

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Sociology Department, Faculty Publications

Sociology, Department of

11-2004

Mental Disorder, Subsistence Strategies, and Victimization among Gay, Lesbian, and Bisexual Homeless and Runaway Adolescents

Les B. Whitbeck

University of Nebraska-Lincoln, lwhitbeck2@unl.edu

Xiaojin Chen

Tulane University, xchen1@tulane.edu

Dan R. Hoyt

University of Nebraska-Lincoln, dhoyt2@unl.edu

Kimberly A. Tyler

University of Nebraska-Lincoln, kim@ktresearch.net

Kurt D. Johnson

University of Nebraska-Lincoln

Follow this and additional works at: <https://digitalcommons.unl.edu/sociologyfacpub>



Part of the [Sociology Commons](#)

Whitbeck, Les B.; Chen, Xiaojin; Hoyt, Dan R.; Tyler, Kimberly A.; and Johnson, Kurt D., "Mental Disorder, Subsistence Strategies, and Victimization among Gay, Lesbian, and Bisexual Homeless and Runaway Adolescents" (2004). *Sociology Department, Faculty Publications*. 53.

<https://digitalcommons.unl.edu/sociologyfacpub/53>

This Article is brought to you for free and open access by the Sociology, Department of at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Sociology Department, Faculty Publications by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

Accepted April 12, 2004.

Mental Disorder, Subsistence Strategies, and Victimization among Gay, Lesbian, and Bisexual Homeless and Runaway Adolescents

Les B. Whitbeck

University of Nebraska–Lincoln

Xiaojin Chen

Tulane University

Dan R. Hoyt, Kimberly A. Tyler, Kurt D. Johnson

University of Nebraska–Lincoln

Correspondence – Les B. Whitbeck, University of Nebraska–Lincoln, Department of Sociology, 730 Oldfather Hall, Lincoln, NE 68588-0324.

Abstract: This study compares participation in deviant subsistence strategies, street victimization, and lifetime prevalence of five mental disorders (conduct disorder, major depressive disorder, post-traumatic stress disorder, alcohol abuse, and drug abuse) among heterosexual males and females ($n = 366$) and gay, lesbian, and bisexual ($n = 63$) homeless and runaway adolescents from the first wave of a longitudinal study of homeless youth in four Midwestern states. The results indicate that gay, lesbian, and bisexual adolescents were more likely to have been physically and sexually abused by caretakers, were more likely to engage in risky survival strategies when on their own (including survival sex), were more likely to be physically and sexually victimized when on the streets, and were more likely to meet criteria for mental disorder than were their heterosexual counterparts.

Variations in the experiences of gay, lesbian, and bisexual (GLB) adolescents have just begun to be explored, most often in the context of survival sex and HIV risk (e.g., Coleman, 1989; Kruks, 1991). Same-sex sexual orientation has been shown to have important behavioral and psychological consequences for development among housed adolescents (e.g., those living at home with adult caretakers; Boxer, Cohler, Herdt, & Irvin, 1993; Gonsiorek, 1988; Remafedi, 1987; Savin-Williams & Rodriguez, 1993), and there is growing evidence that this is also the case for homeless and runaway gay and lesbian adolescents (Cochran, Stewart, Ginzler, & Cauce, 2002). However, there have been no studies to date that investigate differences in prevalence and correlates of mental disorder between heterosexual and gay and lesbian homeless adolescents. In this study we compared lifetime prevalence of five mental disorders (conduct disorder, major depressive disorder, post-traumatic stress disorder, alcohol abuse, and drug abuse) among heterosexual, gay, and lesbian homeless and runaway adolescents. We used multivariate analyses to investigate the correlates of sexual orientation, family characteristics, street experiences, and mental disorder on street adaptation (i.e., nonsexual street subsistence strategies such as shoplifting and survival sex) and street victimization.

Theoretical Perspective

Our research was guided by theoretical assumptions that characteristics and behaviors that are brought to the street environment by runaways are amplified in this unprotected, unsupervised social context (Whitbeck & Hoyt,

1999; Whitbeck, Hoyt, & Ackley, 1997). These assumptions, in turn, were derived from a stress interpretation of homelessness. Goodman and colleagues use trauma theory to explain the psychological stress experienced by adults who become homeless (Goodman, Saxe, & Harvey, 1991). They suggest that experiencing homelessness is traumatic for adults in three ways. First, the process of becoming homeless may produce symptoms of psychological distress. Becoming homeless means the loss of familiar routines; loss of day-to-day contact with friends, relatives, and neighbors; and the loss of a safe and private space. Second, the condition of homelessness is incredibly stressful. A heightened sense of vulnerability, hypervigilance, anxiety, and fear may be adaptive to street life, but stress-producing nonetheless. Finally, if the individual is already experiencing psychological distress when he or she becomes homeless, the experience will almost certainly exacerbate existing symptoms. If these processes are expected to produce traumatic stress for adults, the effects should be much greater for young people, particularly adolescents who may be dealing with issues of sexual identity and the rejection that often accompanies the “coming out” process.

Runaway and Homeless GLB Adolescents

There are no nationally representative studies of homeless and runaway adolescents on which to base estimates of GLB adolescents. The estimates we have may be unreliable because of sampling inconsistencies (e.g., convenience samples, single shelter samples, single city samples, varying age ranges), potential underreporting, and

uncertainty regarding sexual orientation at this point in life and in the context of street life. GLB youth are more likely to be thrown out or to run away than their heterosexual counterparts (Remafedi, 1987), so their numbers may be expected to be higher among runaway and homeless adolescents than in the general population. Homosexual males in particular are overrepresented in studies that deal with youth prostitution (e.g., Coleman, 1989). Widely cited estimates reported by Kruks (1991) of 25% to 40% of street youth are based on street outreach agencies from Los Angeles and Seattle.

Numbers from systematic studies are somewhat lower and vary by region. In their Hollywood study, Unger, Kipke, Simon, Montgomery, and Johnson (1997) reported that 18% ($n = 60$) self-identified as gay or bisexual. Cochran et al. (2002) reported 22% of their Seattle area sample of 374 homeless and runaway adolescents identified themselves as bisexual, gay, lesbian, or transgender. Kennedy (1991) found that 21% of a sample of 100 street youth from the Larkin Street Youth Center in San Francisco self-reported same-sex sexual orientation. Whitbeck and Hoyt (1999) reported that only about 6% self-identified as bisexual, gay, or lesbian in a sample of 602 homeless and runaway youth from small and medium sized cities in four Midwestern states. This lower percentage could reflect geographical location. Gay and lesbian youth may have left for magnet cities or stayed closeted because it is more dangerous for adolescents to come out in smaller, more rural cities. It could also reflect sampling characteristics such as a younger sample, or perhaps the exclusion of particular gay and lesbian hangouts in the shelter and street intercept sampling protocol. Regardless of sample differences, there appears to be a general agreement across studies that about 20% of homeless and runaway adolescents are gay, lesbian, or bisexual in larger magnet cities (e.g., Los Angeles, San Francisco, Seattle) with perhaps a slightly lower proportion in smaller, non-magnet cities.

Victimization of GLB Adolescents

A vast amount of research documents mental health problems, problem behaviors, and victimization (e.g., being bullied, beaten up) among housed and runaway GLB adolescents. They are at risk for harassment and discrimination (Hetrick & Martin, 1987; Martin & Hetrick, 1988), victimization (Hershberger & D'Augelli, 1995; Pilkington & D'Augelli, 1995), mental health and behavioral problems (Elze, 2002; Gonsiorek, 1988; Remafedi, 1987; Remafedi, Farrow, & Deisher, 1991; Rothblum, 1990; Rotheram-Borus, Rosario, Rossem, Heid, & Gillis, 1995), suicide ideation and attempts (Yoder, Hoyt, & Whitbeck, 1998), substance abuse (Rosario, Hunter, & Gwadz, 1997; Travers & Schneider, 1996), suicide (D'Augelli & Hershberger, 1993; Fergusson, Horwood, & Beautrais, 1999; Morrison & L'Heureaux, 2001; Rotheram-Borus & Hunter, 1994), and family troubles including physical and sexual abuse (Boxer et al., 1993; D'Augelli, Hershberger, & Pilkington,

1998; Savin-Williams & Rodriguez, 1993). As a consequence of these risk factors, there appear to be a disproportionate number of GLB adolescents in runaway populations (Remafedi, 1987). Those who have been pushed out or have run away continue to be at risk once they are on their own. Moreover, risk of victimization increases enormously when adolescents spend time directly on the streets rather than being sheltered (Whitbeck & Hoyt, 1999).

