

2004

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Abuse Experiences in a Community Sample of Young Adults: Relations With Psychiatric Disorders, Sexual Risk Behaviors, and Sexually Transmitted Diseases

Jonathan G. Tubman, Marilyn J. Montgomery,
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Abstract

This study documents significant associations among lifetime abuse experiences, psychiatric diagnoses, and sexual risk behaviors in a multiethnic community sample of young men and women ($N = 1803$) in South Florida. Self-report data were collected via structured interviews as part of a longitudinal follow-up of a larger school-based study. Participants were grouped according to extent of lifetime abuse experiences. Cumulative lifetime abuse experiences were associated with increased risk for a broad range of individual lifetime psychiatric disorders, as well as cumulative lifetime psychiatric disorders. Both cumulative abuse experiences and cumulative psychiatric disorders were independently associated with (a) higher levels of sexual risk behaviors and (b) higher risk for lifetime sexually transmitted diseases (STDs). Implications for selective prevention of sexual risk behaviors and STDs among young adults with histories of abuse and psychiatric disorders are discussed.

KEY WORDS: Abuse; HIV; psychiatric disorders; sexual risk behavior; sexually transmitted diseases; young adults.

INTRODUCTION

Interpersonal violence in intimate or family relationships is associated with higher probabilities of negative physical and mental health outcomes, although these relations remain poorly understood. Given the extent of interpersonal violence that many have experienced by entry into young adulthood, improved understanding of relations between experiences of intimate interpersonal violence and physical or mental health outcomes is critical (Becker, Rankin, & Rickell, 1998; Tjaden & Thoennes, 1998;

Whitmire, Harlow, Quina, & Morokoff, 1999). The purpose of this study was to examine relations among (a) lifetime abuse experiences, (b) lifetime psychiatric disorders, (c) sexual risk behaviors, and (d) self-reported sexually transmitted diseases (STDs) in a multiethnic community sample of young adults, individuals in a segment of the lifespan when health risk behaviors (e.g., substance use, sexual activity) are at their highest levels (Centers for Disease Control and Prevention [CDC], 2000).

Both men and women experience interpersonal violence, but the types of violence they experience differ. For example, significantly higher proportions of adult women than those of men report lifetime experiences of sexual assault, including attempted or completed rape (17.6% vs. 3.0%) or interpersonal violence by an intimate partner (24.8% vs. 7.6%; National Violence Against Women [NVAW] Survey; Tjaden & Thoennes, 1998). In contrast, higher proportions of men than those of women (66.8% vs. 55.0%) report lifetime experiences of physical

assault. Data collected from youth aged 12–17 years in the National Study of Adolescents confirm significant gender differences in lifetime prevalence rates for sexual assault (girls 13.0%, boys 3.4%) and physical assault (girls 13.4%, boys 21.3%), but not for physically abusive punishment (girls 10.2%, boys 8.5%; Kilpatrick, Saunders, & Smith, 2003). These findings underscore the magnitude of exposure to violence in family or intimate relationships among both men and women.

Comprehensive literature reviews have documented the short- and long-term negative impacts of childhood physical and sexual abuse perpetrated in the context of intrafamilial or extrafamilial relationships (Beitchman, Zucker, Hood, & Dacosta, 1991; Briere, 1992; Carlson & Dalenberg, 2000; Kendall-Tackett, Williams, & Finkelhor, 1993; Trickett & McBride-Chang, 1995). Greater likelihood of negative outcomes among adolescents and adults have been documented including dysfunctional interpersonal relationships and parenting roles; compromised sexual functioning; higher rates of internalizing, externalizing, and suicidal behaviors; higher rates of psychiatric disorders such as posttraumatic stress disorder (PTSD); and increased risk for revictimization. It is important to note, however, that many early studies of the short- and long-term negative impacts of childhood abuse experiences included significant methodological (e.g., inadequate measures, narrow scope of assessment, retrospective or cross-sectional designs, or clinical samples) and conceptual (e.g., simple main effects models) limitations (DiLillo, 2001; Messman-Moore & Long, 2003). Nonetheless, trauma-focused conceptual models have been significant for not only stimulating research interest in the health- and mental health-related sequelae of childhood abuse experiences, but also directing empirical inquiry and assisting in the interpretation of subsequent research findings.

Conceptual models of the putative short- and long-term impacts of childhood abuse experiences upon psychological adjustment delineate potential pathways to key health outcomes, including sexual risk behaviors and risk for HIV/STD exposure. For example, Briere's Self-Trauma Model (e.g., Briere, 2002), while not primarily addressing sexual risk behavior outcomes, outlines a series of impacts of childhood abuse experiences that increase risk for both psychiatric disorders and health risk behaviors. In this model, early abuse experiences may be associated with a series of deficits in, or barrier to, the normative development of socioemotional com-

petence including distorted assumptions regarding self and relationships with others; conditioned associations between abuse stimuli and emotional distress; distress producing implicit, narrative, or suppressed memories of abuse-related events; and inadequately developed affect regulation capacities. This conceptualization suggests that interactions among ongoing distress, reexperienced memories of childhood abuse, and inadequate affect regulation significantly increase the likelihood that the person will use avoidance and dissociation to keep from being overwhelmed by feelings of distress. Not only do these coping responses to processes linking trauma-related vulnerabilities block the individual from processing and responding more adaptively to early abuse experiences, they may also increase expression of sexual risk behaviors and risk for HIV/STD exposure (Briere, 2002). Rigorous evaluations of empirically driven models of childhood abuse experiences and subsequent risk for HIV/STD exposure, such as the Multifaceted Model of HIV Risk (MMOHR; Whitmire et al., 1999), extend Briere's conceptual model by documenting significant relations between childhood abuse experiences, poorer psychosocial functioning, and lower levels of self-protective sexual behaviors. The next sections review empirical research describing relations among victimization, psychopathology, and sexual risk behavior, largely congruent with trauma-focused conceptual models.

Victimization History and Psychopathology

Existing data documents associations between victimization history and psychopathology. In community-based samples of adolescents, significant relations have been documented between victimization history and a wide range of internalizing and externalizing problems (Elze, Stiffman, & Dore, 1999; Fergusson, Horwood, & Lynskey, 1996). In particular, alcohol and drug abuse are associated with histories of physical or sexual assault and the witnessing of violence (Kilpatrick et al., 2000, 2003; Widom & White, 1997). Victimization history also is associated with higher rates of mood and anxiety disorders, including PTSD, and suicidal behaviors (Ackerman, Newton, McPherson, Jones, & Dykman, 1998; Brown, Cohen, Johnson, & Smailes, 1999; Downey & Walker, 1992). Studies involving clinical samples of male and female adolescents have also consistently identified physical and sexual

abuse as key etiological factors in the onset and maintenance of psychiatric disorders including substance abuse and dependence, PTSD, affective and anxiety disorders, conduct disorder, and suicidal behaviors (Brand, King, Olson, Ghaziuddin, & Naylor, 1996; Clark, Lesnick, Hegedus, 1997; Green, Russo, Navratil, & Loeber, 1999). While some studies have identified gender differences in the expression of the psychiatric sequelae of physical or sexual victimization (Horwitz, Widom, McLaughlin, & White, 2001), these gender differences are not consistent across studies.

