist. One of these limitations is the lack of comprehensive measurements of other childhood adverse exposures such as family background, family dysfunction and peer context. Researchers suggest that these are important constructs because childhood maltreatment might be only one of many adverse childhood experiences that contributes to illicit drug use in adulthood (Felitti et al., 1998; Fergusson, Horwood, & Lynskey, 1996; Fromuth, 1986; Green, 1993; Langeland & Hartgers, 1998; Mullen, Martin, Anderson, Romans, & Herison, 1996; Nas, Hulsey, Sexton, Harralson, & Lambert, 1993; O’Leary & Jemmott, 1995; Stern, Lynch, Oates, O’Toole, & Cooney, 1995). In addition to childhood maltreatment, exposure to household substance use, mental illness in the household, and the protective treatment of the mother have been shown to be independently related to lifetime illicit drug use (Dube et al., 2003; Felitti et al., 1998). Studies examining the relationship between childhood maltreatment and subsequent drug use should account for the potential confounding effect of other adverse exposures. Another limitation of previous studies is that they have focused almost exclusively on female samples. To date, only a few studies have involved males or have examined potential gender differences in the association of childhood maltreatment to subsequent illicit drug use and drug-related problems. The current study addresses both of these gaps in the literature.

The overall objective of the present study is to examine the long-term effects of childhood maltreatment experiences on subsequent illicit drug use and drug-related problems in young adulthood. The present study addresses several of the limitations of previous research on this topic by using a nationally representative sample of both males and females, controlling for prospectively-measured family and peer contexts to ensure the validity of the present study. Additionally, since associations were found between (a) childhood maltreatment and adolescent illicit drug use (Hussey, Chang, & Kotch, 2006) as well as between (b) adolescent illicit drug use and adulthood illicit drug use and drug-related problems in past research, we hypothesized that adolescent illicit drug use may mediate the effects of childhood maltreatment on adulthood illicit drug use and drug-related problems.

2. Methods

2.1. The Add Health study design overview

The National Longitudinal Study of Adolescent Health (Add Health) is a school-based prospective cohort study which has followed a nationally representative probability-based sample of U.S. students in grades 7 through 12 from early adolescence to adulthood (Udry, 2003). The primary purpose of the Add Health study is to examine the causes of health-related behaviors of adolescents and their effects in adulthood. To date, there have been four waves of follow-up surveys. The present study used the Wave 1 and 3 data. Wave 1 (Baseline) was conducted in April to December 1995 when the participants were in grades 7 through 12, while Wave 3 was conducted from August 2001 to April 2002 when the Add Health respondents were 18 to 26 years old. The response rates for the Wave 1 and Wave 3 survey were 78.5% and 77.4%, respectively. The Add Health study design has been described in detail elsewhere (Harris et al., 2003; Resnick et al., 1997). More Add Health procedure details can also be found at http://www.cpc.unc.edu/projects/addhealth/design.

2.2. Participants

The present study used the public-use dataset of the Add Health study (Harris et al., 1994–2002), which consisted of a randomly selected one-half of the core sample and one-half of the oversample of African-American adolescents from well-educated families. The total number of respondents in this dataset was 6504 at the Wave 1 survey. Of these 6504 participants, 75.1% (n = 4882) were re-interviewed in the Wave 3 survey.

Among the participants who completed the Wave 3 survey, 50.7% were male whereas 49.3% were females. The participant’s mean age was 21.8 years (S.E. = 0.12 years). The sample consisted predominantly of non-Hispanic Whites (68.3%), African Americans (15.8%), and Hispanics (11.2%).

2.3. Measures

Dependent variables: Illicit drug use in young adulthood (in the Wave 3 survey) was defined as using any illicit drugs (including marijuana, cocaine, crystal methamphetamines, and others, such as LSD, PCP, ecstasy, mushrooms, inhalants, “ice”, heroin, and any illegal injection drug) during the year and the 30 days prior to Wave 3 survey (yes/no).

Drug-related problems in young adulthood (in the Wave 3 survey) was defined as experiencing at least one of six problems related to drug use in the past year, including having problems at school or work, having problems with friends, having problems with someone the participant was dating, getting into a sexual situation that was later regretted, getting into a physical fight, or getting high on drugs at school or work.

Potential mediator: Illicit drug use in adolescence (in the Wave 1 survey) was measured by items that asked how many times adolescents had used marijuana, cocaine, crystal methamphetamines, and others, such as LSD, PCP, ecstasy, mushrooms, “speed”, “ice”, heroin, or pills without a doctor’s prescription) in their lifetime. Three categories were created: nonusers, experimental users (used 1–10 times), and regular users (used >10 times) (Van den Bree & Pickworth, 2005).

Independent variables: Childhood Maltreatment was measured retrospectively during the Wave 3 survey. Physical abuse was measured by one item: “How often had your parents or other adult care-givers slapped, hit, or kicked you by the time you started 6th grade?”, which was rated on a six-point Likert scale ranging from 0 (never happened) to 5 (more than ten times). A response of 3 times or
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