Most of the research pertaining to homeless and runaway GLB youth or alluding to them as part of a sample focuses on their sexuality. This is particularly true for research focusing on gay males, survival sex, and HIV risk behaviors (Clements, Gleghorn, Garcia, Katz, & Marx, 1997; Coleman, 1989; Janus, Burgess, & McCormack, 1987; Kipke, Montgomery, Simon, & Unger, 1997; Kruks, 1991; Stricoff, Kennedy, Nattel, Weifuse, & Novak, 1991; Yates, MacKenzie, Pennbridge, & Swofford, 1991). Typically, these studies show an association between being a gay male, engaging in survival sex (e.g., trading sex for shelter, drugs, money, or food), and engaging in HIV risk behaviors. Probably because of small overall sample sizes and even smaller percentages of GLB youth within samples of homeless and runaway adolescents, there are very few studies that deal with nonsexual issues confronting gay and lesbian adolescents.

Cochran et al.'s (2002) recent report on a matched sample of 84 gay, lesbian, bisexual, and transgender (GLBT) homeless adolescents and 84 of their heterosexual counterparts found that the GLBT adolescents were more likely to report victimization, were more likely to engage in substance abuse, had more sexual partners, and had higher rates of psychopathology than did the heterosexual comparison group. Rates for victimization were higher for GLBT males than females. GLBT youths reported over 7 times more sexual perpetrators than did the heterosexual group. Based on the Youth Self Report (Achenbach, 1991) subscales of withdrawal, somatic complaints, social problems, delinquency, aggression, internalizing behaviors, and externalizing behavior, GLBT adolescents reported significantly higher depressive symptoms, higher rates of psychopathology, and more problem behaviors than the heterosexual group.

In summary, research on non-runaway GLB adolescents and on sexual issues pertaining to runaways points to factors that indicate the potential for more mental health problems and greater risk of victimization for these adolescents than their heterosexual counterparts. First, although it is difficult to document empirically, there appears to be a higher proportion of GLB homeless adolescents than would be predicted by their numbers in the general population. This suggests that GLB adolescents may be experiencing greater risk factors in their families of origin and related pre-runaway social contexts (e.g., school, peer groups). Second, the literature on HIV risk behaviors and survival sex among GLB homeless and runaway adolescents indicates that GLB youth

engage in riskier behaviors and survival strategies when on the streets. Risky sexual behaviors are strongly associated with greater victimization when adolescents are on the streets (Whitbeck & Hoyt, 1999; Whitbeck, Hoyt, & Bao, 2000).

Hypotheses

Hypothesis 1

Our research builds on and extends current research on GLB runaway and homeless adolescents by considering differences between GLB and heterosexual runaway and homeless youth on important stressors that affect mental health. Our first hypothesis was that GLB runaway adolescents are exposed to a greater number of serious stressors such as caretaker abuse and street victimization. We investigated comparative rates of caretaker neglect, physical and sexual abuse, participation in nonsexual and sexual survival strategies, and physical and sexual victimization when the adolescents are on the streets.

Hypothesis 2

Based on the research findings reviewed for non-runaway and runaway GLB adolescents, we hypothesized that because GLB youth have experienced higher levels of stressful situations in their young lives, they will be more likely to meet criteria for major depressive episodes, posttraumatic stress disorder, conduct disorder, alcohol abuse, and drug abuse, and they will be more likely to report suicidal ideation and suicide attempts than their heterosexual counterparts.

Multivariate Analyses

Building on bivariate analyses regarding comparative exposures to serious stressors and meeting criteria for mental disorder, we used multivariate analyses to investigate factors that contribute to high-risk street behaviors such as sexual and nonsexual survival strategies and physical and sexual victimization when on the streets to determine whether GLB youth are more likely to engage in high-risk behaviors and to be victimized when factors other than sexual orientation are controlled.

Nonsexual and Sexual Street Survival Strategies

Because there is evidence that risk factors contribute to sexual and nonsexual street survival strategies, to varying degrees (Hagan & McCarthy, 1997; Tyler, Whitbeck, Hoyt, & Cauce, 2004; Whitbeck, Hoyt, Yoder, Cauce, & Paradise, 2001), the survival strategies were modeled separately. We hypothesized that older adolescents, males, and heterosexual adolescents would be more likely to engage in nonsexual street survival strategies (e.g., illegal or risky behaviors such as shoplifting, dealing drugs, robbing people, "spare changing," and dumpster diving). Based on findings pertaining to sexual predation and sexual victimization of runaway females (Tyler, Hoyt, Whitbeck, & Cauce, 2001a, 2001b), we hypothesized that run-

away and homeless females would be more likely than males to engage in sexual survival strategies (e.g., trading sex for money, food, drugs, or shelter). Because of the likelihood that GLB youth had experienced other factors associated with sexual survival strategies (e.g., sexual abuse), we hypothesized that GLB adolescents would be more likely to engage in sexual survival strategies than heterosexual adolescents. Congruent with previous research, we hypothesized that adolescents who had experienced caretaker physical and sexual abuse would participate in more nonsexual and sexual survival strategies than those who had not come from abusive families (Whitbeck & Hoyt, 1999; Whitbeck et al., 2001). Because running away at an early age often results in potentially longer street exposure and is an indicator of earlier serious problem behaviors (Hagan & McCarthy, 1997; Whitbeck & Hoyt, 1999; Whitbeck et al., 2001), we hypothesized that youths who had run away for the first time at an earlier age and who had spent time directly on the streets would be more likely to engage in sexual and nonsexual street survival strategies. Finally, we hypothesized that meeting criteria for major depression, conduct disorder, post-traumatic stress disorder, alcohol abuse, or drug abuse would be positively associated with nonsexual and sexual street survival strategies.

Street Victimization

Because research has shown that risk factors for physical street victimization (e.g., being beaten up, robbed, or threatened or assaulted with a weapon) and sexual street victimization (e.g., sexual assault) vary (Tyler et al., 2001; Whitbeck et al., 2001), we considered them separately. Congruent with previous research (Hagan & McCarthy, 1997; Whitbeck et al., 2001), we hypothesized that physical victimization would be positively associated with age of adolescent and being male. In accord with previous research, we predicted that the young women would be at greater risk for sexual victimization (Tyler et al., 2001). Based on findings that indicate that a higher proportion of GLB youths compared to heterosexual youths engage in survival sex, we hypothesized that GLB youths would be more likely than heterosexual youths to be sexually victimized. We hypothesized that these sexual and nonsexual street survival strategies would place youths at risk for physical and sexual victimization on the streets (Whitbeck et al., 1997). Finally, we hypothesized that meeting criteria for major depression, conduct disorder, post-traumatic stress disorder, alcohol abuse, or drug abuse would be positively associated with physical and/or sexual victimization on the streets.

Method

Sample

Four hundred twenty-eight (187 males, 241 females) homeless and runaway adolescents were interviewed by nine full-time specially trained street interviewers directly

on the streets and in shelters in eight midwestern cities (St. Louis, Kansas City, Omaha, Lincoln, Des Moines, Cedar Rapids, Iowa City, and Wichita). To be eligible to participate in the study, a young person had to be between the ages of 16 and 19 years and homeless. We selected this age range so we could track the development of young people with histories of running away as they made their ways into the independence of early adulthood. Our definition of "homeless" was that the adolescent had to be residing in a shelter or on the street or living independently (e.g., with friends or in transitional living) because they had run away, been pushed out, or drifted out of their family of origin. Fifteen percent ($N = 63$) of the total sample self-identified as gay, lesbian, bisexual, or "unsure." Of these, 19 were males (30.2%) and 44 were females (69.8%). Sixty-one percent of the runaway males in the total sample and 39% of the females had spent at least one night directly on the streets. When asked where they had stayed "last night" (i.e., night prior to interview), 40% of the adolescents said they had spent it in a shelter; 11% in a relative's home; 16% in the home of a friend or "acquaintance"; 16% in a foster or group home (operated by the street agency); 6% in their own apartment (transitional living programs operated by street agency); and about 10% in an abandoned house, on the street, or in similar settings. The number of times the adolescents had run away ranged from 1 to 51 times with a mean of 8 ($SD = 11.2$).

The adolescents ranged in age from 16 to 19 years with an average age of 17.4 years ($SD = 1.05$). Fifty-nine percent were European American, 22% were non-Hispanic African American, 5% were Hispanic, and the remaining self-identified as American Indian, Asian or Pacific Islander, or biracial. Sixty-two percent of the adolescents reported that the population of their city of origin was 100,000 or greater, 10% said they were from a suburb of a large city, 8% were from a medium sized city of 50,000 to 100,000 people, 8% were from a small city of 10,000 to 50,000 people, and 12% were from small towns or rural communities of 10,000 or less.