Victimization History and Sexual Risk Behavior

Past history of physical or sexual abuse is significantly related to sexual risk behaviors among adolescents and young adults in both clinical and community-based samples (Becker et al., 1998; Whitmire et al., 1999). Community samples of adults with a past history of physical or sexual abuse are more likely to engage in sexual risk behaviors such as unprotected intercourse, select partners with STDs, use substances prior to intercourse, and have inadequate sexual communication or risk negotiation skills (Bensley, Eenwyk, & Simmons, 2000; Parillo, Freeman, Collier, & Young, 2001; Whitmire et al., 1999). In addition, there appears to be a strong positive relationship between adverse childhood events and self-reported history of STDs among both men and women (Greenberg, 2001; Hillis, Anda, Felitti, Nordenberg, & Marchbanks, 2000). Physical and sexual abuse experiences in childhood and the repetition of violence in the context of family or intimate relationships may influence significantly patterns of sexual behavior among adolescents and adults (Maman, Campbell, Sweat, & Gielen, 2000; Parillo et al., 2001; Taylor-Seehafer & Rew, 2000). Similar significant relations between lifetime abuse experiences and sexual risk behaviors have been documented in clinical samples of adults (e.g., Goodman & Fallot, 1998; Greenberg et al., 1999; Medrano, Desmond, Zule, & Hatch, 1999).

Psychopathology and Sexual Risk Behavior

Sexual risk behaviors also are significantly associated with lifetime or current psychiatric disorders among male and female adolescents and young adults, due in part to inadequate assessment of HIV risks, lack of concern for personal well-being, deficits

in relevant knowledge and skills, and peer social ecologies that promote risk behaviors (see Brown, Danovsky, Lorie, DiClemente, & Ponton, 1997, for a review). Many studies using nonclinical samples have documented significant relations between psychiatric symptoms and sexual risk behaviors (e.g., Auslander et al., 2002; Ramrakha, Caspi, Dickson, Moffitt, & Paul, 2000; Tubman, Windle, & Windle, 1996). In addition, studies of clinical samples of adolescents have also documented elevated levels of sexual risk behaviors co-occurring with diagnoses of alcohol or substance use disorders (Bailey, Pollock, Martin, & Lynch, 1999; Deas-Nesmith, Brady, White, & Campbell, 1999; Martin, Kaczynski, Maisto, & Bukstein, 1995), conduct disorder (Booth & Zhang, 1997; Whitmore, Mikulich, Ehlers, & Crowley, 2000), and depression (Tubman, Wagner, & Langer, 2003).

Victimization History, Current Psychopathology, and Sexual Risk Behavior

While relations among victimization history, current psychopathology, and sexual risk behavior are not well understood, plausible models of influence do exist (e.g., trauma-focused models). In such trauma-based conceptualizations, ongoing distress related to severe childhood adversities (e.g., physical and sexual abuse) and maladaptive coping responses to situations that trigger intrusive and aversive memories (e.g., avoidance via substance abuse, dissociation) may maintain patterns of sexual risk behaviors (Kessler et al., 1996; Zeitlin, 1999), increasing risk for HIV/STD exposure. This direction of influence is consistent with models that suggest that early traumas experienced in family contexts are related to victims' use of dissociative and avoidant responses that keep threatening information from awareness (Briere, 2002; DePrince & Freyd, 2002a,b). Use of similar maladaptive coping responses in uncomfortable sexual situations (e.g., substance use before sex, avoidance of negotiation of self-protective behaviors) may mediate relations between past trauma and risk for HIV/STD exposure (e.g., Tubman, Langer, & Calderon, 2001). Clarification of relations among lifetime abuse history, psychiatric disorders, and sexual risk behaviors is needed and will assist practitioners in identifying those youth at greatest risk for STD exposure, and in refining existing HIV/STD prevention programs in ways that address the needs of young adults with different histories of sexual or physical abuse and different degrees of psychiatric problems.

The Current Study

This study is intended to clarify relations documented in previous studies via the use of a large, diverse, and representative community sample and structured interviews using instruments with established reliability and validity. In this study, we document (a) young adults' lifetime exposure to violence in the context of close relationships, (b) associations between lifetime abuse experiences and individual and cumulative diagnoses of lifetime *DSM-IV* psychiatric disorders, (c) the independent and combined influence of cumulative lifetime abuse experiences and cumulative lifetime psychiatric diagnoses on young adults' sexual risk behaviors and self-reported STDs. These analyses test three hypotheses: first, that young women report significantly higher levels of lifetime abuse experiences than young men; second, that lifetime abuse experiences are positively associated with psychiatric disorders (i.e., lifetime and cumulative); and third, that lifetime abuse experiences and psychiatric disorders, as well as their combined influence, are significantly associated with young adults' levels of sexual risk behaviors and self-reported STDs.

METHODS

Participants

This study included young adults ($N = 1,803$), aged 18–23 years ($M = 20.01$ years; $SD = 0.96$ years), who were followed up from a school-based, 3-year study of risk and protective factors for substance use in early adolescence, conducted from 1990 to 1993 (Turner & Gil, 2002; Vega & Gil, 1998). The original study included students from 48 public middle schools and 25 public high schools in the Miami-Dade County school system that participated in three occasions of data collection, 1 year apart. Of 9,763 male students and 669 female students contacted prior to entry into the sixth or seventh grades, 7,386 (70.8%) participated at Wave 1. At Wave 2, 6,646 of the 7,386 Wave 1 participants (90.0%) were successfully reinterviewed. At Wave 3, 5,924 of the 7,386 Wave 1 participants (80.2%) were successfully reinterviewed. Attrition analyses compared students who remained in the study to those who dropped out by Wave 3, but no systematic or significant differences were documented on key variables including race/ethnicity, age, reading level, native versus

foreign born, number of parents in the household, and students' alcohol and drug use (see Vega & Gil, 1998).

To construct a representative Wave 4 sample of young adults derived from the original study, a random sample of 1,273 Wave 3 male participants was selected for follow-up, in addition to every female participant who remained in the study at Wave 3 ($n = 410$). An additional supplementary sample of females ($n = 888$) was recruited, to be potential participants at Wave 4, from the original 1990 sixth- and seventh-grade classroom rosters in order to facilitate comparisons of young adults by gender at Wave 4. Follow-up interviews were conducted from 1998 to 2000, resulting in an overall participation rate of (1,803 of 2,571; 70.1%) that varied for Wave 3 male (956 of 1,273, 75.1%), Wave 3 female (330 of 410, 80.5%), and new female (517 of 880, 58.2%) young adults. The Wave 4 sample was drawn to include 25% White non-Hispanic, 25% African American, 25% Cuban, and 25% other Caribbean Basin Hispanic participants, and included 952 males and 851 females. A large portion (44.5%) of the Hispanic participants was foreign born (Turner & Gil, 2002).

