

Mental Health and Substance Use Disorders Among Latino and Asian American Lesbian, Gay, and Bisexual Adults

Susan D. Cochran and Vickie M. Mays
University of California, Los Angeles

Margarita Alegria
Harvard Medical School

Alexander N. Ortega
University of California, Los Angeles

David Takeuchi
University of Washington

Growing evidence suggests that lesbian, gay, and bisexual adults may be at elevated risk for mental health and substance use disorders, possibly due to anti-gay stigma. Little of this work has examined putative excess morbidity among ethnic/racial minorities resulting from the experience of multiple sources of discrimination. The authors report findings from the National Latino and Asian American Survey (NLAAS), a national household probability psychiatric survey of 4,488 Latino and Asian American adults. Approximately 4.8% of persons interviewed identified as lesbian, gay, bisexual, and/or reported recent same-gender sexual experiences. Although few sexual orientation-related differences were observed, among men, gay/bisexual men were more likely than heterosexual men to report a recent suicide attempt. Among women, lesbian/bisexual women were more likely than heterosexual women to evidence positive 1-year and lifetime histories of depressive disorders. These findings suggest a small elevation in psychiatric morbidity risk among Latino and Asian American individuals with a minority sexual orientation. However, the level of morbidity among sexual orientation minorities in the NLAAS appears similar to or lower than that observed in population-based studies of lesbian, gay, and bisexual adults.

Keywords: gay, bisexual, Latino, Asian American, psychiatric epidemiology

Accumulating evidence indicates that some lesbians, gay men, and bisexual individuals, as compared to heterosexual women and men, may be at elevated risk for psychological and substance use morbidity, especially lifetime histories of suicide attempts (Bur-

gard, Cochran, & Mays, 2005; Cochran, 2001; Cochran, Ackerman, Mays, & Ross, 2004; Cochran, Keenan, Schober, & Mays, 2000; Cochran & Mays, 2000a, 2000b; Cochran, Mays, & Sullivan, 2003; Drabble, Midanik, & Trocki, 2005; Fergusson, Horwood, & Beautrais, 1999; Fergusson, Horwood, Ridder, & Beautrais, 2005; Mills et al., 2004; Sandfort, de Graaf, Bijl, & Schnabel, 2001; Skegg, Nada-Raja, Dickson, Paul, & Williams, 2003; Wichstrom & Hegna, 2003). This greater morbidity risk has generally been attributed to the adverse effects of anti-gay discrimination (Mays & Cochran, 2001; Mays, Cochran, & Roeder, 2004; Meyer, 2003).

For Latino and Asian American lesbian, gay, and bisexual individuals, dual minority statuses arising from both ethnicity/race and sexual orientation is thought to generate even greater vulnerability to the adverse mental health consequences of discrimination (Cochran & Mays, 1994; Diaz, Ayala, Bein, Henne, & Marin, 2001; Diaz, Bein, & Ayala, 2006; P. A. Wilson & Yoshikawa, 2004). However, factual evidence supporting this perspective is both sparse and inconclusive (Consolacion, Russell, & Sue, 2004; Diaz et al., 2001; Pinhey & Millman, 2004; Yoshikawa, Wilson, Chae, & Cheng, 2004; Zea, Reisen, & Poppen, 1999; Zea, Reisen, Poppen, Bianchi, & Echeverry, 2005). Nevertheless, psychologists and others have written extensively about the intersections of minority ethnicity/race and sexual orientation emphasizing the complexities that this can engender for clients (Estrada & Rutter, 2006; Fukuyama & Ferguson, 2000; Greene, 1994; Miville & Ferguson, 2006; Root & Suyemoto, 2005; A. Smith, 1997). In this context, empirical evidence of prevalent psychiatric morbidity risk among Latino and Asian American individuals who are also sexual

Susan D. Cochran, Department of Epidemiology and Center for Research, Education, Training and Strategic Communication on Minority Health Disparities, University of California, Los Angeles; Vickie M. Mays, Departments of Psychology and Health Services and Center for Research, Education, Training and Strategic Communication on Minority Health Disparities, University of California, Los Angeles; Margarita Alegria, Department of Psychiatry, Harvard Medical School; Alexander N. Ortega, Department of Health Services, University of California, Los Angeles; David Takeuchi, School of Social Work, University of Washington.