The adolescents were informed that this was a longitudinal study and the tracking protocols were explained. Securing informed consent was a two-stage process: First, interviewers explained the study and obtained informed consent from the adolescents. They were assured that refusal to participate in the study, refusal of any question, or stopping the interview process would have no effect on current or future services provided by the outreach agencies in which the interviewers were placed. Second, we asked all adolescents if we could contact their parents. If permission was granted, we contacted the parents, obtained informed consent, and asked the parents to participate in a computer assisted telephone interview. If the adolescent was sheltered, we followed shelter policies of parental permission for placement and guidelines concerning *loco-parentis* for granting such permissions. These policies were always based on state laws. In the few cases where the adolescent was under 18 years old, not sheltered, and refused us permission to contact parents, we

treated the adolescents as emancipated minors in accord with National Institute of Health guidelines (Title 45, Part 46, Code of Federal Regulations, DHHS, 2001). We obtained a National Institute of Mental Health Certificate of Confidentiality to protect the respondents' statements regarding potentially illegal activities (e.g., drug use).

The street interviewers underwent two weeks of intensive training regarding computer assisted personal interviewing (CAPI) procedures and administering the four indices (major depressive episodes, post-traumatic stress disorder, alcohol use and abuse, and drug use and abuse) from the University of Michigan-Composite International Diagnostic Interview (UM-CIDI; Kessler, 1994a, 1994b; Wittchen & Kessler, 1994) and one index (conduct disorder) from the Diagnostic Interview Schedule for Children-Revised (DISC-R). They then returned to their assigned shelters and administered several "practice" interviews with staff and respondents 20 years or older. After completing their practice interviews the interviewers returned to the university for a second week of training. All interviews were conducted on laptop computers and downloaded electronically to a special secure university server.

The interviewers were instructed to approach shelter residents and locate eligible respondents in areas of the cities where street kids hang out. They were to continue recruiting until their caseload reached 60 adolescents, whom they would then track and reinterview at 3-month intervals. Interviews were performed in a range of locations from shelter interview rooms and outreach vans to apartments where adolescents may have been doubling up with friends or relatives, quiet corners of restaurants, and the outdoors. The first-wave baseline interview consisted of two parts: The first was a social history and symptom scale and the second was a structured diagnostic interview. The two baseline interviews were usually conducted on consecutive days. The longest interval between first baseline interview and the diagnostic interview was about two weeks. Based on interviewer reports, approximately 90% of the adolescents who were approached for an initial interview and who met study criteria agreed to participate in the study. Of 455 respondents who completed the first baseline interview, 94.3% (428) completed the second first-wave baseline interview. The respondents were paid \$25 for the first interview and \$25 for the second.

Measures

University of Michigan Composite International Diagnostic Interview (UM-CIDI). We used the UM-CIDI to assess major depressive episodes, post-traumatic stress disorder, alcohol abuse, and drug abuse. The UM-CIDI is based on Diagnostic and Statistical Manual-III-R (DSM-III-R) criteria and represents the University of Michigan revision of the CIDI (WHO, 1990) used in the National Comorbidity Study (NCS; for information regarding the University of Michigan revisions see Kessler, 1994a, 1994b; Wittchen & Kessler, 1994). The CIDI (WHO, 1990), from which the UM-CIDI is derived, is a well-established diagnostic in-

strument (see Wittchen, 1994, for review) that has shown excellent interrater reliability, test-retest reliability, and validity for the five diagnoses that were used in this study. The UM-CIDI is currently the state-of-the-art diagnostic interview schedule that has been used extensively with trained interviewers who are not clinicians.

Behavioral problems. To assess behavioral problems, the conduct disorder module was used from the Diagnostic Interview Schedule for Children-Revised (DISC-R). The DISC-R is a highly regarded, structured interview intended for use with trained interviewers who are not clinicians. It has been shown to have good to excellent interrater and test-retest reliability (Jenson et al., 1993; Schaffer et al., 1993) and is considered the best available structured interview for use in assessing behavioral disorders of childhood and adolescence (Schwab-Stone et al., 1993; Shaffer et al., 1993; Weinstein, Noam, Grimes, Stone, & Schwab-Stone, 1990).

Suicide ideation and attempts. We measured suicide ideation with a single item that asked the adolescents how often they had thought about killing themselves. Those who reported "none of the time" were coded 0, and others were coded 1. Similarly, suicide attempts were measured with one item asking the respondents if they had ever tried to kill themselves. Those who answered "yes" to the question were coded 1, and all others 0.

Age of adolescent. We calculated age at time of interview using the date of birth of the respondent and the date of the baseline interview. Ages ranged from 16 to 19 with a mean age of 17.4 (SD = 1.05).

Gender of adolescent. We coded 0 for females and 1 for males.

Adolescent sexual orientation. We assessed this construct with a question in which the adolescents identified themselves as heterosexual, gay or lesbian, bisexual, or "something else," or answered "never thought about it" or "confused or unsure." The variable was recoded so that any individual listing a nonheterosexual or unsure sexual identity was coded 0 and any indicating a heterosexual orientation was coded 1.

Caretaker physical abuse and neglect. We measured abuse and neglect by caretakers with a 13-item scale that asked adolescents how often a parent or adult caretaker who was supposed to be taking care of them ever punished them by making them go a full day without food or water, abandoned them for at least 24 hours, threw something at them in anger, pushed them, slapped them, hit them with an object, beat them up with their fists, or threatened or assaulted them with a weapon (Straus & Gelles, 1990). Response categories ranged from 0 (never) to 4 (always). We used a mean procedure to create a composite measure. Scale scores were coded so that the higher the score, the higher the neglect or abuse. Cronbach's alpha for the measure was .82.

Caretaker sexual abuse. We used a 2-item scale that asked adolescents how often a parent or adult caretaker who was supposed to be taking care of them ever asked them or forced them to do something sexual. The response cat-

egories ranged from 0 (never) to 4 (many times). Due to the skewness of this measure, we dichotomized it so that 0 indicated never and 1 indicated at least one time. The correlation between these two items was .86. One fourth of these adolescents reported that they had been asked or forced to have sex by adult caretakers at least once.

Time on the street. We asked the adolescents if they had ever spent one or more nights on the street in an abandoned building or another place out in the open. Those individuals who had not spent at least one night on the street were coded as 0. Approximately 49% of the sample had spent at least one night on the street.

Age on own. This was a single item that asked the adolescents how old they were when they left home and were on their own for the first time. The mean age adolescents were first on their own was 13.4 years old (SD = 2.97).

Sexual subsistence strategies. We measured survival sex using three items in which the respondents were asked if they had ever traded sex for food or shelter, for money, or for drugs since they had been on their own. The three items were summed and then dichotomized. Those who had never traded sex were coded as 0, and those who had traded sex were coded as 1.

Nonsexual street subsistence strategies. We assessed this construct with six items that focused on different tactics that adolescents may have used to survive on the street. We asked adolescents to report if they had ever asked for spare change for money or for food, broken in and taken things from a store or house for money, sold drugs for money, stolen or shoplifted food, or engaged in "dumpster diving" for food. The summed scale had an alpha reliability of .65 and ranged from 0 to 6 with higher values indicating engaging in more of the nonsexual street subsistence strategies.

Physical victimization. We assessed physical victimization when the adolescents were on their own with a four-item scale in which the adolescents were asked to report how often they had been beaten up, robbed, threatened with a weapon, and assaulted with a weapon. Response categories were never, once, two to five times, and more than five times. The mean scale had an alpha reliability of .71 and ranged from 0 to 3 with higher scores indicating more frequent victimization.

Sexual victimization. Two items focused on whether respondents had any unwanted or unpleasant sexual experiences with people since they had been on their own. We asked "How often have you been asked to do something sexual that you didn't want to" and "How often have you been sexually assaulted or raped?" The two items were combined and dichotomized so that a positive response to any number of occurrences was coded 1, and all others were coded 0.

Results

Adolescent Histories and Street Experiences

Gay, lesbian, and bisexual adolescents were more likely than heterosexual adolescents to report that they had

been kicked out of the house or left home because of conflict about their sexuality or sexual behaviors. Gay adolescent males were 5 times more likely than heterosexual males to have left home because of a conflict regarding sexuality (38.9% vs. 6.5%, not shown).