Comparisons between young adults who completed Wave 4 interviews ($n = 1286$) and participants in the first three waves of the study who either (a) refused participation in Wave 4 or (b) could not be located (combined $n = 768$) yielded few statistically significant differences ($p > .05$). Specifically, Wave 4 participants were more likely to report being in a two-parent household at Wave 1 (64.3% vs. 55.1%) and Wave 3 (59.3% vs. 46.9%) than were Wave 4 non-participants. Wave 4 participants were also more likely to report lifetime use of other (i.e., illicit) drugs at Wave 1 (4.4% vs. 2.5%) than were Wave 4 non-participants. Comparisons of parent-reported variables revealed that households of participants had significantly higher mean yearly incomes at Wave 1, as well as a higher proportion of fathers at Wave 1 who had ever used alcohol (58.5% vs. 49.3%) compared to non-participants. There were, however, no statistically significant differences between Wave 4 participants and non-participants for several Wave 1 variables including child-reported maternal or paternal education, parent-reported marital status, parent smoking variables, mother's lifetime alcohol use, or the number of days fathers drank alcohol during the past month. Similarly, there were no statistically significant differences between Wave 4 participants and non-participants for several adolescent-reported Wave

1 and Wave 3 variables including Lifetime alcohol and marijuana use, lifetime other drug use (Wave 3 only), alcohol or drug use problems, family alcohol or drug use problems, peer drug use, or depression symptoms. In addition, the proportion of the young adult interviewees who had dropped out of high school (20.5%) was comparable to school board figures for the proportions of males (21.1%) and females (15.2%) who dropped out of the Miami-Dade County school system in the same cohort.

Measures

Lifetime Experience of Abuse

Seven items were selected from a list of 20 lifetime traumas (e.g., natural disasters, assaults with weapons, family deaths, accidents, other forms of interpersonal violence) to assess participants' cumulative lifetime experience of abuse. These items are based on a list developed by Turner and Lloyd (1995) to examine the impact of cumulative lifetime adversity represented by potentially traumatic events and associated risk for psychiatric disorders. The seven items assessed *sexual abuse* (a) intercourse due to force or threats of harm, (b) unwanted touching due to force or threats; *physical abuse* (c) by parents, stepparents, grandparents, or guardians, (d) by a spouse, boyfriend/girlfriend, or (e) by someone else; *emotional abuse* (f) by a caregiver; or *witnessing the physical or emotional abuse* (g) of the respondent's mother or another close female relative. Participants indicated *yes* or *no* whether they had experienced each form of abuse.

DSM-IV Psychiatric Diagnoses

Lifetime and past year *DSM-IV* psychiatric diagnoses were constructed for participants via the Composite International Diagnostic Interview (CIDI), a comprehensive, fully structured diagnostic interview developed by the World Health Organization (1990) and based in part on the *Diagnostic Interview Schedule* (DIS; Robins, Helzer, Croughan, & Ratcliff, 1981). CIDI was designed to be administered by lay interviewers as a means to assess disorders defined by the American Psychiatric Association's *Diagnostic and Statistical Manual (DSM-IV)*. This instrument is a product of more than 10 years of international collaboration aimed

at standardized procedures for assessing disorders in community studies throughout the world (Kessler et al., 1998). This study used the brief Michigan version of CIDI developed by Kessler and colleagues that has been used widely in epidemiological research, including the National Comorbidity Survey (NCS; Kessler et al., 1994), and in international trials, as well as with multiple ethnic groups in this country (e.g., Vega et al., 1998). There is evidence of excellent interrater reliability (Wittchen et al., 1991) and good test-retest reliability (Wacker, Battagay, & Schlosser, 1990), as well as evidence of validity based on concordance with clinical judgments (Janca, Robins, Cottler, & Early, 1992; Spengler & Wittchen, 1989) and structured clinical reinterviews (Spitzer, Williams, Gibbon, & First, 1990).

In this study, CIDI-generated diagnoses were employed in analyses to describe associations with (a) lifetime abuse experiences and (b) sexual risk behaviors. Diagnostic categories used in analyses included affective disorders (i.e., major depression and dysthymia), anxiety disorders (generalized anxiety disorder, social phobia, and panic disorder), and alcohol and substance use disorders (alcohol abuse and dependence, drug abuse and dependence). In addition, modules adapted from DIS for NCS were included to assess (a) PTSD and (b) antisocial personality disorder. Another DIS module was included to assess the presence of childhood conduct disorder. Extensive preliminary screens and follow-up probes were incorporated into the use of CIDI in this study to ensure the valid assessment of key psychiatric diagnoses (for additional details, see Turner & Gil, 2002).

Sexual Risk Behaviors

Taken from a broader assessment of participants' sexual history and past year sexual risk behaviors, seven items were used as indices of sexual risk for exposure to HIV and other STDs. These specific items were chosen because they are widely used to assess key elements of sexual risk for exposure for HIV/STDs (e.g., Pinkerton et al., 1998). Participants were asked to report their total number of lifetime sex partners, that is, "how many different people, including men and women, have you had sex (vaginal, anal, or oral) even if only one time." In addition, participants reported their total number of past year sex partners. Participants were asked to report the number of times during the last 12 months they had (a) vaginal sex, (b) anal sex, or (c) oral sex, as well as

the number of these sexual acts that included the use of condoms by the study participant or a partner. Proportions of protected acts of intercourse were calculated by dividing protected acts of (a) penile–vaginal intercourse and (b) penile–anal intercourse by the total numbers of acts for each of these two types of intercourse. Because study participants rarely used condoms or other barrier methods for oral sex, this sexual activity was not included in an overall proportion of protected intercourse, formed when the proportions for protected penile-vaginal and penile-anal intercourse were averaged, thereby reducing these items to a single score. Finally, participants were asked to report, in the past 12 months, how often they or a partner (a) drank alcohol before or during sex or (b) used any drugs to get high or intoxicated before or during sex. These last two items had the responses: *always* (5), *usually* (4), *sometimes* (3), *rarely* (2), or *never* (1). These items were included because (a) they tap recognized risk factors for HIV/STD exposure (e.g., Kalichman, 1998) and (b) while correlated with substance abuse and dependence, there is no simple direct relationship between the sets of risk behaviors (Leigh, 1999).

