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Substance Use and Abuse in Lesbian, Gay, Bisexual and Transgender Populations

Tonda L. Hughes[1,3] **and Michele Eliason**[2]

Despite many gaps in the research on substance abuse and sexual orientation, recent data suggest that, overall, substance use among lesbians and gay men—particularly alcohol use—has declined over the past two decades. However, both heavy drinking and use of drugs other than alcohol appear to be prevalent among young lesbians and gay men. Much less is known about bisexual and transgender women and men, but these groups appear to be at heightened risk for substance abuse. This paper describes current research on prevalence and patterns of substance use and abuse in LGBT populations, examines potential risk and protective factors associated with substance abuse in these populations, and discusses implications for prevention, including prevention research.

KEY WORDS: substance abuse; LGBT populations; lesbians; gay men; bisexual; transgender.

Writing a state of the science paper on substance abuse among lesbians, gay men, bisexual and transgender (LGBT[4]) persons is a daunting task for several reasons. First, only a small body of alcohol and other drug (AOD) research has focused on lesbians and/or on gay men and almost no empirical studies have been conducted with bisexual or transgender women or men. Second, although lesbians, gay men, bisexual and transgender persons share some common concerns—primarily those related to stigma and discrimination—as many differences exist within these populations as exist between them and the heterosexual population.

[1]Department of Public Health, Mental Health and Administrative Nursing, University of Illinois at Chicago, Chicago, Illinois.
[2]College of Nursing, University of Iowa, Iowa.
[3]Address correspondence to Tonda Hughes, PhD, RN, University of Illinois at Chicago, PMA, Room 956 – M/C 802, 845 S. Damen Ave., Chicago, IL 60612: e-mail: thughes@uic.edu.
[4]When possible the term LGBT is used exclusively in this paper. However, because the samples of the research studies reviewed differ (e.g., some include only lesbians, some only gay men and lesbians), the terms used to describe the specific samples will be used. It should also be noted that some samples described as "lesbian" or "gay" likely include some bisexual women or men.

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Third, the same problems that plague substance abuse research in general are also relevant here, namely lack of standard terms and definitions. Despite the fact that the labels "lesbian," "gay," "bisexual," and "transgender" are now widely recognized and accepted, these terms remain ambiguous. For these reasons, comparing substance abuse indicators and risk factors among these populations is difficult. Nevertheless, attempts to integrate and synthesize this disparate body of literature are important in order to implement more culturally relevant and effective prevention strategies and programs.

Although disagreement persists about the prevalence of AOD use/abuse among LGBT persons, researchers agree that substantial numbers of these populations at any given point in time experience problems related to substance use. Women and men within LGBT populations are subject to the same health and social consequences of substance abuse as are women and men in the general population. However, patterns of AOD use, risk and protective factors for heavy or problematic use, and strategies for prevention and intervention may differ for nonheterosexual and gender variant women and men. Therefore, in this paper we will: 1) describe the current state of research science on substance use and abuse in LGBT populations, including obstacles to this research; 2) summarize existing research on the prevalence and patterns of substance use and abuse in LGBT populations; 3) examine potential risk and protective factors associated with substance abuse in LGBT populations; and 4) discuss implications for prevention, including prevention research.

STATE OF THE SCIENCE

Stigmatization stemming from homophobia and heterosexism has played an important role in limiting research in LGBT populations (Meyer, Silenzio, Wolfe, & Dunn, 2000). Homosexuality has long been viewed as a mental disorder. It was not until 1973, after researchers had consistently failed to demonstrate a convincing link between same-sex desires or behaviors and mental illness, that the American Psychiatric Association officially removed homosexuality from the Diagnostic and Statistical Manual of Mental Disorders (DSM). The term "gender dysphoria syndrome" was coined the same year that homosexuality was removed from the DSM (Fisk, 1974). Gender identity disorder, the term that currently refers to transgender people, was added to the DSM in 1980. As a result, transgender women and men can be labeled mentally ill despite the lack of empirical evidence to support this label (Sember, 2000). The same biologic, psychosocial, and psychoanalytic theoretical explanations advanced to explain homosexuality are used to explain transgender identity, but evidence to support any one explanation is lacking (MacKenzie, 1994). Nonetheless, despite this lack of evidence, the stigma associated with non-heterosexual identity and behavior, both within the research community and in the culture at large, has made researchers reluctant to

study sexual orientation or gender identity because of fear that their professional careers will be negatively affected (McNaron, 1997; Ryan & Bradford, 1997). Following is a brief discussion of some of the other major obstacles that have limited research on substance abuse among LGBT populations.

Lack of Standard Definitions

Definitional issues plague research on substance abuse as well as on sexual orientation and gender identity. In terms of substance abuse, when does a person cross the line from recreational or social drinker to problem drinker to alcoholic? Should any use of an illegal substance be defined as "abuse?" Equally difficult are questions related to the meaning of sexual orientation or gender identity. For example, should a person be labeled as heterosexual, lesbian, gay, or bisexual on the basis of self-identity, sexual or gender-role behavior, erotic fantasies, or physiological arousal patterns? Findings from a recent study of lesbian and heterosexual women from three urban cities in the United States illustrate the difficulty in defining sexual orientation (Hughes et al., 2000). In this study, sexual orientation was defined based on women's responses to two questions: 1) current sexual interest or attraction, and 2) sexual behavior in the year before completing the survey. Both questions included the following response categories: "only men," "mostly men," "equally men and women," "mostly women," and "only women." The question about sexual behavior also included the category "I have not had sex in the past year." By summarizing the various combinations of responses to these two questions, the investigators created 30 separate categories of sexual orientation. These 30 categories were then collapsed into five broader groups: lesbian, heterosexual, and bisexual, and two additional groups of women whose responses to questions about sexual attraction and activity were inconsistent. Clearly, lesbians are not a homogeneous group. The term lesbian is used to label or categorize women whose affection and erotic preferences, behaviors, and sexual self-identities vary widely (AMA, 1996; Dean et al., 2000; Ochs, 1996; Solarz, 1999). Many lesbians have been married, have borne or adopted children, work in the sex industry, have sex with men for drugs or survival, or have been coerced into having sex or raped by men (Norman, Perry, & Stevenson, 1996; Stevens, 1993). The same heterogeneity appears to exist within groups of gay and bisexual men (Heckman et al., 1999; Isay, 1998; McKirnan, Stokes, & Doll, 1995), and transgender persons (Caceres & Cortinas, 1996; Doctor & Prince, 1997).

Issues related to the lack of standard terms and definitions of sexual orientation and gender identity greatly complicate efforts to estimate the number of LGBT persons within the overall population (Myer, Silenzio, Wolfe & Dunn, 2000). The prevalence of homosexuality and bisexuality appears to vary substantially among populations (Laumann et al., 1994). For example, it appears that women and men of color are more likely to identify as bisexual than

homosexual (Bell & Weinberg, 1978; Chu et al., 1992). No attempts have been made to estimate the number of transgender persons in our society.

As in substance abuse research in general, studies focusing on LGBT populations have rarely used standard diagnostic criteria to assess substance abuse or substance dependence. Similarly, in most existing studies, definitions of sexual orientation are based on self-report, or no mention is made of how this variable was assessed (Sell & Petrulio, 1996).

In general, an accepted definition of "lesbian" or "gay" is a woman or man whose primary sexual and emotional attachments are to persons of the same sex. "Bisexual" refers to men or women who have sexual and/or emotional attachments to both men and women, though only a small proportion of the people who identify as bisexual are *simultaneously* involved with both women and men (Rust, 1992). The term "transgender" refers to people who do not fit societal expectations for sex (male/female) or masculine/feminine gender role. This term is often confusing because it encompasses many different identity expressions. These include, but are not limited to, heterosexual cross-dressers, gay drag performers, people who live full time as the opposite sex (whether or not they desire or can afford hormonal and/or surgical treatments), and those who live variously adopting male and female gender roles (Bockting, Robinson, & Rosser, 1998; Israel & Tarver, 1997). It is important to separate issues of sexual orientation (heterosexual, homosexual, and bisexual) from issues of gender identity (masculine, feminine, androgynous, transgender). Transgender people may identify as heterosexual, lesbian, gay, or bisexual (American Public Health Association, 1999).