This work was supported by the National Institute of Mental Health (Grant MH 61774), the National Institute of Drug Abuse (Grant DA 15539), and the National Center for Minority Health and Health Disparities (Grant MD P60-000508). The National Latino and Asian American Survey (NLAAS) data used in this analysis were provided by the Center for Multicultural Mental Health Research at the Cambridge Health Alliance. The NLAAS project was supported by the National Institute of Mental Health (Grants MH 62209 and MH 62207) as well as funding from the Substance Abuse and Mental Health Services Administration, the Center for Mental Health Services, and the Office of Behavioral and Social Sciences Research. We wish to thank Maria Torres, Zhun Cao, and Shan Gao for their assistance with data management.

Correspondence concerning this article should be addressed to Susan D. Cochran, Department of Epidemiology, Box 951772, 650 Charles E. Young Drive, University of California, Los Angeles, School of Public Health, Los Angeles, CA 90095-1772. E-mail: cochran@ucla.edu

orientation minority individuals can both inform our understanding of mental health correlates of sexual orientation and provide culturally specific clinical practice guidance.

There are good reasons to question whether Latino and Asian American lesbians, gay men, and bisexual individuals may be more vulnerable to psychiatric morbidity than other lesbians, gay men, and bisexual persons. An important one is that rates of psychiatric morbidity are generally lower among Latinos and Asian Americans, unselected for sexual orientation, when contrasted with non-Hispanic White Americans (Alegria et al., 2007; Alegria, Canino, Stinson, & Grant, 2006; Breslau et al., 2006; Bromberger, Harlow, Avis, Kravitz, & Cordal, 2004; Grant et al., 2004, 2006; Hasin, Goodwin, Stinson, & Grant, 2005; Ortega, Rosenheck, Alegria, & Desai, 2000). Rates among Latino and Asian Americans of foreign birth are lower still than among their ethnic/racial counterparts who were born in the United States.

Nevertheless, for some Latino and Asian American lesbians, gay men, and bisexuals, the possible protectiveness of their ethnic group of origin may be mitigated by the greater likelihood of being exposed to social discrimination from multiple pathways (Bowleg, Huang, Brooks, Black, & Burkholder, 2003; Brooks, 1981; Crawford, Allison, Zamboni, & Soto, 2002; Diaz et al., 2001, 2006; DiPlacido, 1998; Meyer, 2003; Yoshikawa et al., 2004). This may occur through two independent mechanisms. In one, within the gay and lesbian community, ethnic/racial minorities may be subjected to ethnic/racial discrimination (P. A. Wilson & Yoshikawa, 2004). In a second pathway, anti-gay stigma within ethnic/racial minority communities may expose ethnic/racial minority lesbians, gay men, and bisexual individuals to anti-gay discrimination and social disapproval, especially given the levels of general antipathy toward homosexuality that is thought to exist within many ethnic/racial immigrant communities (Choi, Han, Hudes, & Kegeles, 2002; Choi, Yep, & Kumekawa, 1998; Diaz et al., 2001; Mays, Cochran, & Rhue, 1993; Mays et al., 2004; Nemoto et al., 2003; Span & Vidal, 2003; B. D. M. Wilson & Miller, 2002; Yoshikawa et al., 2004). Further, in both Latino and Asian American communities, cultural expectations surrounding family role obligations encourage maintaining strong ties to families of origin (Coohey, 2001; Greenberger, Chen, Tally, & Dong, 2000; Yeh, Inman, Kim, & Okubo, 2006) and may discourage the level of individuation that is commonly seen as essential to a successful "coming out" process (Dube & Savin-Williams, 1999; Greene, 1994; Nemoto et al., 2003; Rosario, Schrimshaw, & Hunter, 2004; Yoshioka & Schustack, 2001). These expectations could create a greater pressure on ethnic/racial minority lesbians, gay men, and bisexual individuals than on non-Hispanic White sexual minorities to maintain a heterosexual facade in order to maintain close ties to and avoid conflict with families of origins (Mays, Chatters, Cochran, & Mackness, 1998; Morales, 1989). Indeed, in one survey of identity development issues among young gay and bisexual youth and adults, although no differences were found in negative feelings about one's own homosexuality across ethnic/racial groups, ethnic/racial minorities reported that they were far less likely to have disclosed their sexual orientation to family members (Dube & Savin-Williams, 1999). Given that nondisclosure of minority sexual orientation is a known risk factor for depression (Ullrich, Lutgendorf, & Stapleton, 2003), rates of psychiatric morbidity might be expected to be particularly elevated among Latino and Asian American sexual orientation minorities, both as compared

within their own ethnic/racial groups and when compared to non-Hispanic Whites of similar sexual minority status.