Sexually Transmitted Diseases

Participants were presented with a list of STDs commonly found among young adults (e.g., CDC, 2000). The list included general and gender-specific categories of STDs: gonorrhea, syphilis, genital herpes, chlamydia, genital warts, hepatitis, HIV/AIDS, vaginitis (e.g., candidiasis, trichomoniasis), pelvis inflammatory disease, and nongonococcal urethritis (NGU). For each category of STD, participants were asked if they had been told by a doctor or other health professional that they had the disease or infection during (a) their lifetime or

(b) the past 12 months. Participants responded *yes* or *no*.

Procedures

At Wave 4, young adults were interviewed by bachelor-level or graduate student interviewers who received a week of training on how to conduct computerized assessments of psychiatric disorders, substance use, and other aspects of individual and social functioning in young adulthood. Following training, new interviewers observed experienced interviewers conducting two interviews and then they were observed conducting their initial interviews (Turner & Gil, 2002). The reliable implementation of structured interviews was facilitated via the use of laptop computers that were programmed to skip to the next appropriate question based on the participants' last responses. As standard practice, participants were interviewed face-to-face at their home or at the study's university research office but approximately 30% of participants were interviewed by telephone. Telephone interviews were accompanied by response booklets mailed to the young adult participants (e.g., for students away at college, those who had moved). Analyses comparing face-to-face and telephone administration methods identified no differences in participants' responses, even after controlling for race/ethnicity or SES variables (Turner & Gil, 2002; Wagner, Lloyd, & Gil, 2002).

RESULTS

Table I presents lifetime prevalence rates for seven forms of sexual, physical, emotional, or witnessed abuse by gender for a community sample of young adults ($N = 1,803$). For six of the

Table I. Prevalence of Lifetime Abuse Experiences Among Young Adults by Gender

Lifetime abuse variable	Males ($n = 950$)		Females ($n = 849$)		df	χ^2
	N	%	N	%		
Forced sexual intercourse	24	2.5	103	12.2	1	66.90*
Forced sexual touching	42	4.4	147	17.3	1	82.70*
Physical abuse by parent	17	1.8	52	6.1	1	23.64*
Emotional abuse by caregiver	49	5.2	119	14.0	1	42.47*
Physical abuse by partner	46	4.8	124	14.6	1	51.20*
Physical abuse by other	69	7.3	76	9.0	1	1.72
Saw abuse of close female	164	17.3	219	25.8	1	19.47*

* $p < .001$.

seven forms of abuse, women reported significantly higher ($p < .001$) prevalence rates than men, i.e., for all forms except physical abuse by another person. This is generally consistent with findings from the NVAW Survey (Tjaden & Thoennes, 1998). Women reported higher rates of forced sexual intercourse (4.9 times higher); forced sexual touching (3.9 times), physical abuse by parents, grandparents, or guardians (3.4 times); emotional abuse by a caregiver (2.7 times); partner physical abuse (3.0 times); or witnessed abuse of a mother or other close female relative (1.5 times). A greater proportion of the young women than the young men in this community sample reported lifetime experience of one or more forms of serious abuse, 47.6% versus 28.8%; $\chi^2(1, N = 1, 803) = 68.00, p < .001$. Similarly, when young women and men were classified as reporting zero, one, two, or three or more types of serious lifetime abuse experiences, there were significant gender differences in the distribution of young adults across this four-group typology, $\chi^2(3, N = 1, 803) = 112.84, p < .001$, with women more likely to report two (11.4% vs. 5.6%) or three (14.7% vs. 3.5%) types of abuse experiences.

Several demographic variables were significantly associated with this four-group lifetime abuse experience typology. For example, race/ethnicity was associated with lifetime abuse experiences for women $\chi^2(9, N = 849) = 21.30, p < .05$, but not for men. Whereas White women were significantly more likely than other women to report three or more abuse experiences, Hispanic women and African American women were significantly more likely to report zero or one abuse experience, respectively. In addition, highest grade completed was significantly associated with lifetime abuse experiences for women $\chi^2(9, N = 851) = 44.90, p < .001$, and men $\chi^2(9, N = 952) = 33.90, p < .001$. In general, young adults who completed high school or who had some college education were significantly more likely to report zero or one abuse experience, whereas those with less than a high school education were significantly more likely to report two or more types of lifetime abuse experiences. In contrast, marital status and place of birth (United States vs. foreign country) were not significantly associated with the lifetime abuse experience typology. While age was not associated with lifetime abuse experiences for women, there were significant differences in the mean age of males with different lifetime abuse experiences $F(3, 948) = 3.88, p < .01$, although no clear pattern of group differences was apparent.

Lifetime Abuse Experiences and Psychiatric Diagnoses

Table II summarizes the lifetime prevalence of selected categories of *DSM-IV* psychiatric disorders generated by CIDI separately for young women and young men grouped by their cumulative lifetime abuse experiences. This set of chi-square analyses summarizes significant differences in prevalence rates for psychiatric disorders across levels of cumulative lifetime abuse experiences for affective disorders, anxiety disorders, conduct disorder, antisocial personality disorder, marijuana dependence, and other drug abuse/dependence. Because of the number of group contrasts presented in Table II, the p value was set at a conservative level of .001. For each diagnostic category with significant group differences, lifetime prevalence rates were consistently higher for groups of women and men reporting more types of lifetime abuse experiences.

Table III summarizes the distribution of cumulative lifetime psychiatric disorders separately for women and men by their reports of cumulative lifetime abuse experiences. As might be expected, given higher prevalence rates in Table II for individual disorders among young adults with more extensive lifetime histories of abuse, the experience of multiple forms of lifetime abuse is associated with higher cumulative numbers of lifetime psychiatric disorders among both women $\chi^2(9, N = 851) = 185.70, p < .001$, and men $\chi^2(9, N = 952) = 98.78, p < .001$. In general, these data document that young adults reporting no history of abuse experiences were the most likely to be assigned zero psychiatric diagnoses whereas no men and few women reporting three or more forms of lifetime abuse experiences received zero psychiatric diagnoses. In contrast, both men and women with three or more lifetime abuse experiences were significantly more likely than those without a history of abuse to be assigned three or more psychiatric disorders. Mean numbers of cumulative psychiatric diagnoses were significantly higher for both women, $F(3, 847) = 67.49, p < .001$, and men, $F(3, 948) = 42.42, p < .001$, with three types of abuse experiences than those reporting fewer types of abuse experiences. These findings provide compelling evidence that multiple abuse experiences prior to, or during, the transition to adulthood are associated with increased likelihood of significant mental health problems during this transition for both young women and young men, although men with multiple abuse experiences

Table II. Lifetime Prevalence of Selected Psychiatric Disorders for Young Adults by Cumulative Lifetime Abuse Experiences