T-tests and chi-square tests indicated that GLB adolescents were more likely to report sexual abuse by an adult caretaker (44.3% vs. 22.3%) and were more likely to report sexual victimization on the streets (58.7%) than were heterosexual adolescents (33.4%; Table 1). Lesbians (mean = 1.51) were more likely than heterosexual females (mean = 1.37) to report physical abuse and neglect (1.61 vs. 1.37) by an adult caretaker. Lesbian adolescents (mean = 1.55) also were more likely to report engaging in nonsexual street subsistence strategies than were heterosexual females (mean = .064). Gay males (27.8%) were more likely than heterosexual males (9.0%) to report that they engaged in survival sex. Lesbian adolescents (mean = .80) were more likely than heterosexual females (mean = .47) to report physical victimization when on their own.

Mental Disorders and Suicidal Behaviors

Chi-square tests also were used to compare GLB adolescents and their heterosexual counterparts on meeting diagnostic criteria for five mental disorders (major depressive episode, post-traumatic stress disorder, conduct disorder, alcohol abuse, and drug abuse), suicidal ideation, and suicide attempts (Table 2). GLB youth (41.3%) were more likely to meet criteria for major depressive episode than were heterosexual adolescents (28.5%). In particular, gay males (42.1%) were more likely to meet criteria for major depressive episode than heterosexual males (24.4%). GLB adolescents also were more likely to meet criteria for posttraumatic stress disorder (47.6% vs. 33.4%). This difference was accounted for by high rates of lesbian adolescents (59.14%) meeting criteria for the disorder. GLB youth also were more at risk for suicidal ideation (73%) than were heterosexual adolescents (53.2%). Three fourths (75%) of lesbian adolescents reported suicidal ideation compared to 55.3% of heterosexual females. More than one half of GLB adolescents reported at least one suicide attempt (57.1%) compared to about one third of the heterosexual adolescents (33.7%). Lesbians (63.6%)

were nearly twice as apt as their heterosexual counterparts (37.1%) to have attempted suicide.

In contrast, gay males (63.2%) were less apt to meet criteria for conduct disorder than were heterosexual males (85.1%). They also were significantly less likely than heterosexual males (31.6% vs. 50%) to meet criteria for alcohol abuse. Lesbian females (61.4% alcohol abuse, 47.7% drug abuse) were more likely than heterosexual females (35.5% alcohol abuse, 32.5% drug abuse) to meet criteria for alcohol and drug abuse.

In summary, gay males were more likely to have symptoms of internalization and less likely to manifest symptoms of externalization than were heterosexual males. Lesbian adolescents were more likely to show symptoms of post-traumatic stress disorder, suicidal ideation and attempts, alcohol abuse, and drug abuse than were heterosexual females. Indeed, the most troubled group appears to be runaway and homeless lesbians. They reported higher levels of caretaker and street victimization (Table 1) and manifested higher levels of mental health problems than any other group.

Multivariate Analyses

We conducted multivariate analyses using ordinary least squares and logistic regression models to more thoroughly investigate four areas where there were significant differences between GLB and heterosexual runaway and homeless adolescents: (a) nonsexual street subsistence strategies, (b) survival sex, (c) physical victimization when on the streets, and (d) sexual victimization when on the streets.

Nonsexual street subsistence strategies. With only age, gender, and sexual orientation in the ordinary least squares regression model, gender and sexual orientation were statistically significant (Table 3). Heterosexual males and GLB were more likely to engage in nonsexual street subsistence strategies when on the streets. In Model 2, caretaker physical abuse was added to the equation and was statistically significant. Caretaker sexual abuse was added to the equation in Model 3 and was nonsignificant as was age at first run in Model 4. Having ever spent time directly on the streets was statistically significant in Model 5. With the caretaker and street variables in the model (Model 5), gender, sexual orientation, care-

Table 1. Comparison of Caretaker Abuse and Street Victimization (t test and χ^2 test) between GLB and Heterosexual Homeless and Runaway Adolescents ($N = 428$)

	All		Male		Female	
	Gay/lesbian	Heterosexual	Gay	Heterosexual	Lesbian	Heterosexual
Physical abuse	1.45	1.29	1.32	1.30	1.51*	1.28
Neglect	1.56**	1.29	1.45	1.21	1.61*	1.37
Sexual abuse	44.3%**	22.3%	27.8%*	10.1%	51.2%**	32.7%
Nonsexual street survival strategies	1.56**	1.11	1.58	1.65	1.55**	0.64
Survival sex	16.1%	10.4%	27.8%**	9.0%	11.4%	11.7%
Physical victimization	0.83**	0.59	0.91	0.72	0.80**	0.47
Sexual victimization	58.7%**	33.4%	42.1%*	19.6%	65.9%**	45.2%

χ^2 test for testing percentages between GLB and heterosexuals, and *t*-test for testing mean differences.

All table comparisons pertain to GLB and heterosexual adolescents.

* $p < .05$ between gay/lesbian and heterosexual (one-tail test); ** $p < .01$ between gay/lesbian and heterosexual (one-tail test)

Table 2. Comparison of Mental Disorder and Suicidal Behaviors (χ^2 test) Between GLB and Heterosexual Homeless and Runaway Adolescents ($N = 428$)

	All (%)		Male (%)		Female (%)	
	Gay/lesbian	Heterosexual	Gay	Heterosexual	Lesbian	Heterosexual
Internalization						
Major depression	41.3*	28.5	42.1*	24.4	40.9	32.0
PTSD ^a	47.6*	33.4	21.1	23.8	59.1*	41.6
Suicide ideation	73.0**	53.2	68.4	50.6	75.0*	55.3
Suicide attempt	57.1**	33.7	42.1	29.8	63.6**	37.1
Externalization						
Conduct disorder	69.8	76.7	63.2**	85.1	72.7	69.5
Alcohol abuse	52.4	42.2	31.6*	50.0	61.4**	35.5
Drug abuse	47.6	39.2	47.4	47.0	47.7*	32.5

All comparisons are between GLB and heterosexual adolescents.

^a PTSD = post-traumatic stress disorder

* $p < .05$ between gay/lesbian and heterosexual (one-tail test); ** $p < .01$ between gay/lesbian and heterosexual (one-tail test)

taker physical abuse, and having spent time directly on the streets were statistically significant and explained 23% of the variance of engaging in nonsexual street subsistence strategies.

Beginning with Model 6, we added meeting criteria for one of the five mental disorders into the model one disorder

at a time. We did not control for other mental disorders in the subsequent models. Major depressive episode was nonsignificant; however, meeting criteria for conduct disorder was positively related to engaging in nonsexual street subsistence strategies (Model 7) and increased the explained variance from 23% to 28%. When conduct disorder

Table 3. Ordinary Least Squares Regression Model Predicting Use of Nonsexual Street Survival Strategies

	Age	Gender (male=1)	Gay/lesbian	Caretaker physical abuse	Caretaker sexual abuse	Age on own	Ever on the street	Major depression	Conduct disorder	PTSD	Alcohol abuse	Alcohol abuse* gay/lesbian	Drug abuse	Constant	Model R^2
Model 1															
B	0.11	0.83	-0.55											-2.69	
β	0.09	0.30**	-0.14**												0.12
Model 2															
B	0.08	0.84	-0.52	0.30										-2.66	
β	0.06	0.30**	-0.13**	0.17**											0.15
Model 3															
B	0.07	0.90	-0.49	0.27	0.24									-2.56	
β	0.06	0.33*	-0.12**	0.15**	0.08										0.15
Model 4															
B	0.08	0.89	-0.50	0.26	0.22	-0.02								-2.34	
β	0.06	0.32**	-0.13**	0.14**	0.07	-0.04									0.15
Model 5															
B	-0.02	0.73	-0.45	0.15	0.18	-0.02	0.85							-1.77	
β	-0.02	0.27**	-0.11*	0.08*	0.06	-0.04	0.31**								0.23
Model 6															
B	-0.02	0.73	-0.45	0.15	0.18	-0.02	0.85	0.00						-1.95	
β	-0.02	0.27**	-0.11*	0.08*	0.06	-0.04	0.31**	0.00							0.23
Model 7															
B	-0.01	0.63	-0.50	0.10	0.13	-0.01	0.82		0.68					0.53	
β	-0.01	0.23**	-0.13**	0.06	0.04	-0.02	0.30**		0.21**						0.28
Model 8															
B	-0.05	0.71	-0.40	0.15	0.16	-0.01	0.74			0.17				1.26	
β	-0.02	0.28**	-0.11*	0.07	0.05	-0.03	0.31**			0.06					0.24
Model 9															
B	-0.03	0.76	-0.44	0.13	0.15	-0.01	0.85			0.60	1.20			1.26	
β	-0.04	0.26**	-0.10*	0.08	0.05	-0.02	0.27**			0.22**	0.44**				0.28
Model 10															
B	-0.05	0.76	-0.05	0.14	0.16	-0.01	0.73				-0.70			0.97	
β	-0.04	0.27**	-0.01	0.08	0.05	-0.02	0.27**				-0.25*				0.29
Model 11															
B	-0.07	0.68	-0.40	0.13	0.15	-0.01	0.73						0.71	1.64	
β	-0.05	0.25**	-0.10*	0.07	0.05	-0.02	0.27**						0.26**		0.29

PTSD = post-traumatic stress disorder

** $p < .01$; * $p < .05$

order was added to the model, caretaker abuse became nonsignificant. Meeting criteria for post-traumatic stress disorder was not associated with nonsexual street subsistence strategies; however, both alcohol abuse and its statistical interaction with sexual orientation were significant. GLB adolescents who abused alcohol were more likely than heterosexual alcohol abusers to engage in nonsexual street subsistence strategies. Drug abuse also was positively associated with engaging in nonsexual street subsistence strategies.