Sexual orientation and gender identity are complex, multidimensional constructs. There is growing consensus that adequate assessment of these constructs requires multiple measures. For example, measurement of sexual orientation must include at least the three dimensions of behavior, identity, and attraction or desire (Myer et al., 2000; Solarz, 1999). Until researchers include questions that assess each of these components, or at minimum include one of them and explicitly describe how sexual orientation is operationally defined, comparisons across studies will continue to be rough approximations at best.

Lack of Random Samples

Random samples of LGBT people are nearly impossible to obtain. First, very large numbers of people must be screened to identify a sufficiently large sampling frame of LGBT people for a given study. Second, LGBT persons willing to participate in research are probably quite different from those who are unwilling to identify themselves as LGBT. Judging from existing studies, lesbians and gay men who participate in research may be more highly educated, more open about their sexual orientation, and more likely to be white and middle class than the larger

population of lesbians and gay men. Most studies of lesbians and gay men have used convenience samples from mailing lists of organizations, membership rosters of clubs, attendees at gay community events, ads in gay community newspapers, or friendship networks (snowball techniques). These methods can have serious limitations. For example, findings from early studies on alcohol use and abuse using study participants found in gay bars were obviously biased in favor of heavier drinkers. Less obvious, but also biased, are samples obtained from organizations' mailing lists. Currently, the most rigorous study designs use multiple sources and different methods of recruiting participants. In addition, a few studies have used innovative sampling strategies based on combinations of data from census tracts, reports of HIV/AIDS infection rates, and gay organizations' mailing lists to obtain probability samples from areas believed to be more densely populated by gay men (Binson et al., 1996; Blair, 1999). These methods are useful in urban areas with densely populated and well-defined "gay" neighborhoods but are of little value in sampling suburban or rural gay men or lesbians. A few longitudinal studies (all focusing on HIV-risk behaviors among men who have sex with men) have also been conducted (e.g., Chesney, Barrett, & Stall, 1998; Jinich et al., 1998; Ostrow et al., 1993; Woody et al, 1999), making it possible to track changes in substance use patterns over time.

Even studies using the best methods available likely exclude most "closeted" LGBT people. Therefore, most of what we know about substance use and abuse in LGBT populations is limited to white, well-educated, lesbians and gay men. We know little about lesbians and gay men from other racial/ethnic, or lower educational or socioeconomic backgrounds. We know even less about bisexual and transgender men and women. Bisexuals have only recently begun to be accepted as a distinct cultural group (Firestein, 1996). Many people, including many lesbians and gay men, view bisexuals as "confused" or en route to becoming either homosexual or heterosexual (Rust, 1992). In most studies, bisexual people have been grouped with lesbians or gay men depending on their biological sex, or excluded from data analyses because their numbers are often small. Transgender persons as a group have even more rarely been studied. The few studies relating to the transgender experience have included primarily male-to-female (MtF) transgender persons seeking hormonal and/or surgical treatment at university clinics. This sample is biased toward persons of higher socioeconomic status because insurance does not pay for sex reassignment treatments, and because the procedures for reassignment from female to male are much more expensive than the procedures for male to female reassignment. In addition, clinical populations often include disproportionately high numbers of persons who have mental health or substance abuse problems. Much less is known about the larger, non-clinical transgender population. The life experiences of transgender persons likely differ substantially from those of lesbians, gay males, or bisexual women and men who do not identify as transgender. However, they are subject to many of the

same problems, such as discriminatory practices, harassment, and violence, as are lesbian, gay, and bisexual people. In addition, the "coming out" process is similar for all four groups, with a fear of rejection by family and friends at the heart of the conflict of whether to reveal one's sexual orientation or gender identity.

Lack of Adequate Funding

Limited funding is a major reason for the dearth of information on issues related to substance use and abuse among LGBT people. Each of the obstacles described above—sampling difficulties, lack of standard definitions, and especially stigma—have contributed to the difficulties in obtaining funding for studies focusing on LGBT populations.

Until the middle 1980s, researchers obtained very little federal money for research on sexual orientation. Since the onset of the HIV/AIDS epidemic, considerably more funding has been available for research related to substance abuse and sexual orientation, but this funding has largely focused on HIV/AIDS-related research. Silvestre (1999) reviewed reports of research listing homosexuality as a primary or secondary issue funded by the National Institutes of Health (NIH) between 1974 and 1992. Only 13% of the research grants reviewed dealt with non-HIV related issues. Research projects on homosexuality unrelated to HIV averaged only $532,000 (excluding funds for facility building) compared with about $20 million per year since 1982 for HIV-related projects.

Research on HIV/AIDS has substantially improved understanding of the relationships between substance abuse and unsafe sexual behavior in men who have sex with men, and this information has informed interventions that have substantially reduced the risk of HIV/AIDS among this subset of LGBT populations. Despite the importance of this research, the interest and attention devoted to HIV/AIDS has inevitably diverted attention and funding from other health problems of LGBT persons, including non-HIV/AIDS related substance abuse.

PREVALENCE AND PATTERNS OF SUBSTANCE USE AND ABUSE

Most early research on substance abuse among lesbians and gay men reported alarmingly high rates of drinking and other drug use (e.g. Fifield, Latham, & Phillips, 1977; Lohrenz et al., 1978). However, these studies had significant methodologic flaws, as did much of the research on homosexuality in the 1960s and 70s (Garnets & Kimmel, 1993). More recent studies suggest that rates of substance use and abuse are substantially lower.

In the general population, rates and types of substance use and abuse vary according to a number of characteristics such as age, sex/gender, race/ethnicity,

education, and employment and other social roles. Although much less is known about these variations within LGBT populations, this section will summarize current knowledge about the prevalence and patterns of substance use and abuse in each of three groups: lesbian and bisexual women, gay and bisexual men, and transgender women and men.[5]

Lesbian and Bisexual Women

Few substance-abuse studies have included sufficient numbers of bisexual women to permit separate analyses, and no studies to date have focused exclusively on this subset of the population. Data from bisexual women are usually combined with that of lesbians, reflecting the unexplored assumption that they share more in common with lesbians than with heterosexual women. Therefore, many of the studies reviewed below include samples assumed to be predominately lesbian, but likely include some proportions of bisexual women.

Studies conducted in the 1970s and early 1980s reported high rates of alcohol use and abuse among lesbians. In one of the earliest and most frequently cited studies, Fifield and colleagues (Fifield, Latham, & Phillips, 1977) surveyed 98 bartenders and 200 lesbian and gay bar patrons. These investigators concluded that alcohol abuse was a pandemic problem, with approximately 32% of the lesbian and gay male population in Los Angeles County, California, estimated to abuse alcohol. Saghir and Robins (1973) also used gay bars to obtain a portion of their sample, but they attempted to deal with this source of bias by statistically controlling for "bar-going." Saghir and Robins found that 35% of the 57 lesbians in their study reported excessive drinking; this rate was compared with female heterosexual controls, among which only 5% drank at similarly high levels. Other studies conducted during this period (see Israelstam & Lambert, 1986, for review) consistently reported higher levels of alcohol use among lesbians than for women in the general population. However, methodologic limitations, such as small, nonrepresentative samples (that often included bar patrons) and lack of appropriate comparison groups of heterosexual women, raise questions about the validity of these findings.

Studies conducted in the 1980s reported lower rates of heavy drinking among lesbians than did earlier ones. However these studies also suggested that, compared with heterosexual women, lesbians were more likely to drink and more likely to experience alcohol-related problems. For example, in the National Lesbian Health Care Survey (NLHCS), Bradford and Ryan (1987) found that 25% of the 1925 women surveyed reported drinking alcoholic beverages several times a week, 6%

[5]Because sexual and gender identity are much less stable in children and adolescents, and because the issues related to substance use and abuse vary greatly between LGBT youth and adults, this review is limited to studies of adult LGBT populations.

reported drinking on a daily basis, and 16% had sought help for alcohol- or other drug-related problems.

In another study conducted in the mid 1980s, and one of the largest to date, McKirnan and Peterson (1989a,b) obtained a sample of 2652 gay men and 748 lesbians from a wide variety of sources in Chicago. The authors report that 2% of the sample were bisexual; these respondents appear to have been combined with the lesbian and gay male respondents. McKirnan and Peterson (1989a) compared data on alcohol consumption and alcohol problems collected from lesbians and gay men with that from an earlier study of women and men in the general population (Clark & Midanik, 1982). Based on these comparisons, the researchers concluded that lesbians were less likely than heterosexual women (15% compared with 35%) to abstain from the use of alcohol, more likely to be moderate users (76% and 59%), and about as likely to be heavy drinkers (9% and 7%). Although not over represented among heavy drinkers, lesbians reported rates of alcohol problems almost three times as high as those reported by heterosexual women (23% and 8%). Although use of marijuana and cocaine was very rare among women in the general population, lesbians' rates of use were similar to those of gay men. Further, lesbians and gay men's use of alcohol, marijuana, and cocaine showed less decline with age than is typical of women and men in the general population (McKirnan & Peterson, 1989a).