Females	Number of lifetime abuse experiences (%)				df	χ^2
	0 (n = 446)	1 (n = 183)	2 (n = 97)	3 or more (n = 125)		
Psychiatric disorder						
Any affective disorder	59 (13.2)	51 (27.9)	36 (37.1)	52 (41.6)	3	60.52*
Any anxiety disorder	43 (9.6)	45 (24.6)	24 (24.7)	66 (52.8)	3	104.41*
Conduct disorder	38 (8.6)	36 (19.8)	24 (24.7)	57 (46.0)	3	85.82*
Antisocial personality disorder	15 (3.4)	14 (7.7)	11 (11.3)	32 (25.8)	3	52.52*
Alcohol abuse	34 (7.6)	21 (11.5)	14 (14.4)	23 (18.5)	3	12.92
Alcohol dependence	31 (7.0)	14 (7.7)	13 (13.4)	19 (15.2)	3	9.87
Marijuana abuse	37 (8.3)	12 (6.6)	10 (10.4)	16 (12.8)	3	3.89
Marijuana dependence	23 (5.2)	19 (10.4)	9 (9.3)	25 (20.0)	3	23.95*
Other drug abuse/dependence	25 (5.6)	13 (7.1)	13 (13.4)	23 (18.4)	3	20.60*
Males	0 (n = 678)	1 (n = 188)	2 (n = 53)	3 or more (n = 33)		
Psychiatric disorder						
Any affective disorder	61 (9.0)	24 (12.8)	16 (30.2)	16 (48.5)	3	45.16*
Any anxiety disorder	43 (6.3)	25 (13.3)	10 (18.9)	14 (42.4)	3	40.66*
Conduct disorder	170 (25.2)	68 (36.2)	29 (55.8)	24 (72.7)	3	51.16*
Antisocial personality disorder	101 (15.0)	50 (26.6)	23 (44.2)	23 (69.7)	3	69.48*
Alcohol abuse	137 (20.3)	42 (22.5)	19 (35.8)	9 (27.3)	3	6.98
Alcohol dependence	56 (8.3)	23 (12.2)	7 (13.2)	6 (18.2)	3	5.79
Marijuana abuse	105 (15.6)	27 (14.4)	14 (26.4)	3 (9.1)	3	5.48
Marijuana dependence	82 (12.1)	33 (17.6)	14 (26.4)	11 (33.3)	3	17.02*
Other drug abuse/dependence	71 (10.5)	21 (11.2)	12 (22.6)	13 (39.4)	3	22.26*

* $p < .001$.

were more likely to be assigned multiple lifetime diagnoses.

Lifetime Abuse Experiences, Lifetime Psychiatric Diagnoses, and Sexual Risk Behaviors

Given that late adolescence and young adulthood are the segments of the lifespan when individuals are at highest risk for STD/HIV exposure,

additional analyses were directed toward evaluating the unique and combined influences of young adults' (a) cumulative lifetime abuse experiences and (b) cumulative lifetime psychiatric disorders upon their sexual risk behaviors and STD outcomes. Two-factor MANOVAs were conducted separately for women and men to describe the unique and combined influences of cumulative lifetime abuse experiences and cumulative lifetime psychiatric disorders on young

Table III. Distribution of Cumulative Lifetime Psychiatric Disorders for Young Adults by Cumulative Abuse Experiences

Females	Number of lifetime abuse experiences (%)				df	χ^2
	0 (n = 446)	1 (n = 183)	2 (n = 97)	3 or more (n = 125)		
Number of lifetime disorders					9	185.70*
Zero	271 (60.8)	63 (34.4)	24 (24.7)	11 (8.8)		
One	105 (23.5)	62 (33.9)	36 (37.1)	30 (24.0)		
Two	27 (6.1)	29 (15.8)	13 (13.4)	29 (23.2)		
Three or More	43 (9.6)	29 (15.8)	24 (24.7)	55 (44.0)		
M (SD)	0.70 _a (1.14)	1.26 _b (1.36)	1.63 _b (1.61)	2.62 _c (1.85)	3, 847	F = 67.49*
Males	0 (n = 678)	1 (n = 188)	2 (n = 53)	3 or more (n = 33)		
Number of lifetime disorders					9	98.78*
Zero	307 (45.3)	63 (33.5)	8 (15.1)	0 (0.0)		
One	154 (22.7)	44 (23.4)	7 (13.2)	5 (15.2)		
Two	78 (8.2)	22 (11.7)	10 (18.9)	1 (3.0)		
Three or More	139 (20.5)	59 (31.4)	28 (52.8)	27 (81.8)		
M (SD)	1.33 _a (1.58)	1.84 _a (1.79)	2.98 _b (1.88)	4.00 _c (1.94)	3, 948	F = 42.42*

Note. Means with different subscripts are significantly different, by Scheffé tests with significance levels of .05.

* $p < .001$.

adults' sexual risk behaviors. For women, the Pillai–Bartlett multivariate test statistic indicated significant group differences among the five sexual risk behavior variables by cumulative lifetime abuse experiences ($V = 0.050$, $F = 2.200$, $15/1956$ *df*, $p < .01$). In addition, the Pillai–Bartlett multivariate test statistic indicated significant group differences among the five sexual risk behavior variables by cumulative lifetime psychiatric disorders ($V = 0.141$, $F = 6.434$, $15/1956$ *df*, $p < .001$). There was not, however, a significant effect for the interaction between lifetime psychiatric disorders and lifetime abuse experiences upon the five sexual risk behavior variables ($V = 0.091$, $F = 1.341$, $45/3270$ *df*, *ns*). For men, the Pillai–Bartlett multivariate test statistic indicated no significant group differences among the five sexual risk behavior variables by cumulative lifetime abuse experiences ($V = 0.019$, $F = 0.925$, $15/2208$ *df*, *ns*). In contrast, the Pillai–Bartlett multivariate test statistic indicated significant group differences among the five sexual risk behavior variables by cumulative lifetime psychiatric disorders ($V = 0.079$, $F = 3.978$, $15/2208$ *df*, $p < .001$). There was not, however, a significant effect for the interaction between lifetime psychiatric disorders and lifetime abuse experiences upon the five sexual risk behavior variables ($V = 0.061$, $F = 1.139$, $40/3690$ *df*, *ns*).