In summary, the most robust predictors of nonsexual street subsistence strategies among the homeless and run-away adolescents were being male, having a same-sex sexual orientation, having ever spent time directly on the street, and meeting criteria for conduct disorder, alcohol use, or drug abuse.

Survival sex. Because our variable for survival sex was a dichotomous variable (see measurement section), we used logistic regression for this analysis. With only the control variables (age, gender, sexual orientation) in the model, age was statistically significant (Table 4). We added caretaker physical abuse to the equation in Model 2, and it was nonsignificant. Caretaker sexual abuse, however, was strongly significant in Model 3 and reduced the effect of physical abuse to nonsignificance. Age at first run was added to the equation in Model 4 and was nonsignificant, but having ever spent time on the street, added in Model 5, was strongly significant. Having engaged in nonsexual street subsistence strategies was also statistically significant.

In all of the multivariate analyses, we tested for all possible statistical interactions between sexual orientation and the other variables in the model. We found significant interaction for gender and sexual orientation (Model 12), indicating that gay males and heterosexual females were more likely than heterosexual males and lesbians to engage in survival sex (Figure 1).

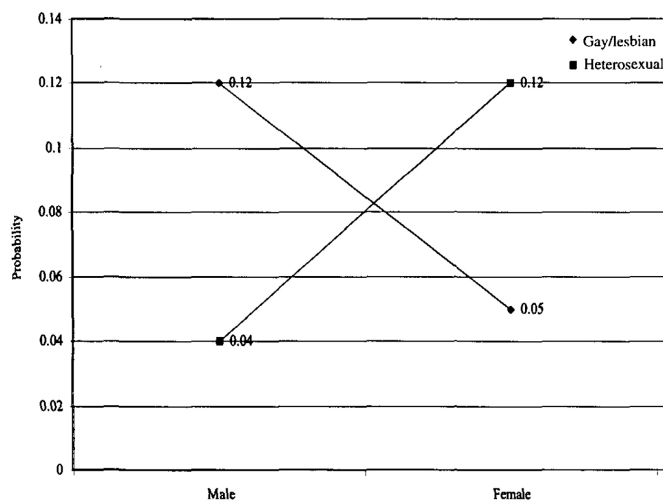


Figure 1. Interaction between gender and sexual orientation predicting survival sex.

As in the previous model, we added diagnoses into the regression one at a time. Major depressive episode was not associated with survival sex; however, there was a very strong association between conduct disorder and survival sex. Meeting criteria for conduct disorder increased the likelihood of engaging in survival sex more than 13 times ($\text{Exp } B = 13.49$). Neither alcohol abuse nor drug abuse was significantly associated with survival sex.

In summary, gay males and heterosexual females were most likely to engage in survival sex. Also, for each year of increase in age, the likelihood of engaging in survival sex increased 1.5 times. Having been sexually abused by a caretaker and having spent time directly on the streets each increased the likelihood by 2 times. Each unit increase in participation in other nonsexual street survival strategies increased the likelihood of survival sex 1.5 times. The most potent predictor, however, was meeting criteria for conduct disorder, which increased the likelihood of survival sex more than 13 times.

Physical victimization. We used ordinary least squares regression models to investigate physical victimization because it was a continuous variable. Age, gender, and sexual orientation were all statistically significant in Model 1 (Table 5). Older males and GLB adolescents were more likely to have experienced physical victimization on the streets. With the addition of caretaker physical abuse, sexual orientation became nonsignificant and remained so when we added the other variables including diagnoses to the equation. Age on own, having ever spend time directly on the streets, and participation in nonsexual and sexual survival strategies were all significantly associated with the likelihood of physical victimization on the street. There were no significant statistical interactions between any of the variables and sexual orientation. Among the mental disorders, meeting criteria for conduct disorder, post-traumatic stress disorder, and drug abuse were all associated with physical victimization.

Sexual victimization. Sexual victimization was constructed as a dichotomous variable (see measurement section), and we used logistic regression to investigate its relationship with sexual orientation (Table 6). With only the control variables in the equation, gender (being female) and sexual orientation were associated with sexual victimization.

Caretaker physical abuse was statistically significant in Model 2 and caretaker sexual abuse was significant when added in Model 3. Age at first instance of running away was nonsignificant (Model 4); however, having ever been on the street was statistically significant when added in Model 5. Both of these street variables became nonsignificant with the addition of nonsexual street subsistence strategies in Model 6 and survival sex in Model 7. Before we entered the diagnostic variables (Model 7), young women were nearly 4 times more likely to experience sexual victimization on the streets than were young men ($\text{Exp } B = .26$) and GLB adolescents were nearly 2 times more likely to be sexually victimized than were heterosexuals ($\text{Exp } B = .56$). For every unit increase in phys-

Table 4. Logistic Regression Model Predicting Use of Survival Sex

	Age	Gender (male= 1)	Gay/lesbian	Caretaker physical abuse	Caretaker sexual abuse	Age on own street	Ever on the street	Nonsexual street survival strategies	Major depression	Conduct disorder	PTSD	Alcohol abuse	Drug abuse	Gender x gay/lesbian	Constant	Model R ²	χ ² change
Model 1																	
B	0.60	-0.41	-0.21												15.26**		
Exp (B)	1.81**	0.67	0.81												0.00		
Model 2																	
B	0.56	-0.39	-0.15	0.37											18.43**	3.17+	
Exp (B)	1.75**	0.68	0.86	1.45+											0.00		
Model 3																	
B	0.53	-0.15	-0.01	0.23	0.90										-11.89	24.62**	6.19*
Exp (B)	1.69**	0.86	0.99	1.26	2.45*										0.00		
Model 4																	
B	0.54	-0.18	-0.02	0.21	0.86	-0.04									-11.67	25.11**	0.50
Exp (B)	1.72**	0.84	0.98	1.24	2.36*	0.97									0.00		
Model 5																	
B	0.44	-0.37	0.03	0.08	0.82	-0.04	1.00								-10.11	32.35**	7.23**
Exp (B)	1.55*	0.69	1.03	1.08	2.26*	0.96	2.73**								0.00		
Model 6																	
B	0.45	-0.72	0.33	0.03	0.77	-0.04	0.71	0.35							-0.90	41.43**	9.08**
Exp (B)	1.57*	.49+	1.39	1.03	2.16*	0.96	2.03+	1.42**							0.41		
Model 7																	
B	0.46	-0.73	0.33	0.03	0.77	-0.04	0.72	0.35	-0.06						-10.75	41.45**	0.03
Exp (B)	1.58*	.48+	1.39	1.03	2.16*	0.96	2.05*	1.42**	0.94						0.00		
Model 8																	
B	0.48	-0.80	0.28	0.01	0.73	-0.04	0.74	0.25		2.60					-13.31	55.21**	13.79**
Exp (B)	1.62**	0.45+	1.32	1.01	2.08*	0.96	2.10*	1.28		13.49**					0.00		
Model 9																	
B	0.44	-0.69	0.33	0.00	0.74	-0.04	0.72	0.35			0.22				-10.66	41.79**	0.37
Exp (B)	1.56*	0.50+	1.40	1.00	2.09+	0.96	2.05*	1.42**		1.24					0.00		
Model 10																	
B	0.43	-0.74	0.38	0.05	0.76	-0.03	0.66	0.31				0.56			-10.73	43.87**	2.44
Exp (B)	1.54*	0.48+	1.46	1.05	2.13*	0.97	1.94	1.36*				1.74			0.00		
Model 11																	
B	0.43	-0.74	0.31	0.03	0.75	-0.04	0.65	0.30					0.54		-10.60	43.67**	2.24
Exp (B)	1.54*	0.48+	1.36	1.03	2.12*	0.97	1.91	1.35*					1.71		0.00		
Model 12																	
B	0.46	1.01	1.07	0.03	0.78	-0.04	0.74	0.39							-2.12	46.41**	4.98*
Exp (B)	1.58*	2.74	2.93+	1.03	2.18*	0.96	2.09*	1.48**							.12*	0.00	