In another large study, Skinner reported findings from lesbians and gay men in Lexington and Louisville, Kentucky (Skinner, 1994; Skinner & Otis, 1992; Skinner & Otis, 1996). Using a geographically matched subsample of women from the 1988 National Household Survey of Drug Abuse (NHSDA), more lesbians (87%) than women in the NHSDA (64%) reported alcohol consumption in the past year. Lesbians in this study also reported more drinking days and more binge drinking (5 or more drinks on one occasion) than did heterosexual women. Past year use of marijuana was also significantly higher for lesbians (36%) than for women in the NHSDA (8%); in fact, lesbians' rates of marijuana use were comparable to those of the gay men (37%) in this study. Overall prevalence rates for past year cocaine use were relatively low for both lesbian (7%) and NHSDA women (3%) (Skinner & Otis, 1996).

Using a random household sample of lesbians from San Francisco, Bloomfield (1993) compared findings from a combined sample of 52 lesbians and six bisexual women with those from 397 heterosexual women. No significant differences were found between lesbians' and bisexual women's levels of drinking and those of the heterosexual women. Only the percentage of recovering alcoholics significantly differed; 13% of the lesbian and bisexual women and 3% of the heterosexual women reported being in recovery. Frequency of going to bars was related to level of drinking, but there was no difference in "bar-going" between the two groups.

In an effort to address some of the limitations in existing research on lesbian health, Hughes and colleagues (Hughes et al., 2000) conducted a large study of

women in Chicago, New York City, and Minneapolis/St. Paul. Using responses to two questions about sexual behavior and self-identity women were classified as lesbian ($n = 550$), heterosexual ($n = 279$), or bisexual ($n = 33$). Because the number of bisexual women was small, these women were excluded from the analyses. In contrast to earlier studies (e.g., McKirnan & Peterson, 1989a; Skinner, 1994), lesbians in this study were *more* likely than the comparison group of heterosexual women to report abstinence from alcohol during the past 12 months (24% and 17%, $p < .05$). The majority of both lesbian (73%) and heterosexual women (82%) reported drinking fewer than two drinks per day on average (classified as light to moderate drinking). Very few women (3% of lesbians and 1% of heterosexuals) reported heavy drinking (an average of more than two drinks per day). To explore earlier findings of greater alcohol-related problems among lesbians, the two groups of women were compared on indicators of problem drinking similar to those used in McKirnan and Peterson's (1989a) study. These included: 1) feeling bad or guilty about drinking; 2) inability to cut down or quit drinking; 3) becoming annoyed when others criticize drinking; and 4) drinking negatively affected any personal relationships. No statistically significant differences were found between the percentages of lesbians (21%) and heterosexual women (15%) who reported at least one of these problem drinking indicators in the past year (Hughes et al., 2000).

Although recovery status was not specifically addressed in the survey instrument used by Hughes and colleagues (2000), questions about participation in alcohol or drug treatment or in 12-step recovery programs (e.g., Alcoholics Anonymous, Narcotics Anonymous) were included. Significantly more lesbians (14%) than heterosexual women (6%) indicated that they had gotten help for AOD problems in the past ($p < .001$). Of the nondrinking lesbians, 68% reported that they had gotten help for an alcohol or drug problem. This finding suggests that the majority of lesbian abstainers were likely in recovery from substance-related problems.

In a recent study of risk and protective factors for heavy drinking and alcohol-related problems, Hughes (1999) interviewed 63 lesbians and a matched comparison group of 57 heterosexual women. This sample was more racially and economically diverse than those included in most studies of lesbian health; only 37% was white and almost one-fourth (22%) had household incomes of less than $10,000 per year. Levels of drinking differed significantly for lesbians and heterosexual women ($p = .003$). Post hoc analyses revealed that this difference was due to the greater percentage of lesbians (25%) than heterosexual women (4%) who were 12-month abstainers. The majority of lesbians (75%) and heterosexual women (84%) were current drinkers (alcohol consumed in the past 12 months); no lesbians (compared with 13% of heterosexual women) were lifetime abstainers. Among respondents who had consumed alcohol in the past 12 months, more than one-half of both groups (56% and 54%) reported light (fewer than 4 drinks/week) or moderate (fewer than 2 drinks/day) drinking. Few lesbians (5%)

or heterosexual women (2%) reported that they drank more than two drinks per day on average. However, almost one-half (46%) of lesbians compared with only 16% of heterosexual women reported that they have wondered at some point in the past whether they might have a drinking problem ($p = .001$). In addition, significantly more lesbians (17%) than heterosexual women (2%) reported that they were in recovery for alcohol-related problems ($p < .05$). Though small, the diversity of the sample and the inclusion of a matched heterosexual comparison group add to the importance of these findings.

Despite methodologic limitations in many of the above studies, when viewed as a whole, the following patterns seem to generally hold true: 1) fewer lesbians than heterosexual women abstain from alcohol, particularly when recovery is controlled; 2) even when rates of heavy drinking among lesbians and heterosexual women are reasonably comparable, lesbians report more alcohol-related problems; and 3) the relationships between some demographic characteristics and drinking behaviors differ for lesbians and heterosexual women. Differences are particularly striking in relation to age: in contrast to heterosexual women, lesbians' rates of drinking, heavy drinking, and problem drinking show smaller declines with age.

There is some evidence to suggest that substance use and abuse, particularly alcohol abuse, may be declining among lesbians (Hughes & Wilsnack, 1997). Reasons for this may include greater awareness and concern about health and more moderate drinking among women and men in the general population, some lessening of the social stigma and oppression of lesbians and gay men, and changing norms associated with drinking in some lesbian and gay communities.

Gay and Bisexual Men

Although bisexual men, like bisexual women, have not been a primary focus in substance abuse research, they are included in studies of gay men in much greater numbers than bisexual women in studies of lesbians. One reason for this is the disproportionately high number of studies that have as a major aim greater understanding of risk factors associated with sexually transmitted diseases, including HIV/AIDS, among men who have sex with men. Thus, it is *behavior* rather than *identity* that is of primary concern in most of the research on substance use among gay and bisexual men.

Similar to early studies of lesbians, studies of gay men conducted in the 1970s found high rates of AOD use (Fifield, Latham, & Phillips, 1977; Lohrenz, Connely, Coyne, & Spare, 1978). For example, Lohrenz et al. (1978) conducted a study of gay men and lesbians in four urban communities in Kansas. The sample of 145 gay men and 29 lesbians completed self-report surveys that included the Michigan Alcoholism Screening Test (MAST). Using a cut-off score of five or higher on the MAST, 29% of the gay men were classified as alcoholic. Gender differences were

not reported because the number of lesbians was too small to permit meaningful analyses. The results of this study have been questioned for several reasons, including the use of a lower than standard cut-off score for alcoholism; the lack of a heterosexual comparison group; and the likely biases inherent in the sample (95% were younger than 36 years old and at least part of the sample was recruited from gay bars) (Bux, 1996).

Using much more rigorous methods than those of earlier studies, investigators in the San Francisco Men's Health Study conducted a random household study of 748 gay men and a comparison group of 286 heterosexual men. Compared with reports from the 1970s reflecting high rates of heavy drinking, gay men in 1984 reported considerably lower rates (Stall & Wiley, 1988). The prevalence of frequent/heavy drinking for gay men (19%) was higher than the rate for heterosexual men (11%), but about twice as many gay men (6%) as heterosexual men (3%) reported that they did not drink at all in the previous 12 months. Similar to findings of lower age-related declines in alcohol consumption among lesbians, prevalence of frequent drinking among gay men in this study was remarkably consistent across all age groups. Gay men younger than 35 were much more likely than their age-matched counterparts to report use of poppers (amyl or butyl nitrate inhalants), MDA, barbiturates, and amphetamines. Differences between gay and heterosexual men in use of marijuana and psychedelics were not nearly as large, though the young gay men were also more likely to report use of both of these drugs. Among men older than 35, only use of poppers and amphetamines differed significantly by sexual orientation.