Table IV presents group means and univariate *F* tests for individual sexual risk behaviors by (a) young women's reports of cumulative lifetime

abuse experiences and (b) young women's reports of cumulative lifetime psychiatric diagnoses. Women who reported experiencing three or more types of abuse also reported higher numbers of lifetime sex partners ($F = 3.46$, $3/654$ *df*, $p < .05$) and a greater likelihood of alcohol use before or during sex ($F = 3.50$, $3/654$ *df*, $p < .05$). As evidence of differential risk for STD exposure, women with multiple types of abuse experiences reported more than twice as many lifetime sex partners compared to women who reported no history of abuse (8.34 vs. 3.88 partners). In addition, women who received more CIDI-generated lifetime psychiatric diagnoses reported higher numbers of lifetime ($F = 8.55$, $3/654$ *df*, $p < .001$) and past year ($F = 7.65$, $3/654$ *df*, $p < .001$) sex partners, as well as a greater likelihood of alcohol use ($F = 11.23$, $3/654$ *df*, $p < .001$) or drug use ($F = 23.38$, $3/654$ *df*, $p < .001$) before or during sex. Therefore, women who were assigned three or more psychiatric disorders had consistently higher levels of several sexual risk behaviors, constituting a broad pattern of behavior thought to increase risk for exposure to STDs, including HIV. The group differences identified in the two-factor MANOVA and summarized in Table IV confirm that both cumulative lifetime abuse experiences and cumulative lifetime psychiatric diagnoses have significant unique influences on young adult women's sexual risk behaviors. In contrast, the combined influence of these risk factors was not associated with incrementally higher rates of sexual

Table IV. Self-Reported Sexual Risk Behaviors for Females by Cumulative Abuse Experiences and Cumulative Lifetime Psychiatric Disorders

Health risk variable	0		1		2		3 or more		<i>df</i>	<i>F</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Number of lifetime abuse experiences										
Number of lifetime sex partners	3.88 _a	4.84	4.46 _a	4.43	5.01 _a	4.50	8.34 _b	10.50	3/654	3.46*
Number of past year sex partners	1.55	1.28	1.64	1.39	1.66	1.26	1.88	1.72	3/654	0.45
Proportion of protected intercourse	0.45	0.44	0.42	0.42	0.45	0.42	0.38	0.41	3/654	2.30
Alcohol use before/during sex	1.78	0.91	1.62	0.82	1.86	0.89	1.89	0.89	3/654	3.50*
Drug use before/during sex	1.31	0.73	1.33	0.73	1.51	0.84	1.55	1.06	3/654	0.37
Number of lifetime psychiatric disorders										
Number of lifetime sex partners	3.36 _a	3.41	4.52 _a	5.02	5.28 _a	4.39	8.26 _b	10.45	3/654	8.55**
Number of past year sex partners	1.44 _a	1.18	1.54 _a	1.22	1.55 _a	0.97	2.24 _b	1.96	3/654	7.65**
Proportion of protected intercourse	0.42	0.42	0.41	0.44	0.48	0.44	0.47	0.42	3/654	2.03
Alcohol use before/during sex	1.55 _a	0.75	1.80 _a	0.90	1.75 _a	0.91	2.17 _b	0.96	3/654	11.23**
Drug use before/during sex	1.17 _a	0.54	1.26 _a	0.63	1.41 _a	0.89	1.94 _b	1.11	3/654	23.38**

Note. The Pillai–Bartlett multivariate test statistic indicated significant group differences among the five sexual risk behavior variables by groupings for lifetime abuse experiences ($V = 0.050$, $F = 2.200$, $15/1956$ *df*, $p < .01$). The Pillai–Bartlett multivariate test statistic also indicated significant group differences among the five sexual risk behavior variables by groupings for lifetime psychiatric disorders ($V = 0.141$, $F = 6.434$, $15/1956$ *df*, $p < .001$). Means with different subscripts are significantly different, by Scheffé? tests with significance levels of .05.

* $p < .05$. ** $p < .001$.

Table V. Self-Reported Sexual Risk Behaviors for Males by Cumulative Abuse Experiences and Cumulative Lifetime Psychiatric Disorders

Health risk variable	0		1		2		3 or more		<i>df</i>	<i>F</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Number of lifetime abuse experiences										
Number of lifetime sex partners	8.22 _a	13.10	9.09 _a	12.40	12.05 _a	11.42	12.11 _b	9.56	3/738	0.96
Number of past year sex partners	2.44	2.17	2.53	2.28	3.05	2.47	3.18	2.79	3/738	0.39
Proportion of protected intercourse	0.64	0.40	0.64	0.39	0.61	0.41	0.53	0.44	3/738	1.01
Alcohol use before/during sex	1.78	0.92	1.81	0.98	2.05	0.94	2.04	0.88	3/738	0.68
Drug use before/during sex	1.45	0.84	1.41	0.79	1.54	0.76	1.75	1.14	3/738	1.44
Number of lifetime psychiatric disorders										
Number of lifetime sex partners	6.42 _a	9.34	7.77 _a	12.33	9.68 _{ab}	13.73	12.11 _b	15.58	3/738	1.95
Number of past year sex partners	2.17 _a	2.06	2.35 _{ab}	2.02	2.66 _{ab}	2.32	3.04 _b	2.48	3/738	0.91
Proportion of protected intercourse	0.73 _a	0.38	0.63 _{ab}	0.39	0.50 _c	0.41	0.58 _{bc}	0.40	3/738	2.74*
Alcohol use before/during sex	1.45 _a	0.76	1.76 _b	0.89	1.89 _b	0.90	2.28 _c	0.98	3/738	7.91**
Drug use before/during sex	1.10 _a	0.41	1.35 _a	0.75	1.62 _a	0.90	1.98 _b	1.03	3/738	10.86**

Note. The Pillai–Bartlett multivariate test statistic indicated no significant group differences among the five sexual risk behavior variables by groupings for lifetime abuse experiences ($V = 0.019$, $F = 0.925$, $15/2208$ *df*, *ns*). The Pillai–Bartlett multivariate test statistic also indicated significant group differences among the five sexual risk behavior variables by groupings for lifetime psychiatric disorders ($V = 0.079$, $F = 3.978$, $15/2208$ *df*, $p < .001$). Means with different subscripts are significantly different, by Scheffé tests with significance levels of .05.

* $p < .05$. ** $p < .001$.

risk behaviors in this community sample of young women.

Table V presents a parallel set of analyses summarizing group differences in young men’s sexual risk behaviors by their reports of cumulative lifetime abuse experiences and cumulative lifetime psychiatric diagnoses. As shown in Table V, there were no significant group differences in men’s sexual risk behavior by the number of types of lifetime abuse experiences they reported. In contrast, men who received more CIDI-generated lifetime psychiatric diagnoses reported lower proportions of protected intercourse ($F = 2.74$, $3/738$ *df*, $p < .05$), as well as a greater likelihood of alcohol use ($F = 7.91$, $3/738$ *df*, $p < .001$) or drug use ($F = 10.86$, $3/738$ *df*, $p < .001$) before or during sex. Therefore, men who were assigned three or more psychiatric disorders reported consistently higher levels of several past year sexual risk behaviors, placing them at increased risk for STD exposure. In contrast, neither (a) the unique influence of lifetime abuse experiences nor (b) the combined influence of lifetime abuse experiences and lifetime psychiatric diagnoses were associated with incrementally higher rates of sexual risk behaviors among young men in this community sample.