PTSD = post-traumatic stress disorder
 ** $p < .01$; * $p < .05$; + $p < .10$

Table 5. Ordinary Least Square Regression Model Predicting Physical Victimization on the Street

	Age	Gender (male= 1)	Gay/lesbian	Caretaker physical abuse	Caretaker sexual abuse	Age on own street	Ever on the street	Nonsexual street survival strategies	Survival sex	Major depression	Conduct disorder	PTSD	Alcohol abuse	Drug abuse	Constant	Model R ²
Model 1																
B	0.20	0.13	-0.19												-2.69	0.12
β	0.29**	0.10*	-0.10*													
Model 2																
B	0.17	0.15	-0.16	0.27											-2.66	0.20
β	0.26**	0.10**	-0.08	0.29**												
Model 3																
B	0.16	0.20	-0.12	0.24	0.24										-2.56	0.22
β	0.24**	0.14**	-0.06	0.26**	0.15**											
Model 4																
B	0.17	0.19	-0.14	0.23	0.21	-0.02									-2.34	0.23
β	0.25**	0.13**	-0.07	0.25**	0.13*	-0.10*										
Model 5																
B	0.13	0.13	-0.12	0.19	0.19	-0.02	0.31								-1.77	0.27
β	0.20**	0.09*	-0.06	0.20**	0.12*	-0.09*	0.22*									
Model 6																
B	0.14	0.04	-0.06	0.17	0.17	-0.02	0.20	0.12							-1.95	0.31
β	0.20**	0.03	-0.03	0.18**	0.11*	-0.09*	0.14**	0.24**								
Model 7																
B	0.12	0.06	-0.07	0.17	0.14	-0.02	0.19	0.11	0.33						-1.73	0.33
β	0.18**	0.04	-0.03	0.18**	0.09*	-0.08*	0.13**	0.21**	0.15**							
Model 8																
B	0.12	0.07	-0.06	0.16	0.14	-0.02	0.18	0.11	0.33	0.07					-1.69	0.34
β	0.18**	0.05	-0.03	0.18**	0.09*	-0.08*	0.13**	0.21**	0.15**	0.05						
Model 9																
B	0.13	0.05	-0.08	0.16	0.14	-0.02	0.19	0.10	0.30		0.14				-1.90	0.34
β	0.19**	0.03	-0.04	0.17**	0.08*	-0.08	0.13**	0.19**	0.14**		0.09*					
Model 10																
B	0.12	0.09	-0.06	0.15	0.12	-0.02	0.19	0.11	0.33			0.16			-1.71	0.34
β	0.17**	0.07	-0.03	0.16**	0.07	-0.07	0.13**	0.21**	0.15**			0.11*				
Model 11																
B	0.12	0.06	-0.06	0.17	0.14	-0.02	0.18	0.10	0.33				0.06		-1.73	0.34
β	0.18**	0.04	-0.03	0.18**	0.09*	-0.08	0.13**	0.20**	0.15**			0.05				
Model 12																
B	0.11	0.06	-0.06	0.17	0.14	-0.02	0.17	0.09	0.32					0.16	-1.64	0.34
β	0.17**	0.04	-0.03	0.18**	0.09*	-0.08	0.12**	0.18**	0.14**				0.11**			

PTSD = post-traumatic stress disorder
 ** $p < .01$; * $p < .05$

Table 6. Logistic Regression Model Predicting Sexual Victimization on the Street

	Age	Gender (male= 1)	Gay/lesbian	Caretaker physical abuse	Caretaker sexual abuse	Age on own street	Ever on street	Nonsexual street survival strategies	Survival sex	Major depression	Conduct disorder	PTSD	Alcohol abuse	Drug abuse	Constant	Model R ²	χ ² change
Model 1																	
B	0.17	-1.32	-0.82												-2.34	47.61**	
Exp(B)	1.19	0.27**	0.44**												0.10		
Model 2																	
B	0.12	-1.35	-0.79	0.60											-2.23	64.36**	16.76**
Exp(B)	1.13	0.26**	0.45**	1.82**											0.11		
Model 3																	
B	0.06	-1.07	-0.63	0.44	1.35										-1.59	91.62**	27.26**
Exp(B)	1.06	0.34**	0.53*	1.56**	3.87**										0.20		
Model 4																	
B	0.06	-1.07	-0.64	0.44	1.34	-0.01									-1.53	91.65**	0.03
Exp(B)	1.07	0.34**	0.53*	1.55**	3.84**	0.99									0.22		
Model 5																	
B	0.00	-1.19	-0.63	0.38	1.33	-0.01	0.54								-0.59	96.36**	4.71
Exp(B)	1.00	0.31**	0.53*	1.46**	3.80**	0.99	1.72*								0.55		
Model 6																	
B	0.01	-1.39	-0.54	0.34	1.31	0.00	0.36	0.23							-0.90	101.90**	5.54*
Exp(B)	1.01	0.25**	0.59	1.41*	3.71**	1.00	1.43	1.26*							0.41		
Model 7																	
B	-0.04	-1.34	-0.57	0.35	1.26	0.00	0.31	0.18	1.10						-0.10	110.42**	8.53**
Exp(B)	0.96	0.26**	0.56+	1.42*	3.52**	1.00	1.36	1.20+	3.00**						0.91		
Model 8																	
B	-0.05	-1.32	-0.56	0.34	1.26	0.00	0.28	0.18	1.11	0.20					0.05	110.06**	0.64
Exp(B)	0.95	0.27**	0.57+	1.41*	3.51**	1.00	1.33	1.20+	3.02**	1.23					1.05		
Model 9																	
B	-0.02	-1.40	-0.63	0.32	1.25	0.00	0.33	0.14	0.98		0.60				-0.75	114.53**	4.10*
Exp(B)	0.98	0.25**	0.53+	1.38+	3.51**	1.00	1.39	1.15	2.67*		1.82*				0.47		
Model 10																	
B	-0.05	-1.29	-0.55	0.32	1.21	0.00	0.32	0.18	1.09			0.30			-0.03	111.82**	1.39
Exp(B)	0.95	0.28**	0.58	1.37+	3.36**	1.00	1.37	1.19+	2.96**			1.35			0.97		
Model 11																	
B	-0.05	-1.34	-0.57	0.36	1.26	0.00	0.30	0.17	1.09				0.11		-0.09	110.61**	0.19
Exp(B)	0.96	0.26**	0.57+	1.43	3.51**	1.00	1.35	1.19+	2.96**			1.11			0.91		
Model 12																	
B	-0.08	-1.34	-0.56	0.35	1.28	0.01	0.28	0.12	1.07				0.56		0.25	115.02**	4.60*
Exp(B)	0.93	0.26**	0.57+	1.42*	3.59**	1.01	1.32	1.13	2.92**				1.75*		1.28		

PTSD = post-traumatic stress disorder.
 ** $p < .01$; * $p < .05$; + $p < .10$

ical abuse by a caretaker the likelihood of sexual victimization on the street increased nearly 1.5 times (Exp $B = 1.42$). Similarly, sexual abuse by a caretaker increased the likelihood of subsequent sexual victimization when on the streets 3.5 times (Exp $B = 3.52$). Participation in survival sex increased the likelihood of sexual victimization 3-fold (Exp $B = 3.00$).

Major depressive episode was not significantly associated with sexual victimization when the other predictor variables were in the model (Model 8). However, meeting criteria for conduct disorder (Exp $B = 1.82$) and drug abuse (Exp $B = 1.75$) each almost doubled the likelihood of sexual victimization.

In summary, being female or a having same-sex sexual orientation, experiencing caretaker physical and sexual abuse, and engaging in survival sex increased the likelihood of sexual victimization when on the streets. Even when we controlled for these characteristics, meeting the criteria for either conduct disorder or drug abuse nearly doubled the risk of sexual victimization.

Discussion

The risk factors generally associated with non-runaway GLB adolescents (Cochran, Greer, & Mays, 2003) were present and even amplified among runaway GLB adolescents. Lesbian runaways were more likely to have been physically abused by caretakers than were heterosexual runaways. GLB runaways were more likely to have been sexually abused by caretakers than their heterosexual counterparts, gay males were more likely to engage in survival sex than heterosexual males, and GLB youth were more likely than heterosexual youth to engage in nonsexual street survival strategies. GLB youth were also more likely than heterosexual youth to have been physically and sexually victimized when on the streets.