McKirnan and Peterson (1989a) examined the AOD use patterns of 2652 gay men (and 748 lesbians—described above) in Chicago. Most of the men surveyed were white (88%) and well educated (more than 60% had a college degree); their mean age was 35 years old. Compared with men in the general population, fewer gay men were abstainers (13% and 23% respectively). Although gay men as a whole were less likely than men in the general population to report heavy drinking (17% and 21%), they were more likely to report alcohol-related problems (23% and 16%). As was true of lesbians in this study, the difference in overall rates of problems was explained by the higher rates of alcohol problems reported by older gay men; rates of problems did not differ substantially for gay and heterosexual men under 30 years old.

McKirnan and Peterson (1989a) also found that gay men were more likely than men in the general population to report lifetime use of marijuana and cocaine; however, there was no difference in *frequent* use of marijuana. Frequent use of cocaine was also similar for the two groups of younger men, but gay men older than 35 were more likely than general population men of the same age to be frequent users. Use of poppers was relatively common among gay men in this study; 14% of gay men reported occasional to regular use and 7% reported daily use.

The comparison group used in McKirnan and Peterson's study has been criticized. Bux (1996) points out, for example, that the Clark and Midanik (1982) sample, like most national probability surveys of its type, included urban, suburban, and rural residents. Because lesbians and gay men in McKirnan and Peterson's sample were all from Chicago, and because urban residents are believed to drink more heavily than suburban or rural residents, comparing rates of substance use in these two samples is problematic.

Skinner (1994) used questions from the 1988 National Household Survey on Drug Abuse (NHSDA) as the basis of his comparisons with lesbians and gay men in Kentucky. Data collected from gay men and lesbians were compared with those of men and women in the 1990 NHSDA. The 265 gay men who responded were mostly white (94%) and were 37 years old on average. Use of substances in the past month was as follows: alcohol (76%); cigarettes (34%); marijuana (18%); inhalants (17%); stimulants (5%); and cocaine (2%). Compared to men in the NHSDA, gay men were more likely to report past month use of all substances. Higher education was associated with lower use of marijuana and cigarettes among the gay men surveyed. In addition, higher incomes, close personal relationships, and urban residence were associated with current drinking.

Like more recent studies of lesbians, a recent study of gay and bisexual men suggests that substance abuse also may be declining in these groups as well (Crosby, Paul, Stall, & Barrett, 1998). Comparing data from gay and bisexual men ages 25 to 29 collected in the 1984 San Francisco Men's Health Study and in the 1992 San Francisco Young Men's Health Survey, Crosby and colleagues found small declines in heavy alcohol use and larger declines in overall drug use. For example, 15% of the men reported heavy frequent drinking in 1992 compared with 17% who reported a similar drinking pattern in 1984; light frequent drinking decreased from 58% to 48%. An exception to the pattern of overall declines in drug use was in use of MDA.

Given the stigma associated with nonheterosexual identity and behavior, alcohol may be used by both men and women to lower inhibitions associated with same-sex sexual activity. However, this relationship has not been studied in lesbian and bisexual women. Further, AOD use appears to be linked to sexual activity in very different ways for gay and bisexual men than for lesbian and bisexual women. For example, amyl nitrate (poppers) relaxes the anal sphincter and prolongs and intensifies orgasm (French & Power, 1998; Lauritsen, 1993). Methamphetamines and other stimulants are also used to enhance sexual potency or heighten sexual experience. According to Frosch et al. (1996) methamphetamine seems to have replaced alcohol as the drug most commonly used by gay and bisexual men on the West Coast. These drugs can be injected, but are sometimes applied directly to the penis or inserted into the rectum. In addition, Viagra is also reportedly used by some gay men with "normal" sexual potency to enhance their sexual performance (Scarse, 1999). Further, for some young gay men whose social lives revolve around

bars, bathhouses, or "circuit" parties, the use of stimulant drugs to intensify social and sexual experiences is normative (Elwood & Williams, 1999).

Transgender Women and Men

Empirical data related to AOD-use patterns of transgender persons is scant. However, because they are believed to experience even greater stigma, violence, and marginalization (Lombardi & van Servellen, 2000; Meyer et al., 2000) than are lesbians and gay men, it seems reasonable to assume that transgender men and women are at least as likely to use and abuse AODs. Available data focuses on MtF transgender persons, and much of what we know about this group is limited to MtF sex workers. Among this subgroup, use of stimulants, particularly methamphetamines, appears to be prevalent (Reback & Lombardi, 1999). Some transgender persons who lack access to health care may obtain illegal hormones from the street. This practice carries the risk of inappropriate drug dosages or contaminated drugs and increases exposure to drug cultures that may encourage use of other illegal drugs as well (Lombardi & van Servellen, 2000).

Substance abuse is believed to play an important role in the high rates of HIV infection among MtF transgender persons (Longshore, Annon, & Anglin, 1998; Clements, Marx, Guzman, Ikeda, & Katz, 1998). In a study of 515 transgender persons in San Francisco 34% of MtF and 18% of FtM transgender persons reported lifetime intravenous drug use (Clements et al., 1998). In addition, 63% of the African American MtF transgender persons were HIV positive. Using data from a street outreach program for MtF transgender persons in West Hollywood Reback and Lombardi (1999) found that 35% of the sample were sex workers. Only about one-third (37%) of the sample reported past month use of alcohol; other drugs used were marijuana (13%), crack (11%), methamphetamine (11%), cocaine (7%) and heroin (2%). Five percent reported past month injection drug use—mostly methamphetamines. More sex workers than non-sex workers reported use of methamphetamines (21% compared with 5%) and crack cocaine (25% compared with 3%). Rates of substance abuse appear to be high in the transgender community (Clements et al., 1998). Clearly, much more research is needed to better understand the unique combinations of risk and protective factors associated with substance abuse in transgender persons.

RISK AND PROTECTIVE FACTORS

Attempts to understand individual behaviors or responses to adverse life circumstances must include the identification of both risk *and* protective factors (Rutter, 1987). Protective factor refers to specific competencies or social/environmental conditions necessary for the process of resilience to occur.

Individual differences are related to the interaction between situational demands and personal and environmental resources (Block & Block, 1980). The identification of protective factors in high-risk individuals or groups has important implications for primary, secondary, and tertiary prevention. For example, it has become increasingly clear that women who experience childhood sexual abuse (CSA) are at risk for mental health problems, including substance abuse. It is equally clear, however, that not all women who have experienced CSA suffer from these problems. Therefore, identification of protective factors provides valuable information for the development of preventive interventions with a dual focus on protection and risk.

Few, if any, studies have explicitly explored factors believed to protect lesbians or gay men from substance abuse. Reliance on gay bars for socialization and stress related to homophobic attitudes and discrimination (D'Augelli & Hershberger, 1993; McKirnan & Peterson, 1988; Savin-Williams, 1994; Weinstein, 1992) are among the most frequently cited risk factors, though much of what we know about these factors is based on research with gay men.

Despite important differences in life experiences, research findings on substance use and abuse among women and men in the general population may provide the best available information concerning potential risk and protective factors for LGBT persons. In the following discussion, the terms "risk" and "protective" suggest possible causal relationships. It should be noted, however, that few of the studies reviewed are longitudinal and thus the predictive value of many of the factors has not yet been evaluated. Risk and protective factors are variables (1) found or hypothesized to be positively (risk) or negatively (protective) associated with substance abuse and/or substance-related problems, *and* (2) suggested by previous research or theory to have etiological significance in the development of substance abuse or dependence.

Demographic Characteristics and Social Roles

Age

In the general population, age is one of the most robust predictors of most types of substance use and abuse. Both men and women are more likely to drink heavily and use other substances in early adulthood; for the majority of the general population, both quantity and frequency of use decrease with age. For example, the 1990–92 National Comorbidity Survey (NCS) found that both alcohol and illicit drug use peaks between 18 to 25 years old (Kandel, Warner, & Kessler, 1998). Problems related to substance use also tend to be higher in early adulthood. In a 1991 national survey of women's drinking (S. Wilsnack et al., 1994), 26% of the 21 to 30 year-old women reported experiencing at least one drinking problem in the past 12 months, compared with rates ranging from 2% to 17% in older

age groups. One explanation for younger adults' higher rate of alcohol-related problems is their greater tendency to engage in heavy episodic (binge) drinking (Wechsler & Issac, 1992; S. Wilsnack, 1996).