Lifetime Abuse Experiences, Lifetime Psychiatric Diagnoses, and Exposure to STDs

Two additional two-factor MANOVAs were conducted to describe the unique and combined in-

fluences of cumulative lifetime abuse experiences and cumulative lifetime psychiatric disorders on young adults’ lifetime and past year STD outcomes. Among young women, the Pillai–Bartlett multivariate test statistic indicated significant group differences in levels of the two STD outcome variables by cumulative lifetime abuse experiences ($V = 0.023$, $F = 2.805$, $6/1432$ *df*, $p < .01$). In contrast, the Pillai–Bartlett multivariate test statistic did not indicate significant group differences in levels of the two STD outcome variables by cumulative lifetime psychiatric disorders ($V = 0.014$, $F = 1.625$, $6/1432$ *df*, *ns*). In addition, there was not a significant effect for the interaction between lifetime psychiatric disorders and lifetime abuse experiences upon the two STD outcome variables ($V = 0.028$, $F = 1.138$, $18/1432$ *df*, *ns*). As noted in univariate analyses summarized in Table VI, women who reported greater cumulative lifetime abuse experiences also reported higher levels of lifetime STDs ($F = 5.63$, $3/728$ *df*, $p < .001$) but no significant differences in levels of past year STDs ($F = 1.40$, $3/728$ *df*, *ns*). Therefore, cumulative lifetime abuse experiences, but not lifetime psychiatric disorders, appear to have a significant independent influence on levels of women’s self-reported lifetime STDs.

In parallel analyses for young men, the Pillai–Bartlett multivariate test statistic indicated significant group differences in levels of the two STD outcome variables by cumulative lifetime abuse experiences ($V = 0.052$, $F = 7.173$, $6/1602$ *df*, $p < .001$). Similarly, the Pillai–Bartlett multivariate test statistic

Table VI. Self-Reported STD Outcomes for Young Adults by Cumulative Abuse Experiences and Cumulative Lifetime Psychiatric Disorders

Health risk variable	0		1		2		3 or more		<i>df</i>	<i>F</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Number of lifetime abuse experiences										
Females										
Lifetime number of STDs	0.30 _a	0.59	0.47 _{ab}	0.72	0.54 _b	0.70	0.77 _c	0.86	3/728	5.63**
Past year number of STDs	0.01	0.30	0.16	0.40	0.20	0.48	0.25	0.51	3/728	1.40
Males										
Lifetime number of STDs	0.03 _a	0.16	0.04 _a	0.20	0.09 _{ab}	0.35	0.17 _b	0.38	3/801	13.80**
Past year number of STDs	0.01 _a	0.08	0.00 _a	0.00	0.00 _a	0.00	0.07 _b	0.25	3/801	2.30
Number of lifetime psychiatric disorders										
Females										
Lifetime number of STDs	0.33 _a	0.64	0.47 _{ab}	0.67	0.53 _{ab}	0.72	0.59 _b	0.81	3/716	.53
Past year number of STDs	0.10 _a	0.32	0.16	0.41 _{ab}	0.12 _a	0.32	0.24 _b	0.51	3/716	2.46
Males										
Lifetime number of STDs	0.03	0.17	0.02	0.15	0.03	0.17	0.06	0.26	3/801	3.28*
Past year number of STDs	0.00	0.00	0.01	0.10	0.10	0.10	0.01	0.11	3/801	2.15

Note. The Pillai–Bartlett multivariate test statistic indicated significant group differences among the two STD outcome variables for females by groupings for lifetime abuse experiences ($V = 0.023$, $F = 2.805$, $6/1432$ *df*, $p < .01$) but not for groupings for lifetime psychiatric disorders ($V = 0.014$, $F = 1.625$, $6/1432$ *df*, *ns*). The Pillai–Bartlett multivariate test statistic indicated significant group differences among the two STD outcome variables for males by groupings for lifetime abuse experiences ($V = 0.052$, $F = 7.173$, $6/1602$ *df*, $p < .001$) and for groupings for lifetime psychiatric disorders ($V = 0.026$, $F = 3.459$, $6/1602$ *df*, $p < .01$). Means with different subscripts are significantly different, by Scheffe? tests with significance levels of .05.

* $p < .05$. ** $p < .001$.

indicated significant group differences in levels of the two STD outcome variables by cumulative lifetime psychiatric disorders ($V = 0.026$, $F = 3.459$, $6/1602$ *df*, $p < .01$). In addition, there was a significant effect for the interaction between lifetime abuse experiences and lifetime psychiatric disorders upon the two STD outcome variables ($V = 0.071$, $F = 3.678$, $16/1602$ *df*, $p < .001$). Univariate analyses reveal that young men who reported greater cumulative lifetime abuse experiences also reported higher levels of lifetime STDs ($F = 13.80$, $3/801$ *df*, $p < .001$) but no significant differences in levels of past year STDs ($F = 2.30$, $3/801$ *df*, *ns*). Similarly, men who reported greater cumulative lifetime psychiatric diagnoses also reported higher levels of lifetime STDs ($F = 3.28$, $3/801$ *df*, $p < .05$) but no significant differences in levels of past year STDs ($F = 2.15$, $3/801$ *df*, *ns*). In addition, there was a statistically significant interaction between cumulative lifetime abuse experiences and cumulative lifetime psychiatric diagnoses for both lifetime ($F = 5.16$, $3/801$ *df*, $p < .001$) and past year STDs ($F = 2.06$, $3/801$ *df*, $p < .05$). In the case of lifetime STDs, this interaction was an additive ordinal interaction, that is, mean number of lifetime STDs were highest among young men with higher numbers of types of abuse experiences and lifetime psychiatric disorders. Therefore, both cumu-

lative lifetime abuse experiences and cumulative lifetime psychiatric diagnoses appear to be significant independent influences on levels of self-reported lifetime STDs, and the interaction between these two factors appears to be systematically related to higher levels of self-reported STDs for both past year and lifetime periods.

DISCUSSION

The findings of this study parallel existing research by documenting significant relations among lifetime abuse history, lifetime psychiatric disorders, and sexual risk behaviors. While this study describes stronger associations between lifetime abuse experiences and psychiatric disorders than those documented by Menard (2002) in the National Youth Survey, our results are similar to other representative or at-risk community samples in documenting significant relations between lifetime abuse experiences and psychopathology (Elze et al., 1999; Fergusson et al., 1996). The current study also documents significant associations between lifetime history of abuse experiences and young adults' sexual risk behaviors, for both men and women. Our findings build upon existing data from less representative

community samples and demonstrate that higher levels of abuse experiences are associated with sexual risk behaviors that increase risk for exposure to HIV and other STDs (Becker et al., 1998; Bensley et al., 2000; Parillo et al., 2001). Furthermore, data from the current study suggest that in this representative community sample of both young men and women, more severe patterns of sexual risk behavior are expressed in the context of significant lifetime psychopathology, similar to existing studies of high-risk community samples of young men (e.g., Capaldi, Stoolmiller, Clark & Owen, 2002; Loeber, Farrington, Stouthamer-Loeber, & Van Kammen, 1998). Whereas other community-based studies documenting relations between psychopathology and sexual risk behavior have not included *DSM-IV* psychiatric diagnoses, data regarding abuse history, or a broad array of continuous measures of sexual risk behavior (Ramrakha et al., 2000; Tubman et al., 1996), these were included in the current study. Therefore, this study addresses several key limitations in existing research on risk factors for HIV/STD exposure among young adults via improved sampling, improved assessment of psychiatric disorders, and inclusion of measures of abuse history.