Some interesting patterns emerged regarding meeting criteria for mental disorders. Gay males were more likely to meet criteria for major depressive episode than were their heterosexual counterparts and less likely to meet criteria for conduct disorder and alcohol abuse. Lesbian adolescent runaways, however, were more likely to meet criteria for post-traumatic stress disorder, conduct disorder, alcohol abuse, and drug abuse than were heterosexual females. Lesbian adolescents also were more likely to report suicidal ideation and suicide attempts than were heterosexual females. In general, gay males were less apt to report problems of externalization than their heterosexual counterparts, while the opposite was true for lesbians, who were more apt to externalize than their female heterosexual counterparts.

Even with stringent controls for other important predictors of nonsexual street subsistence strategies and survival sex, having same-sex sexual orientation retained at least marginal statistical significance for survival sex, nonsexual street subsistence strategies, and sexual victimization on the streets. The statistical interaction between sexual orientation and gender clearly indicated that gay males and het-

erosexual females were most likely to engage in survival sex. Having same-sex sexual orientation nearly doubled the likelihood of sexual victimization when on the streets even with other predictors in the model.

The multivariate findings also indicated that the most relevant mental disorder associated with street behaviors and victimization was conduct disorder. Conduct disordered adolescents were more at risk for nonsexual survival strategies, survival sex, physical victimization, and sexual victimization. Alcohol and drug abuse were associated with nonsexual survival strategies, and drug abuse was associated with physical and sexual victimization. Post-traumatic stress disorder was correlated with physical victimization.

Although most of our findings are congruent with those reported by Cochran et al. (2002) based on their Seattle-area sample, some intriguing differences deserve mention. In contrast to the Seattle sample, in which GLBT participants scored higher on all problem behaviors, we found gender differences. For example, gay males were less likely to meet criteria for conduct disorder and alcohol abuse than were heterosexual males. The differences in outcomes between studies may be attributable to measurement, since meeting diagnostic criteria for a mental disorder sets a more stringent standard than do symptom scales (the Seattle study used the Youth Self-Report, Achenbach, 1991). Also, gay males may be more likely than heterosexual males to manifest symptoms of internalization than externalization. This argument is supported by our finding that gay male runaways were more likely to meet criteria for major depressive episode than were heterosexual runaways.

Our results suggest that among our society's most imperiled adolescents, homeless and runaway GLB adolescents face double jeopardy. One source of stress comes from society's negative treatment of young people coming to terms with same-sex sexual identity. The second source of stress, perhaps a consequence of the first, is that these youth are likely to experience more numerous stressors and engage in more risky behaviors than their heterosexual counterparts. They are more likely to run away because of conflict regarding their sexuality. They end up on the streets in numbers disproportionate to those in the general population. Once on their own, they are more likely to engage in risky behaviors and to pay the consequences with victimization and mental distress. Whatever mental distress they brought to the streets is highly likely to be exacerbated in the contexts of sexual exploitation and sexual victimization that our data document.

Caspi and others (Caspi & Bem, 1990; Caspi & Moffitt, 1995) have theorized that negative behaviors develop their own momentum or "cumulative continuity." As the momentum increases, it becomes harder and harder to disengage. GLB adolescents who are forced out of their homes or run away during adolescence are at risk for entering trajectories that are tied to their sexual identities. Early sexual victimization by adults increases the likelihood of sexual exploitation and victimization when they are on their own. Exploitation and victimization, in turn,

may lead to debilitating physical and mental health effects. As with all runaways, there are few resources available on the streets to interrupt the momentum and continuity of these behaviors and experiences. Gay, lesbian, and bisexual adolescents also may be isolated by street subcultures or by discomfort from what few resources exist (Travers & Schneider, 1996).

Although our findings are intriguing, there are serious limitations to our study that suggest cautious interpretation. The most central is that gay, lesbian, and bisexual adolescents made up only 15% of our sample ($N = 63$). However, these numbers are very comparable to other published studies (e.g., Cochran et al., 2002, Kennedy, 1991; Unger et al., 1997). The small sample size raises concerns regarding statistical power, particularly when making within-gender comparisons across sexual orientation (Tables 1 and 2). Assuming a desired power level of .80, these analyses permit us to detect effects in the small-to-moderate range as defined by Cohen (1988). Therefore, our tests should be viewed as conservative and potentially missing some differences between gay or lesbian and heterosexual youth. However, we believe it is significant that even in so small a sample we found such dramatic results. Also, we believe the findings from the Midwestern sample are unique in that they reflect the experiences of youth in smaller non-magnet cities and they are a step forward from single-shelter, single-city diagnostic studies.

Another limitation is that our diagnostic measures were based on adolescent self-reports and did not include parent reports, as is the case for many diagnostic studies of non-runaway adolescents. However, the 16- to 19-year age range puts our respondents within the age parameters of UM-CIDI diagnostic interviews for the National Comorbidity Survey (Kessler et al., 1994) that were based on self-reports. Also, two of our measures—suicidal ideation and sexual orientation—were single indicators of complex constructs. Moreover, because of the adolescents' ages and developmental levels, we included in our measure of sexual orientation the response option "confused or unsure" to capture those whose GLB identity may be just emerging. This may have captured some respondents who do not go on to develop a GLB identity in adulthood.

In conclusion, we believe that the cumulative results from this and other studies (e.g., Cochran et al., 2002) provide sufficient evidence to warrant targeted interventions with these high-risk young people. The evidence points to a critical need for special approaches aimed at protecting those runaways who are at great risk for sexual exploitation and accompanying physical and psychological harm. "Safe places" for runaways must be safe and welcoming for GLB adolescents as well, and this should not be merely implied by outreach agencies and workers but made explicit (e.g., signs on shelters or vans and handouts). This is especially important in smaller cities that may not have special shelters for GLB youth. Because these young people often have been harassed at school

and rejected by adults prior to running away, they may avoid traditional shelters unless it is very clear that they will not be further victimized. Having staff members and outreach workers who are openly gay or lesbian would promote an accepting atmosphere. Moreover, street workers and clinicians should be alert that GLB adolescents may have experienced significantly more stressful events than their heterosexual counterparts and should be trained to be sensitive to such stressors and their psychological consequences. Because these young people are likely to be overrepresented in runaway populations, a shelter that is not currently serving GLB adolescents is missing some of the most vulnerable runaways.

Acknowledgment

This research was supported by the National Institute of Mental Health (Grant # MH57110), Les B. Whitbeck, Principal Investigator.

References

- Achenbach, T. (1991). *Manual for the youth self-report and 1991 profile*. Burlington: University of Vermont Department of Psychiatry.
- Boxer, A., Cohler, B., Herdt, G., & Irvin, F. (1993). Gay and lesbian youth. In P. Tolan & B. Cohler (Eds.), *Handbook of clinical research and practice with adolescents* (pp. 249-280). New York: Wiley.
- Caspi, A., & Bem, D. (1990). Personality continuity and change across the life course. In L. Pervin (Ed.), *Handbook of personality theory and research* (pp. 549-575). New York: Guilford.
- Caspi, A., & Moffitt, T. (1995). The continuity of maladaptive behavior: From description to understanding in the study of antisocial behavior. In D. Cicchetti & D. Cohen (Eds.), *Developmental psychology* (Vol. 2, pp. 472-511). New York: Wiley.
- Clements, K., Gleghorn, A., Garcia, D., Katz, M., & Marx, R. (1997). A risk profile of street youth in northern California: Implications for gender-specific human immunodeficiency virus prevention. *Journal of Adolescent Health, 20*, 343-353.
- Cochran, B., Stewart, A., Ginzler, J., & Cauce, A. M. (2002). Challenges faced by homeless GLB: Comparison of gay, lesbian, bisexual, and transgender homeless adolescents with their heterosexual counterparts. *American Journal of Public Health, 92*, 773-777.
- Cochran, S., Greet, J., & Mays, V. (2003). Prevalence of mental disorders, psychological distress, and mental health services use among lesbian, gay, and bisexual adults in the U.S. *Journal of Clinical and Consulting Psychology, 71*, 53-61.
- Cohen, J. (1988). *Statistical power analysis for behavioral sciences*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Coleman, E. (1989). The development of male prostitution activities among gay and bisexual adolescents. *Journal of Homosexuality, 17*, 131-149.
- D'Augelli, A., & Hershberger, S. (1993). Lesbian, gay, and bisexual youth in community settings: Personal challenges and mental health problems. *American Journal of Community Psychology, 21*, 421-448.
- D'Augelli, A., Hershberger, S., & Pilkington, N. (1998). Lesbian, gay, and bisexual youth and their families: Disclosure of sexual orientation and its consequences. *American Journal of Orthopsychiatry, 68*, 361-371.
- Elze, D. (2002). Risk factors for internalizing and externalizing problems among gay, lesbian, and bisexual adolescents. *Social Work Research, 26*, 89-100.
- Fergusson, D., Horwood, J., & Beautrais, A. (1999). Is sexual orientation related to mental health problems and suicidality in young people? *Archives of General Psychiatry, 56*, 876-880.