Although relatively few studies have explored age-specific patterns of substance use and abuse among LGBT persons, several studies suggest that rates of drinking in lesbians and gay men decline less dramatically with age than is typical for heterosexual women and or men (McKirnan & Peterson, 1989a, Skinner, 1994). In fact, one study found that the percentage of lesbians who reported daily drinking actually increased from 3% for those 34 years old and younger, to 7% for those 35 to 44 years old, 10% for 45 to 54 year olds and 21% for those 55 years or older (Bradford & Ryan, 1987). This phenomenon of lower or slower declines in drinking may help explain the higher rates of alcohol-related problems reported by lesbians and gay men. For example, McKirnan and Peterson found similar rates of alcohol problems for gay men (26%) and men in the general population (29%) who were ages 18–25, but among those 41–60 years old, rates were 19% and 7% respectively. In the same study, lesbians in the three oldest age groups reported almost three times as many alcohol problems as women in comparable age groups in the general population. The elevated rates of alcohol problems among lesbians of all ages and among older gay men may reflect a greater physiological and/or cultural vulnerability of women and older homosexuals to alcohol problems as a consequence of consistent, even if not "heavy," drinking (Hughes & Wilsnack, 1997).

These findings as a whole suggest that older age may be less of a protective factor for substance abuse in lesbians and gay men than in heterosexual women and men. Two cohort related explanations of these age patterns are possible. First, older cohorts of lesbians and gay men may be continuing patterns of substance use developed when they were younger and gay bars were among the few places to socialize and meet potential partners. It is also possible that younger lesbians and gay men may be drinking less and using other drugs less frequently than their older counterparts did at the same age. Prevention efforts should focus on reinforcing these patterns of more moderate use among younger members of LGBT populations.

Gender

Individual women's drinking and drinking-related problems appear to be more variable than men's and tend to fluctuate over time, with the greatest changes in drinking behavior occurring among women 21 to 34 years old (S. Wilsnack et al., 1994). Wilsnack and colleagues suggest that these fluctuations may be influenced by changes in drinking contexts, drinking partners, and changes in social roles such as employment, marriage, and parenthood that are common among women of this age group.

Despite the variability in women's drinking, men are more likely to drink, drink heavily, and experience alcohol-use-related problems. Findings from the 1990–1992 National Comorbidity Survey (NCS) indicate that between ages 15 to 54 years men are twice as likely as women to be alcohol dependent (Kandel et al., 1998). Men are also more likely to use most illicit drugs, and the differences tend to be largest at higher levels of use (Johnston et al., 1993). Marijuana and cocaine are used by substantially greater numbers of men than women. However, more women than men may use nonprescribed stimulants and tranquilizers (Johnston et al., 1993), and substantial numbers of women use tobacco and legal drugs, such as alcohol and medically prescribed psychotherapeutics.

Existing research suggests that being female is less protective against substance abuse for lesbians than for heterosexual women (Hughes & Wilsnack, 1997). Two of the largest studies of substance abuse among lesbians and gay men in the United States, McKirnan and Peterson (1989a) and Skinner and Otis (1996) report smaller gender differences than in comparable studies of women and men in the general population. Both studies found that rates of alcohol, marijuana and cocaine use were higher, gender differences in rates of use smaller, and age-related declines in use were much less dramatic among lesbians and gay men than those of women and men in the general population. In fact, Skinner and Otis (1992) found that significantly more lesbians than gay men in the over-25 year old age groups reported lifetime use of marijuana and cocaine. Lesbians in these age groups were also significantly more likely than their age-matched gay-male counterparts to report current use of cigarettes (44% vs. 26%).

Race/Ethnicity

Substance use patterns among non-European groups vary substantially within and between groups, but these differences are often obscured by studies that fail to take this heterogeneity into account. Within each group, patterns of substance use vary by place of origin, economic status, education and religion, as well as length of time since immigration and degree of acculturation. Within-group differences, in fact, are often larger than between-group differences. In general, however, white men and women are more likely than their nonwhite counterparts to report use of almost all licit and illicit drugs (Hughes & LaGodna, 2000; Hughes, Day, Marcantonio, & Torpy, 1997).

Most existing studies of substance use have compared women or men across different racial/ethnic groups; relatively few have examined gender differences within groups. Gilbert and Collins (1997) suggest that despite the wide intra- and inter-group variations, stronger sanctions against women's use of substances are cross-cultural. Consequently, women of all racial/ethnic groups generally report lower levels of substance use and substance-related problems than do men.

Very few prevalence studies of substance use/abuse in LGBT populations have included sufficient numbers of racial/ethnic minority persons to permit

separate analyses. However, the interaction of gender and race/ethnicity is also apparent in LGBT populations, though not always in the same form as in the general population. For example, in an ethnographic study conducted at a Latino gay bar, Caceres and Cortinas (1996) found that, consistent with Latin gender roles, relatively few heterosexual or lesbian Latinas patronized the bar. Heterosexual men (macho Latinos) were the heaviest drinkers of all the bar patrons. The authors suggest that heavy drinking among heterosexual Latinos is often used as an excuse for having sex with another man. The bar was a favorite of "transvesties," who were mostly gay or transgender crossdressers and gay-identified Latino men who were not cross-dressers.

Men of color appear to differ from white men in their views of sexual behavior and identity. Men of color who engage in same-sex sexual behavior are less likely to identify or "come out" as gay (Myrick, 1999) and less likely to disclose their sexuality within their ethnic/racial communities (Choi et al., 1999). Bisexual activity appears to be more common among African American and Latino men than white men (Chu et al., 1992) and there is some evidence to suggest that African American men are more likely than white men to trade sex for drugs (Peterson, 1995). Because heavy drinking is normative both in Latino heterosexual culture and gay male culture, Latino gay men may have higher rates of drinking than either group alone (Tori, 1989).

Using a subset of data from the Multi-site Women's Health Study, Hughes et al. (under review) report findings related to AOD use in 70 African American lesbians and a comparison group of 40 African American heterosexual women. In this study 77% of African American lesbians, compared with 54% of African American heterosexual women, were current drinkers. However, almost five times as many lesbians (19%) as heterosexual women (4%) reported more than one alcohol-related problem in the past year. More lesbians than heterosexual women reported past and present use of all other drugs, though rates of use of most drugs were relatively low in both groups of women. Approximately 11% of lesbians in this study reported use of marijuana, a rate substantially higher than the 2.9% reported for women in the general population (Lex, 1994).

Judging from the limited available data, it appears that patterns of substance use among lesbians and gay men of color may be more like those of white lesbians and gay men than their racial/ethnic heterosexual counterparts.

Social Roles and Responsibilities

Substance-use patterns have also been found to vary with employment, marital status, and other life roles. For example, employed persons' greater economic resources and social opportunities to drink have sometimes been used to explain the relationship between alcohol consumption and paid employment. Such a link between employment and drinking may be particularly salient to

lesbians' risk because the majority of lesbians work outside the home (Morgan & Brown, 1993). Bradford and Ryan (1987) found that 91% of lesbians in the NLHCS worked outside the home. This compares with 51% of women over age 16 in the general population who worked outside the home in 1986 (Employment Status, 1997). Furthermore, lesbians may not be as restricted as heterosexual women by gender-role socialization and thus may be more likely to choose jobs that are nontraditional (i.e., male dominated), a factor also found in several studies to be associated with greater alcohol consumption among women in the general population (Haavio-Mannila, 1991; LaRosa, 1990; R. Wilsnack & Wright, 1991).

Recent studies have associated drinking behavior with an unwanted employment status such as involuntary unemployment (e.g., R. Wilsnack, 1992). McKirnan and Peterson (1989b) note that underemployment (defined as a discrepancy between education and occupational status) could represent such an unwanted status. Lesbians and gay men in most studies have substantially higher levels of education than men and women in the general population (Bradford & Ryan 1987; McKirnan & Peterson 1989a; Michaels, 1996). However, because of social stigmatization and fear of discrimination, they may seek jobs where they feel less pressure to conform and to hide their sexual orientation. Bradford and Ryan's (1987) data indicate that as of the mid 1980s most lesbians earned substantially less for their level of education and work experience than did comparable groups of heterosexual women. Badgett's more recent work (1998) suggests that when education is controlled, lesbians earn about the same amount as heterosexual women; however gay men were found to earn about 26% less than comparable heterosexual men.