While the results of this study document significant relations among lifetime abuse experiences, lifetime psychiatric disorders, and patterns of sexual risk behavior in this multiethnic community sample of young adults, these relations are not homogenous across the sample. For example, there are significant differences by gender in (a) the types of abuse experiences reported, (b) relations between lifetime abuse experiences and sexual risk behaviors, (c) relations between lifetime psychiatric disorders and sexual risk behaviors; (d) relations between lifetime psychiatric disorders (and their interaction with lifetime abuse experiences) and lifetime STDs. These findings provide some initial evidence of reliable gender differences in relations among these health risk behaviors, suggesting the potential value of further investigation of gender-specific models of the onset and maintenance of sexual risk behaviors. In addition, this study supports the value of tailoring HIV/STD-risk-reduction prevention efforts to risk factors that appear to be more salient to men (e.g., psychiatric comorbidity) and women (e.g., abuse experiences and psychiatric comorbidity) or to addressing gender-varying sexual risk behaviors associated with these risk factors.

The use of a large, diverse community sample in this study addresses some of the limitations of ex-

isting studies of community or clinical samples including compromised external validity of the findings and inflated estimates of cumulative lifetime psychopathology among young adults. Yet, there are several limitations that should be noted. First, key variables used in the analyses in this article are self-report data with all related limitations (e.g., inaccurate recall, reporting biases) although the instruments used to collect some of these data, such as CIDI, demonstrate excellent reliability and validity. Second, some key measures are brief, intended for research purposes (i.e., assessments of abuse and STDs), and thus lack important descriptive information such as characteristics of abuse experiences or perpetrators. In addition, no biomedical data were collected to validate participants' self-reported STDs. Third, data were collected from a single source, potentially inflating relations between key variables. Fourth, although the sample is representative of the immediate region where these data were collected, the relations documented in this study may not generalize to samples recruited in other geographical regions or to samples recruited from clinical settings. Finally, the data summarized in this report were drawn from a single occasion of a longitudinal, epidemiological study. Therefore, caution is warranted when drawing conclusions regarding relations among lifetime abuse experiences, lifetime psychiatric disorders, and the current patterning of sexual risk behaviors among young adults.

While this study does not explicitly test causal mechanisms linking abuse experiences and sexual risk behaviors as specified by a particular conceptual model, the results summarized above are congruent with models that delineate the short- and long-term impacts of traumatic experiences in childhood. Specifically, significant relations documented herein among abuse experiences, psychiatric disorders, and sexual risk behaviors generally support relations outlined in models such as the Self-Trauma Model or the Multifaceted Model of HIV Risk (Briere, 2002; Whitmire et al., 1999). As outlined in these models, the current study documents that more extensive histories of interpersonal abuse experiences are significantly associated with compromised psychological functioning and patterns of sexual risk behaviors that facilitate exposure to STDs, including HIV. Although specific mediators of relations between early abuse experiences and sexual risk behaviors in young adulthood were not modeled in this study, further investigation of these mechanisms with large representative samples of adolescents and young adults are

essential to the further development of effective prevention or treatment programs (Messman-Moore & Long, 2003).

Implications for Selective Prevention Programs

This study underscores the role of lifetime experiences of interpersonal violence in intimate or family relationships as a general risk factor for serious mental health problems and health risk behaviors among young adults. Consistent with existing research, young adults reporting more lifetime abuse experiences are at greatest risk for multiple psychiatric diagnoses, although potential reciprocal relations between abuse experiences and psychiatric disorders remain poorly understood (Arata, 2002; Brady & Dansky, 2002; Turner & Lloyd, 1995). Among young women, more extensive lifetime histories of abuse and psychiatric diagnoses are each independently associated with lifetime and past year sexual risk behaviors. In contrast, among young men in this sample, lifetime history of psychiatric diagnoses, but not abuse experiences, was associated with systematic differences in levels of past year sexual risk behaviors. Yet, the additive influences of lifetime abuse experiences and lifetime psychiatric disorders are associated with higher levels of lifetime STDs among young men but not among young women.

Although the findings of this study suggest the need for further investigation of potential gender differences in putative pathways between experiences of trauma or abuse and health risk behaviors in young adulthood, these data also support efforts to identify young adults at particularly high risk for STD exposure for enhanced HIV/STD-risk-reduction services (CDC, 2000). This is important because prevention programs that are efficacious for youth without lifetime histories of abuse or psychiatric disorders may not be intensive enough to address the specific needs of young adults who have experienced these adversities (Briere, 2002; Messman-Moore & Long, 2003). The findings of the current study provide a compelling rationale for the proactive screening of adolescents and young adults for prior histories of intimate interpersonal violence (e.g., during routine health care services), and referral to selective prevention programs. Such efforts are particularly important for safeguarding public health prior to (a) establishment of patterns of sexual risk behaviors and (b) onset of the peak period of childbearing.

Current literature suggests that enhanced effectiveness of selective HIV/STD prevention programs for young adults with prior histories of abuse experiences and mental health problems may require emphasizing specific correlates of past traumas. For example, history of abuse and psychiatric diagnoses among adolescents and adults are often associated with diminished coping competence for addressing challenging interpersonal situations, impaired problem-solving abilities, and vulnerability to peer pressure to engage in risk behaviors (Follingstad, Neckerman, & Vormbrock, 1988; Newman, 1993). In addition, avoidant or dissociative reactions to ongoing adversity or memories of past traumas, such as substance abuse, can further impair effective coping and sexual decision-making (Bensley et al., 2000; Freyd, 1999). Young adults, and in particular young women, with histories of abuse are vulnerable to engaging in sexual risk behavior with high-risk partners, thereby greatly increasing their risk for exposure to STDs, including HIV (Freeman & Dolan, 2001; Molitor, Ruiz, Klausner, & McFarland, 2000). These trends may be exacerbated among young men given the associations in this sample between lifetime abuse experiences and conduct disorder or antisocial personality disorder. In addition, women in this population often encounter significant psychosocial and cultural barriers to addressing sexual risk behaviors within new or established sexual relationships, for example, the negotiation of risk-reduction behaviors (Amaro, 1995; Tross, 2001). Therefore, tailoring the structure and content of selective HIV/STD prevention programs and strategies for delivery of sexual-risk-reduction messages are likely to be critical to enhancing their effectiveness for adolescents and young adults with significant histories of abuse or mental health problems.

ACKNOWLEDGMENTS

Data collection for this study was supported by NIDA Grant No. R01 DA10772. The preparation of this manuscript was supported in part by NIAAA Grants R01 AA12180, R01 AA13369, and R01 AA14322.

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