Research on the possible effects of this dual status phenomenon is rare. Some surveys have found clear evidence of high levels of psychological distress among Latino and Asian American gay and bisexual men. For example, one study using a convenience sampling approach observed both high levels of depressive distress among Asian American gay men and a positive association between distress and experiences of discrimination (Yoshikawa et al., 2004). A second study (Diaz et al., 2001), which used probabilistic methods to sample Latino gay and bisexual men from three urban settings, also found high levels of psychological distress, including suicidal ideation, and a strong positive relationship between psychological morbidity and experiences with social discrimination. In this latter study, anti-gay discrimination had a more profound effect on men's distress levels than did racism, which Diaz et al. (2001) attributed to the high prevalence of foreign nativity in their respondents. Neither study, however, included a comparison group. Finally, a third study (Siegel & Epstein, 1996), which did include a comparison group, contrasted the experiences of adult HIV-infected gay men and found that Latino gay men reported higher levels of psychological stress related to being gay than did non-Latino gay men. All of these findings provide some tentative evidence that the dual impact of racism and anti-gay discrimination may have adverse effects on the mental health of Latino and Asian American gay and bisexual men.

At the same time, other studies of both Latino and Asian American adolescents (Consolacion et al., 2004; Rosario et al., 2004; Rosario, Schrimshaw, Hunter, & Gwadz, 2002) and Latino gay and bisexual adults (Zea et al., 1999) have provided only inconsistent evidence for an association between sexual orientation and markers of psychological morbidity. For example, Consolacion et al. (2004), using information available within the National Longitudinal Survey of Adolescent Health cohort study, compared levels of current depressive distress and the occurrence of suicidal thoughts in the past year among adolescents who varied in their reports of same-gender attractions. Consolacion et al. observed that among Latino adolescents, those who reported any same-gender attractions, as compared to those who did not, evidenced higher levels of depressive distress. However, these effects were not observed in similar comparisons among Asian/Pacific Islander adolescents in the same study. Further there was little evidence of an association between sexual orientation and reports of suicidal thoughts.

One limitation of the work in this area to date is that none of these studies actually measured diagnosable psychiatric disorders as opposed to psychological distress. As has been shown elsewhere (Breslau et al., 2006), populations affected by social inequalities and discrimination can evidence high levels of general psychological distress, but this does not invariably translate into greater prevalence of psychiatric disorders. Thus it is possible that Latino and Asian Americans who are also lesbian, gay, or bisexual might, in fact, commonly experience relatively high levels of psychological distress but not greater risk for psychiatric disorders. At this point, it is unclear whether sexual orientation-related differences in morbidity risk for mental health and substance use disorders observed in studies of the general population (Burgard et al., 2005; Cochran, 2001; Cochran et al., 2000, 2003, 2004; Cochran & Mays, 2000a, 2000b; Drabble et al., 2005; Mills et al., 2004;

Russell, Driscoll, & Truong, 2002; Russell & Joyner, 2001; Saewyc, Bearinger, Heinz, Blum, & Resnick, 1998; Sandfort et al., 2001) also exist within Latino and Asian American subpopulations. To examine these issues, we drew upon data available in the National Latino and Asian American Survey (NLAAS), a national household probability survey of psychiatric disorders among Latino and Asian Americans in the United States. The NLAAS is part of a family of epidemiologic surveys, the Collaborative Psychiatric Epidemiology Surveys, that were specifically designed to provide population-based information on morbidity risks in the general United States population. Unlike the other two surveys in the Collaborative Psychiatric Epidemiology Surveys, the NLAAS included assessment of sexual orientation. Using self-reported markers of sexual orientation status (identity and recent reports of sexual experiences), we examined evidence for possible sexual orientation-associated differences in lifetime and 1-year prevalence of psychiatric morbidity and suicide symptoms among Latino and Asian American adults. The NLAAS offers a unique opportunity to explore the question of whether minority sexual orientation within Latino and Asian American populations does, in fact, increase risk for psychiatric morbidity. Unlike previous surveys, the NLAAS utilized a diagnostic interview allowing more precise examination of possible disparities in morbidity linked to sexual orientation. Further, the NLAAS selected respondents irrespective of their sexual orientation, in contrast to much of the previously reported work.