Underemployment or substandard salary may contribute to stressors such as economic concerns, role deprivation, or low self-esteem. Further, hiding one's sexual orientation, vigilance around co-workers, anti-gay jokes and comments, anxiety and fear are commonly reported by employed lesbians (Rothblum, 1990). The psychological difficulties created by managing self-disclosure on the job are well-documented (Morgan & Brown, 1993; Sorensen & Roberts, 1997), and may contribute to lesbians' and gay men's use of AODs as a coping strategy.

The combination of employment and other social roles is believed to be protective against drinking problems in heterosexual women and men. Reasons include the increased self-esteem and social support gained from employment and family roles, increased responsibilities and performance demands, and greater social monitoring and feedback that may discourage excessive drinking (S. Wilsnack, 1995). However, social roles differ substantially for many LGBT persons compared with their heterosexual counterparts. For example, fewer lesbians and gay men have children (Bradford & Ryan, 1987; Hughes et al., 2000; Skinner & Otis, 1992). Second, unlike heterosexual women and men, lesbians and gay men cannot legally marry same-sex partners, and even

same-sex couples in stable, long-term relationships receive less sanction and support for their relationships than do unmarried heterosexual cohabiting couples. Thus, fewer lesbians and gay men engage in traditional roles (e.g., marriage, child bearing and child rearing), or have responsibilities associated with certain combinations of social roles that are believed to limit substance use (especially among women) in the general population.

For LGBT persons who do have children, the stressors associated with that role are likely exacerbated. For example, lesbian and gay parents must deal with the realistic fear of custody battles over competency to raise children, homophobic remarks made by others to the children, partners' roles in child rearing, and revealing their sexual orientation to the children (Falk, 1993; Greene, 1994; Purcell & Hicks, 1996). On the other hand, several studies have documented that same-sex relationships tend to be characterized by more equitable distribution of responsibilities than are heterosexual relationships (Blumstein & Schwartz, 1983; Caldwell & Peplau, 1984; Schneider, 1986). This may serve to balance some of the stressors experienced by lesbians and gay men. In addition, although it is not clear to what extent bisexual or transgender persons receive support from their respective communities, lesbian and gay communities are often perceived as a source of support by lesbians and gay men (Nardi & Sherrod, 1994).

Social-Psychological Factors

Depression and Stress

Stress research has documented the relationship between negative life events and depression (Brown, Ahmed, Gary, & Milburn, 1995; Lu, 1995). Among women in the general population, a link between depression and drinking is well documented, though the temporal order in which depression and problem drinking develop is less clear. Both clinical (e.g., Hesselbrock, Meyer, & Keener, 1985) and general population studies (Hartka et al., 1991; Midanik, 1983) have found stronger associations between depression and drinking for women than for men; the limited time-ordered data suggest that depression can be both a cause and a consequence of alcohol abuse (Hesselbrock & Hesselbrock, 1997). Wilsnack, Klassen, Schur, and Wilsnack (1991) found that depression was a more consistent predictor of chronicity of problem drinking among women already experiencing alcohol-related problems than it was of initial onset of problem drinking.

Based on available data it appears that lesbians and gay men do not differ significantly from heterosexual women and men on general psychological adjustment (Christie & Young, 1986; Gonsiorek, 1991; McKirnan & Peterson, 1989b; Ross, Paulson, & Stalstrom, 1988; Rothblum, 1990). However, some evidence points to higher rates, or at least higher risk, of depression and stress.

For example, Bradford, Ryan and Rothblum (1994) reported that more than one-third of the women in the NLHCS had experienced "long depression or sadness" at some point in their lives. This compares with 21% of women in the general population who report at least one major depressive episode in their lifetime (Kessler et al., 1994). Cochran and Mays (1994) found that African American lesbian and bisexual women had very high rates of current depressive symptoms, with 38% scoring in the clinically significant range, perhaps demonstrating the additive strains of racism, sexism, and homophobia. African American lesbians and bisexual women in this study had higher rates of depression than African American heterosexual women, African American gay or bisexual men, or white women or men regardless of sexual orientation.

Members of stigmatized and marginalized minority groups generally experience significant stress (Mortisugu & Sue, 1983). Lesbians, gay men, and bisexuals who are open about their sexual orientation risk alienation from their families, discrimination at work, loss of custody of children, verbal harassment and physical assault (Herek, 1991; Purcell & Hicks, 1996). Conversely, those who are "closeted" experience regular, if not daily, stress concerning potential discovery of their sexual orientation (DiPlacido, 1998).

Despite evidence for high levels of stress and/or depression among some lesbians and gay men, the link with substance abuse is unclear. For example, among African American women in Hughes et al.'s (under review) study, drinking or using drugs in response to stress was significantly related to perceived stress in heterosexual women but not in lesbians. Only a small minority of the lesbian subjects in Saghir and Robin's (1973) study felt their sexual orientation contributed to their drinking behavior. Similarly, conflict due to sexual orientation had no significant relationship to alcohol use for women or for men in McKirnan and Peterson's (1989b) study. Lesbians and gay men in this study had relatively low rates of depression, alienation and general stress. However, 13% of the lesbians and about 23% of the gay men reported that they used alcohol "half of the time" or more when coping with personal stress. Further, expectations of positive or "tension reduction" effects of alcohol were strongly related to alcohol use, frequency of intoxication, alcohol-related problems, and frequency of going to bars.

There is general consensus in the literature that LGBT people, particularly lesbians, have high rates of use of some mental health services, particularly therapy or counseling (Bradford & Ryan, 1987; Hughes, Haas & Avery, 1997; Morgan & Eliason, 1992). For example, 73% of lesbians in the NLHCS (Bradford & Ryan, 1987) and 80% of lesbians in the Chicago Women's Health Survey (CWHS) (Hughes, Haas, & Avery, 1997) reported having received therapy or counseling at some point in their lifetime. In both these studies, feeling sad or depressed was among the most common reasons for seeking help. Although no empirical data exist to support this, use of mental health services may have a protective, or buffering, effect on the relationship between stress, depression, and substance abuse.

Interpersonal and Relational Factors

Childhood Sexual Abuse

Clinicians and researchers have increasingly noted the link between childhood sexual abuse (CSA) and substance abuse. However, it is not clear whether substance abuse is directly related to CSA or if AOD abuse is an effort to cope with depression or other consequences of CSA. Much of what we know about the sequelae of CSA comes from reports of women in treatment for substance abuse or psychiatric/mental health problems. Clinical studies conducted over the past two decades provide support for an association between CSA and alcohol abuse and alcoholism among women (Kovach, 1986; Miller, Downs, Gondoli, & Keil, 1987; Miller, Downs, & Testa, 1993; Pribor & Dinwiddie, 1992). However, because most studies have been conducted with women experiencing alcohol-related problems serious enough to prompt them to seek treatment, it is not clear whether CSA is also associated with alcohol use and abuse in women who do not seek treatment. In one of the few studies to explore the relationship between CSA and alcohol abuse among women in the general population, Wilsnack, Vogeltanz, Klassen, and Harris (1997) found that CSA was strongly related to most measures of drinking behavior used in their survey, including alcohol use in past 30 days, intoxication, number of problem consequences of drinking, and alcohol dependence symptoms in the preceding 12 months. Although CSA is much less frequently studied in men, a few general population studies have found a positive association between substance use and sexual victimization among males (Eliason et al., under review; Stein et al., 1988).

Because the conceptualizations and definitions of sexual abuse vary widely across studies it is difficult to compare prevalence estimates. However, it appears that lesbians are at least as likely to report CSA as are heterosexual women. In a study of 50 lesbians admitted for substance abuse treatment in 1986–1987, Neisen and Sandall (1990) found that nearly 70% of the women reported a history of CSA, a rate comparable to that in studies of general population women in treatment (Rohsenow, Corbett & Devine, 1988). Like research on women in the general population, most studies of lesbians not in treatment find substantially lower rates of CSA. Bradford, Ryan, and Rothblum (1994) found that 21% of the women surveyed in the NLHCS reported being raped or sexually attacked during childhood. In a later analysis of data from the NLHCS, lesbians who had been sexually abused, raped, or victimized reported significantly more depression and alcohol abuse than did those not reporting these experiences (Descamps et al., 2000).