- Gonsiorek, J. C. (1988). Mental health issues of gay and lesbian adolescents. *Journal of Adolescent Health Care*, 9, 114-122.
- Goodman, L., Saxe, L., & Harvey, M. (1991). Homelessness as psychological trauma. *American Psychologist*, 46, 1219-1225.
- Hagan, J., & McCarthy, B. (1997). *Mean streets: Youth crime and homelessness*. New York: Cambridge University Press.
- Hershberger, S., & D'Augelli, A. (1995). The impact of victimization on the mental health and suicidality of lesbian, gay and bisexual youths. *Developmental Psychology*, 31, 65-74.
- Hetrick, E., & Martin, A. D. (1987). Developmental issues and their resolution for gay and lesbian adolescents. *Journal of Homosexuality*, 14, 25-44.
- Janus, M., Burgess, A., & McCormack, A. (1987). Histories of sexual abuse in adolescent male runaways. *Adolescence*, 22, 405-417.
- Jenson, P., Roper, M., Fisher, P., Piacenti, J., Camino, G., Richters, J., et al. (1993). Test-retest reliability of the Diagnostic Interview Schedule for Children (DISC.2.1). *Archives of General Psychiatry*, 52, 67-71.
- Kennedy, M. (1991). Homeless and runaway youth mental health issues: No access to the system. *Journal of Adolescent Health*, 12, 576-579.
- Kessler, R. C. (1994a). Building on the ECA: The National Comorbidity Survey and the children's ECA. *International Journal of Methods in Psychiatric Research*, 4, 81-94.
- Kessler, R. C. (1994b). The National Comorbidity Survey of the United States. *International Review of Psychiatry*, 6, 365-376.
- Kessler, R. C., McGongagle, K. A., Zhao, S., Nelson, C., Hughes, M., Eshelman, S., et al. (1994). Lifetime and 12-month prevalence of DSM-III-R psychiatric diagnoses in the United States: Results from the National Comorbidity Survey. *Archives of General Psychiatry*, 51, 8-19.
- Kipke, M., Montgomery, S., Simon, T., & Unger, J. (1997). Homeless youth: Drug use patterns and HIV risk profiles according to peer group affiliation. *AIDS and Behavior*, 1, 247-259.
- Kruks, G. (1991). Gay and lesbian homeless/street youth: Special issues and concerns. *Journal of Adolescent Health*, 12, 515-518.
- Martin, A. D., & Hetrick, E. (1988). The stigmatization of the gay and lesbian adolescent. *Journal of Homosexuality*, 15, 163-183.
- Morrison, L., & L'Heureaux, J. (2001). Suicide and gay/lesbian/bisexual youth: Implications for clinicians. *Journal of Adolescence*, 24, 19-49.
- Pilkington, N., & D'Augelli, A. (1995). Victimization of lesbian, gay, and bisexual youth in community settings. *Journal of Community Psychology*, 23, 34-56.
- Remafedi, G. (1987). Adolescent homosexuality: Psychosocial and medical implications. *Pediatrics*, 79, 331-337.
- Remafedi, G., Farrow, J., & Deisher, R. (1991). Risk factors for attempted suicide in gay and bisexual youth. *Pediatrics*, 87, 869-875.
- Rosario, M., Hunter, J., & Gwadz, M. (1997). Exploration of substance use among lesbian, gay and bisexual youth: Prevalence and correlates. *Journal of Adolescent Research*, 12, 454-476.
- Rothblum, E. (1990). Depression among lesbians: An invisible and un-researched phenomenon. *Journal of Gay and Lesbian Psychotherapy*, 1, 67-87.
- Rotheram-Borus, M., & Hunter, J. (1994). Suicidal behavior and gay-related stress among gay and bisexual male adolescents. *Journal of Adolescent Research*, 9, 498-499.
- Rotheram-Borus, M., Rosario, M., Rossem, R., Heid, H., & Gillis, R. (1995). Prevalence, course, and predictors of multiple problem behaviors among gay and bisexual male adolescents. *Developmental Psychology*, 31, 75-85.
- Savin-Williams, R. C., & Rodriguez, R. G. (1993). A developmental, clinical perspective on lesbian, gay male, and bisexual youths. In T. Gullota, G. Adams, & R. Montemayor (Eds.), *Adolescent sexuality* (pp. 77-101). Newbury Park, CA: Sage.
- Schwab-Stone, M., Fisher, P., Piacentini, J., Shaffer, D., Davies, M., & Briggs, M. (1993). The Diagnostic Interview Schedule for Children-Revised Version (DISC-R): II. Test-retest reliability. *Journal of the American Academy of Child and Adolescent Psychiatry*, 32, 651-657.
- Shaffer, D., Schwab-Stone, M., Fisher, P., Cohen, P., Piacentini, J., Davies, M., et al. (1993). The Diagnostic Interview Schedule for Children-Revised Version (DISC-R): I. Preparation, field testing, inter-rater reliability, and acceptability. *Journal of the American Academy of Child and Adolescent Psychiatry*, 32, 643-650.
- Straus, M., & Gelles, R. (1990). *Physical violence in American families*. New Brunswick, NJ: Transaction Publishers.
- Stricof, R., Kennedy, J., Nattell, T., Weifuse, I., & Novick, L. (1991). HIV seroprevalence in a facility for runaway and homeless adolescents. *American Journal of Public Health*, 81, 50-53.
- Travers, R., & Schneider, M. (1996). Barriers to accessibility for lesbian and gay youth needing addictions services. *Youth & Society*, 27, 356-378.
- Tyler, K., Whitbeck, L., Hoyt, D., & Cauce, A. (2004). Risk factors for sexual victimization among male and female homeless and runaway youth. *Journal of Interpersonal Violence*, 19, 503-520.
- Tyler, K., Hoyt, D., Whitbeck, L., & Cauce, A. (2001a). The impact of childhood sexual abuse on later sexual victimization among runaway youth. *Journal of Research on Adolescence*, 11, 151-176.
- Tyler, K., Hoyt, D., Whitbeck, L., & Cauce, A. (2001b). The effects of a high-risk environment on the sexual victimization of homeless and runaway youth. *Violence & Victims*, 16, 441-455.
- Unger, J., Kipke, M., Simon, T., Montgomery, S., & Johnson, C. (1997). Homeless youths and young adults in Los Angeles: Prevalence of mental health problems and the relationship between mental health and substance abuse disorders. *American Journal of Community Psychology*, 25.
- Weinstein, S., Noam, G., Grimes, K., Stone, K., & Schwab-Stone, M. (1990). Convergence of DSM-III diagnoses and self-reported symptoms in child and adolescent inpatients. *Journal of the American Academy of Child and Adolescent Psychiatry*, 19, 627-634.
- Whitbeck, L., & Hoyt, D. (1999). *Nowhere to grow: Homeless and runaway adolescents and their families*. New York: Aldine de Gruyter.
- Whitbeck, L. B., Hoyt, D. R., & Ackley, K. (1997). Families of homeless and runaway adolescents: A comparison of parent/caretaker and adolescent perspectives on parenting, family violence, and adolescent conduct. *Child Abuse and Neglect*, 2, 517-528.
- Whitbeck, L. B., Hoyt, D. R., & Bao, W. N. (2000). Depressive symptoms and co-occurring depressive symptoms, substance abuse, and conduct problems among runaway and homeless adolescents. *Child Development*, 71, 721-732.
- Whitbeck, L., Hoyt, D., Yoder, K., Cauce, A., & Paradise, M. (2001). Deviant behavior and victimization among homeless and runaway adolescents. *Journal of Interpersonal Violence*, 16, 1175-1204.
- Wittchen, H. U., & Kessler, R. C. (1994). *Modifications of the CIDI in the National Comorbidity Study: The development of the UM-CIDI* [NCS Working Paper No. 2]. Ann Arbor, MI: NCS.
- World Health Organization. (1990). *Composite International Diagnostic Interview (CIDI). Version 1.0*. Geneva, Switzerland: WHO.
- Yates, G., MacKenzie, R., Pennbridge, J., & Swofford, A. (1991). A risk-profile comparison of homeless youth involved in prostitution and homeless youth not involved. *Journal of Adolescent Health*, 12, 545-548.
- Yoder, K., Hoyt, D., & Whitbeck, L. (1998). Suicidal behavior among homeless and runaway adolescents. *Journal of Youth and Adolescence*, 27, 753-771.