Method

Sample and Procedures

The NLAAS (Alegria et al., 2004), conducted in 2002–2003, is a complex, multistage, national household probability survey of the noninstitutionalized U.S. Latino and Asian American population. The overall response rate for the survey was 73.2%. Design and data collection methods are described in greater detail elsewhere (Pennell et al., 2004). In brief, eligible adult respondents ($N = 4,649$), ages 18 and older, were administered an extensive face-to-face interview in one of five languages (English, Spanish, Tagalog, Vietnamese, or Chinese). The interview was based, in part, on the World Mental Health Survey Initiative Version of the WHO Composite International Diagnostic Interview (WMH-CIDI; Kessler & Ustun, 2004). Two additional questions assessed markers of sexual orientation including sexual orientation identity (response options were “heterosexual”; “homosexual, lesbian, gay”; “bisexual”; “something else”; and “not sure”) and past year histories of sexual experiences (response options were with “females only,” “mostly females,” “about equal numbers of males and females,” “mostly males,” “all males”). Using this information, we classified respondents into one of two groups: (a) those who labeled themselves gay, lesbian, or bisexual ($n = 91$) or reported that any of their sexual experiences in the past year were with same-gender sexual partners ($n = 154$) and (b) those who considered themselves heterosexual and/or reported that all of their sexual experiences in the past year were with opposite-gender persons ($n = 4,253$). An additional 151 individuals indicated that they had no sexual experiences in the prior year and failed to provide a usable response to the sexual orientation question. These respondents were dropped from further analyses due to our inability to classify for sexual orientation status.

Study Measures

Psychiatric morbidity. Using modules from the WMH-CIDI, the NLAAS measured lifetime and 1 year prevalence of 2 depressive disorders (major depression, dysthymia), 5 anxiety disorders (generalized anxiety disorder, agoraphobia without panic, panic disorder, social phobia, and post-traumatic stress disorder), 4 substance use disorders (alcohol abuse, alcohol dependency, drug abuse, drug dependency), and 2 eating disorders (bulimia, anorexia). The structured diagnostic interview was administered by trained lay interviewers and rendered diagnoses based on criteria from the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; *DSM-IV*; American Psychiatric Association, 1994). We coded respondents as positive for a depressive disorder if they met criteria for either of the 2 specific disorders measured, positive for an anxiety disorder if they met criteria for any of the 5 anxiety disorders assessed, positive for a substance use disorder if they met criteria for any of the 4 substance use disorders measured, and positive for an eating disorder if they met criteria for either of the eating disorders assessed. Those who met criteria for any of the 13 disorders measured in the NLAAS were also coded as positive for any psychiatric disorder.

Suicide symptoms. The WMH-CIDI also assesses lifetime and past year prevalence of three suicide symptoms: ideation, plans, and attempts. From this, we created two variables for each time period: positive reports of any of the three suicide symptoms assessed and positive reports specifically of a suicide attempt.

Demographics. The NLAAS obtained demographic information, including respondents' age at interview, level of educational attainment, race/ethnicity, level of family income, current marital or cohabitation status, and country of birth.

Statistical Analyses

We used Stata version 9.0 (Stata Corporation, 2005) to conduct analyses. Data were weighted to adjust for selection probability, nonresponse, and post-stratification. Estimates of sampling variance were obtained with the Taylor series linearization approach (Shah, Barnwell, & Bieler, 1996). Because of the robust association between gender and psychiatric outcomes (Kessler, Berglund, et al., 2005; Kessler, Chiu, Demler, Merikangas, & Walters, 2005), all analyses were conducted separately for men and women. Using logistic regression methods, we examined sexual orientation-related differences in lifetime and 1-year prevalence of disorders and suicide symptoms and treated several demographic factors as possible confounders. These were age, race/ethnicity (Latino vs. Asian American), educational attainment, family income, relationship status (married/cohabiting vs. not), country of birth (U.S. born vs. foreign born), and language of interview (English vs. other language). All of these have been shown in previous work to be variously associated with sexual orientation and mental health indicators (Cochran et al., 2000; Cochran & Mays, 2000b, 2007; Cochran, Mays, Brown, & Ponce, 2007; Gilman et al., 2001; Grant et al., 2004; Kandel, Chen, Warner, Kessler, & Grant, 1997; Kessler et al., 1994, 2004; Wilsnack & Wilsnack, 1997). In the text, we report odds ratios (ORs) with 95% confidence intervals (CI) adjusted for possible demographic confounding. In some instances, we also report results from unadjusted comparisons by means of a Wald chi-square test between those of differing sexual orientation.

In a separate set of analyses, we also report two comparisons within the subset of individuals who reported either a lesbian, gay, or bisexual identity or recent same-gender sexual experiences. Because of sample size limitations, these analyses are unadjusted for demographic confounding. In the first, we contrast by means of a Wald chi-square test, within each gender separately, Latino versus Asian American individuals for prevalence of psychiatric disorders and suicide symptom histories. In the second, we compare those individuals who were classified on the basis of reported identity (gay, lesbian, or bisexual) with those who were classified from their recent sexual behavior experiences.