In two recent studies of lesbians and heterosexual women conducted in Chicago somewhat higher rates of CSA were reported. For example, in a survey of 284 lesbians and a matched comparison group of 134 heterosexual women in Chicago, lesbians reported significantly higher rates of CSA (29% compared

with 14%) (Hughes, Haas & Avery, 1997). Because rates of CSA were calculated using a restricted age range (under age 15), these findings likely underestimate the number of women (both lesbian and heterosexual) who actually experienced CSA. In this study, CSA was not directly associated with level of alcohol consumption or alcohol problems in either the lesbian or the heterosexual group.

More recently Hughes (1999) conducted an in-depth study of 63 lesbians and a matched sample of 57 heterosexual women to examine potential risk and protective factors for heavy drinking. Personal interviews were conducted with this community sample of women using a slightly adapted version of the National Study of Health and Life Experiences of Women (NSHLEW) survey instrument (R. Wilsnack et al., 1984). Despite a relatively restrictive definition of CSA (based on the work of Wyatt, 1985), very high rates of CSA were found among Chicago study participants. About two-thirds of lesbians (67%) and almost one-half (47%) of heterosexual women reported experiences that met the study definition of CSA. The rates for both lesbian and heterosexual women were substantially higher than the 24% reported by women in the NSHLEW (Wilsnack et al., 1997). In later analyses of data from the study, CSA was significantly related to a multiple indicator latent measure of alcohol abuse in both lesbians and heterosexual women (Hughes, Johnson, & Wilsnack, in press). In a study of 567 lesbians and bisexual women in North Carolina, Rankow, Cambre, and Cooper (1998) found that women who reported CSA (34% of the sample) were twice as likely to report heavy drinking and three times as likely to report injection drug use as those without histories of CSA.

Two recent community-based studies suggest that gay and bisexual men may also experience high rates of childhood sexual victimization (Jinich et al, 1998; Paul, Catania, Pollack, & Stall, 2001). Jinich et al. (1998) used data from two separate population-based samples of gay and bisexual men ($n = 1941$) who lived in Portland and Tucson to explore the association between CSA and high-risk sexual behavior. Childhood sexual abuse was defined as sexual behavior prior to age 13 with someone at least 5 years older, or with someone at least 10 years older when the respondent was between 13 and 15 years old. Using this definition, more than one-fourth (28%) of the sample met the criteria for CSA. Interestingly, 44% of the men who reported sexual experiences between ages 13–15 with partners at least 10 years older also reported that the sexual activity had not been coerced. The authors caution that although many respondents reported that experiences were non-coercive, this does not mean that they were not exploitative, or free from subsequent detrimental effects.

Researchers in the Urban Men's Health Study also explored the prevalence of childhood sexual coercion among men who have sex with men (MSM). In this study 2881 MSM were categorized as "never coerced," "sexually coerced by age 17," or "sexually coerced only after age 17." These investigators found that one-fifth (21%) of the men reported sexual coercion before age 18 (Paul et al., 2001).

Although less studied, the link between CSA and substance abuse in gay men appears to be as robust as that found for lesbians. For example, in a study of 151 gay men admitted for substance abuse treatment, 42% reported histories of sexual abuse (Neisen & Sandall, 1990). Similarly, in a community sample of MSM, Bartholow et al. (1994) found that CSA was associated with greater substance use and with HIV-risk behaviors.

Domestic Violence

The reluctance to acknowledge battering in same-sex relationships, both by society at large and by the lesbian and gay communities, has resulted in limited attention to this problem (Coleman, 1994). Judging from the few studies that have been conducted in this area, it appears that lesbians and gay men are at least as likely as heterosexuals to experience violence in their intimate relationships. Although scant, most existing research has focused on violence in lesbian relationships and only a handful of studies have explored the relationship between same-sex violence and the use of alcohol or other substances.

In one of the earliest studies to explore domestic violence in a lesbian sample, Bradford and Ryan (1987) found that 160 (8%) of lesbians in the NLHCS reported having been abused by a lover. However, because questions did not ask about the sex of the abusive lover, it cannot be assumed that the abusive lover was a woman.

Schilit, Lie and Montagne (1990) surveyed women belonging to a lesbian organization in Tucson, Arizona, about their experiences with partner abuse. Of the 107 (31%) who responded, 37% reported that they had been or were currently involved in an abusive relationship with a female partner. Although the wording of questions did not allow the investigators to determine whether the respondent was the victim or the perpetrator of the battering, the findings did confirm the existence of violence in at least some portion of the lesbian population. Like findings related to battering in the general population (e.g., Miller, Downs, & Gondoli, 1989), a significant proportion (64%) of the women in Schilit et al.'s study reported that they used AODs during or prior to the incidents of battering. In more than one-half of the cases (64%), the women's partners also used AODs drugs prior to battering incidents.

Renzetti (1992, 1994) studied 100 lesbians from various parts of the U.S. and Canada. Unlike Schilit et al.'s (1990) findings, only 35% of Renzetti's respondents who were involved in violent relationships reported that their partners were under the influence of AODs at the time battering occurred (28% reported that both they and their partners were under the influence). In a number of violent relationships, both the respondent and her partner were near-abstainers.

Domestic violence in gay male couples is even less well documented than in lesbian couples. However, several studies have found evidence that this problem

exists in a number of same-sex male relationships. For example, in a survey of the gay community in Minneapolis/St. Paul, 17% of the men who responded indicated that they had been in a physically violent relationship with another man (Elliott, 1996). In a later study conducted in San Francisco, Lettelier (1996) estimated that one in five men in same-sex relationships experienced violence. Further, 30% of the battered gay men in this study were found to be HIV-positive. Lettelier cautioned that while HIV infection is not a cause of domestic violence, it sometimes is used as a method to control the battered partner and to decrease his ability to leave the abusive relationship. No studies were found that explored the relationships between AOD use and domestic violence in gay men or in bisexual or transgender women or men.

The issues related to violence in same-sex relationships are even more complex than those in heterosexual relationships. For lesbians and gay men in violent relationships, isolation associated with being a member of a marginalized population, and society's tendency to view domestic violence through the lens of gender inequality and male dominance, make it exceedingly difficult to seek help. Such isolation and stigmatization may induce or increase substance use in lesbians and gay men who are involved in abusive relationships, and substance use may increase vulnerability to further violence in the relationship. Because of societal attitudes and gender-role norms, men who are battered are even less likely than battered women to seek help. Men who do attempt to seek help generally find that battered women's shelters are not equipped to serve them, and staff do not understand their experiences. Clearly, considerably more work is needed to address the needs of men (both gay and heterosexual) in abusive relationships (Hamberger, 1996). In addition, more research is needed that focuses on domestic violence among both gay men and lesbians of color (Mendez, 1996), and among bisexual and transgender persons of all races.

Peer and Partner Drinking

A frequently noted characteristic of women's drinking behavior is the tendency to engage in drinking patterns that parallel those of significant others. This phenomenon is among the risk factors most consistently reported in the literature on alcohol use among women (S. Wilsnack, 1996). Because lesbians appear to have lower rates of abstention from alcohol and higher rates of alcohol-related problems than do women in the general population, they may be at risk for coupling with a partner who uses or abuses alcohol. In the context of other sociocultural factors, such as more opportunities to drink and fewer traditional role restrictions and social prohibitions against drinking (McKirnan & Peterson, 1989a; Rothblum, 1994), and because lesbian relationships are characterized by greater intimacy and shared activities (Hurlbert & Apt, 1993; Vargo, 1987), the

influence of problem-drinking partners may be stronger on lesbians' drinking than on that of heterosexual women's.

Weinberg (1994) found evidence for both partner and peer influence on gay men's drinking. Among gay men in his study, alcohol consumption was generally higher among men whose partners were heavy drinkers, and partners' drinking was a strong predictor of alcohol problems. Almost two-thirds (65%) of the men in his sample went to a gay bar at least once per week. Even when frequency of "bargoing" declined among gay couples, alcohol was often integrated into the couples' daily routine. Reducing alcohol intake was particularly difficult if partners were unwilling to change their drinking patterns. Weinberg also explored the role of peers' drinking and found that gay men whose social lives revolved around bar settings were likely to have friends who drank heavily. Socializing in bars was associated with both availability of alcohol and peer pressure to drink. Weinberg uses "reference group theory" to explain the peer group's influence in creating social norms for drinking. Reference group theory may have particular relevance to primary and secondary prevention strategies that focus on harm-reduction strategies among communities of gay men, and perhaps among lesbian, bisexual, and transgender people who use bars as a primary setting for socializing.

SUMMARY

This discussion of risk and protective factors is not intended to be exhaustive. It excludes, for example, biologic/genetic factors and psychiatric illness, and only touches on cognitive processes—such as individual beliefs, expectations, coping skills, and self-efficacy—believed to be important in substance use, abuse, and dependency. In addition, it also excludes potentially important factors that are unique to LGBT populations such as coming out, identity formation, and internalized homophobia. Each of these areas offers promising opportunities for substance abuse research and each has implications for prevention of substance abuse in LGBT populations.

CONCLUSIONS

Despite the many gaps in research on substance abuse and sexual orientation, recent data suggest that, overall, substance use among lesbians and gay men—particularly alcohol use—has declined over the past two decades. However, both heavy drinking and use of drugs other than alcohol appear to be prevalent among young lesbians and gay males, and among some older groups of lesbians and gay men. Further, although almost no studies have focused specifically on the identification of risk and protective factors in LGBT populations, this review suggests that lesbians and gay men may still be at heightened risk for substance

abuse. Much less is known about bisexual or transgender women and men, but these groups may also be at heightened risk for substance abuse because in addition to being stigmatized and discriminated against by heterosexuals, they are frequently further marginalized by the gay and lesbian community (Firestein, 1996; Israel & Tarver, 1997).

Implications for Prevention Research

In order to more accurately estimate prevalence of substance use and abuse and to determine which subgroups may be at greatest risk, national population-based surveys that include valid and standard measures of sexual orientation, sexual behavior, and gender identity, and of substance use, abuse, and dependency are needed. Although political constraints have limited advances in this area, some progress has been made including, for example, the inclusion of sexual orientation questions in the National Health and Nutrition Examination Survey (NHANES) and the Youth Risk Behavior Surveillance System (YRBSS). Adding questions on sexual orientation and gender identity to studies of the general population that focus on AOD use, such as the National Household Survey on Drug Abuse, would be a cost-effective way of providing much needed information about prevalence and risk of substance abuse in LGBT populations. In addition, having information about sexual orientation and gender identity could improve understanding of how gender, gender-role socialization, and adherence to gender-role norms and expectations influence AOD use in the heterosexual population.

Until recently most substance abuse research in LGBT populations has focused on alcohol use. With the advent of HIV/AIDS, increasing attention has been given to the use of other drugs, particularly those believed to be associated with risky sexual behavior, but this research has focused almost exclusively on gay and bisexual men. More research is needed that explores the use of drugs other than alcohol in various subgroups within the LGBT population. For example, research suggests that lesbians are at higher risk than heterosexual women for substance abuse and substance abuse-related problems. However, little research has examined risk and protective factors associated with lesbians' use of AODs.

Stigma and discrimination are known to be important stressors for minority groups; individual minority group members face hostility, prejudice, and isolation (Moritsugu & Sue, 1983). Carefully designed research studies are needed that examine the impact of minority stress on substance use and abuse. For example, how is internalized homophobia, stress, or depression associated with substance use and abuse? What groups are at greatest risk?

Although more research on risk factors for substance abuse among LGBT persons is clearly needed, attention must also be given to resilience and protective factors. For example, although many LGBT individuals have experienced abuse or violence in childhood and/or adulthood, and all LGBT persons are exposed

to myriad stressors associated with their gender-variant or non-heterosexual behavior or identity, most of them do not drink excessively or use drugs. Focusing on resilient groups, who are by far the majority, can inform the development of prevention and intervention strategies by highlighting effective coping and problem solving skills. Further, focusing on strengths and resilience might help to lessen the tendency of health care providers and others to view LGBT persons through a pathological lens and send a much more positive message to individuals in LGBT communities, which may help to boost self-esteem.

More research is needed that explores normal development, health behavior, and health concerns of LGBT persons across the lifespan. Gender-role socialization, sexual behaviors, economic status, and relationship patterns differ substantially across different age groups and between men and women. Life-course or life-span research focuses on various age cohorts and attempts to more clearly identify age- and gender-specific factors associated with vulnerability or risk. Longitudinal or prospective studies of a cohort or generation of LGBT persons would provide a powerful tool for risk-factor identification.

Continued efforts must also be made to include larger samples of persons of color in all studies of LGBT populations in order to determine how race/ethnicity interacts with sexual orientation and gender identity to influence substance abuse risk at various stages of development.

Implications for Prevention

Given evidence that the internalization of stigma and negative stereotypes are related to both depression (Meyer, 1995; Shidlo, 1994) and substance abuse (Finnegan & Cook, 1984; Glaus, 1985), prevention efforts must focus on strategies that lessen the effects of stigma and discrimination and promote healthy psychosocial adjustment.

It is a well-known axiom that primary prevention efforts must occur prior to the initiation of the targeted behavior. Therefore, prevention efforts must focus on LGBT youth. Findings that LGB youth may be more likely than heterosexual youth to initiate risk behaviors, including substance use, before age 13 (Garofolo et al., 1998) suggest that prevention efforts will need to include children as well as adolescents and young adults. Programs for youth must, at minimum, address sexual orientation, sexual behavior, societal stigma, and negative stereotypes. Garofolo and colleagues cite studies suggesting that having a lesbian, gay, or bisexual friend is important for LGB youths' development of a positive self-image. Therefore, peer-based interventions may be an important component of prevention programs for youth. Programs that foster peer and social support as well as facilitate access to confidential professional counseling may be particularly effective. Youth (and adult LGBT persons) who feel more comfortable about their sexual orientation are likely to have better coping skills and to be more resilient.

The studies reviewed in this paper highlight a number of important areas in which prevention and intervention strategies might be targeted toward adult LGBT groups or communities. First, the findings related to smaller gender differences and lower rates of decline in AOD use with age among LGBT persons suggest that prevention strategies must target lesbians and gay men of all ages. Findings suggesting that lesbians may be more likely than heterosexual women to worry about their drinking (Hughes, Johnson, & Wilsnack, in press) may reflect greater receptivity to prevention messages.

Health care providers can play an important role in primary, secondary, and tertiary prevention of substance abuse in LGBT populations. Potential risk and protective factors reviewed in this paper can provide a basis for the development of risk assessments that can be used by mental health counselors and other professionals who provide care to LGBT persons. For example, lesbians and gay men who have histories of physical or sexual abuse, who have fewer social roles and responsibilities, or who have heavy drinking or drug-using partners may be at heightened risk for substance abuse. Other risk factors such as depression, relationship stress or violence, and limited outlets for socializing are also important to assess. Greater knowledge about risk and protective factors would also benefit substance abuse treatment providers. Eliason (2000) found that the majority of substance abuse counselors surveyed in Iowa lacked adequate knowledge to be competent counselors of LGBT clients.

To intervene effectively with individuals or groups, information about, and sensitivity to, the unique risks and concerns of these populations are essential. It is important to understand which drugs are most likely to be used or abused by which segments of LGBT populations. Prevention strategies can then target the groups at greatest risk. For example, poppers and methamphetamines are common drugs of abuse among gay and bisexual men; methamphetamines and nonprescribed hormones are commonly used by some transgender individuals, especially MtFs. Among lesbians, alcohol use appears to be among the greatest risks for substance abuse, though methamphetamine use is becoming more common among some groups of lesbians, especially those on the West Coast (Cabaj et al., 2001). Finally, prevention efforts must also address the unique role that AODs play in the sexual lives of many gay and bisexual men.

Although a great deal of research has documented health providers', including substance abuse counselors', lack of understanding of LGBT persons (Eliason, 2000), there have recently been a number of promising initiatives focusing on improving understanding of LGBT health. These include, the Institute of Medicine report, *Lesbian Health: Current Assessment and Directions for the Future* (Solarz, 1999), funded by the Office of Research on Women's Health (DHHS) and the Centers for Disease Control (CDC) Office of Women's Health; the National Institute of Mental Health (NIMH) and the American Psychological Association's two-day workshop "New Approaches to Research on Sexual Orientation, Mental

Health, and Substance Abuse"; and a white paper on LGBT health funded by the U.S. Health and Human Services Administration (HRSA) (Dean et al., 2000). In addition, the Center for Substance Abuse Treatment (CSAT) recently published a Technical Assistance Publication (TAP) that focuses on substance abuse treatment issues in LGBT populations. Each of these initiatives should help to stimulate further research and prevention efforts aimed at improving the health and lives of LGBT persons.

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