All statistical significance was evaluated with .05-level two-sided tests where appropriate. Both weighted point estimates and their standard errors or CIs are reported in the text. This work received institutional review board approval.

Results

Sexual Orientation and Demographic Characteristics

Approximately 4.8% (CI = 3.9%–5.7%) of Latino and Asian American adults were classified as having a minority sexual orientation (e.g., gay, bisexual or homosexually experienced). Prevalence estimates differed significantly between men (OR = 3.2%, CI = 2.3%–4.2%) and women (OR = 6.4%, CI = 4.9%–7.8%; $\chi^2(1) = 24.57, p < .001$). There were few demographic differences associated with sexual orientation. Among men, gay/bisexual men, as compared to heterosexual men, were significantly less likely to be married or cohabiting and were more likely to be

of Asian American as opposed to Latino background (see Table 1). Among women, lesbian/bisexual classified women reported higher family income than did heterosexually classified women.

Prevalence of Disorders

Lifetime and 1-year prevalence of psychiatric disorders among men varying in sexual orientation were also relatively similar, after we adjusted for possible demographic confounding (see Table 2). For both groups of men, about a quarter met lifetime criteria for at least one of the psychiatric disorders measured in the NLAAS, with about half that meeting criteria for a disorder in the prior year. Although few significant differences were observed among women varying in sexual orientation as well, lesbian/bisexual classified women, as compared to heterosexually classified women, were significantly more likely to evidence a positive lifetime and recent history of a depressive disorder and a recent history of a drug use disorder. Overall, about 22% of lesbian/bisexual classified women met criteria for a recent disorder, whereas approximately 15% of heterosexually classified women did, a difference that showed a statistical trend ($p = .09$) after we adjusted for possible demographic confounding.

Histories of Suicide Attempts

Approximately 8% of gay/bisexual classified men and 8.5% of lesbian/bisexual classified women reported a lifetime history of attempted suicide. Approximately 2.4% of sexual orientation mi-

Table 1
Demographic Characteristics by Gender and Sexual Orientation of Latino and Asian American Adults, Ages 18 Years and Older, in the National Latino and Asian American Survey

Characteristic	Men				P	Women				P
	Gay/bisexual (n = 84)		Heterosexual (n = 1,982)			Lesbian/bisexual (n = 161)		Heterosexual (n = 2,271)		
	%	SE	%	SE		%	SE	%	SE	
Age, in years (%)					0.30					0.16
18–34	58.5	7.2	48.7	1.9		51.3	5.2	44.3	1.9	
35–49	30.4	6.2	30.4	1.2		29.3	3.9	30.6	1.4	
50+	11.1	3.6	20.9	1.4		19.4	3.6	25.1	1.3	
Education (%)					0.93					0.78
<High school	18.4	5.6	36.8	1.8		35.0	5.2	36.6	1.8	
High school	28.7	6.8	23.5	1.1		14.0	3.4	22.2	1.0	
Some college	36.4	7.7	20.4	1.3		25.4	3.9	23.4	1.4	
College degree	16.6	4.1	19.4	1.4		25.5	5.1	17.8	1.5	
Race/ethnicity (%)					0.01					0.51
Latino	57.5	6.2	75.6	1.9		68.0	4.7	73.0	2.4	
Asian American	42.5	6.2	24.4	1.9		32.0	4.7	27.0	2.4	
Married/cohabiting (%)	46.6	7.5	70.0	1.3	0.01	57.5	5.2	62.8	1.6	0.08
U.S. born (%)	43.9	9.3	36.8	2.1	0.93	35.7	5.1	35.9	2.3	0.66
Interviewed in English (%)	72.3	6.8	53.0	2.9	0.25	55.4	5.3	51.5	3.0	0.72
Family income (%)					0.60					0.05
<\$15,000	23.6	8.4	20.5	1.5		20.4	4.0	29.0	2.6	
\$15,000–\$34,999	22.0	6.3	23.1	1.4		22.0	4.4	26.1	1.1	
\$35,000–\$74,999	26.8	7.5	31.6	2.0		33.2	5.6	24.5	1.8	
\$75,000 or more	27.6	5.7	24.8	1.5		24.3	3.8	20.5	1.5	

Note. Weighted prevalences are shown. P value refers to results of a multivariate logistic regression analysis regressing sexual orientation on age, education, race, marital/cohabiting status, nativity, language of interview, and family income simultaneously, within each gender separately.

Table 2

Psychiatric Morbidity Indicators by Gender and Sexual Orientation Among Latino and Asian American Adults, Ages 18 Years and Older, in the National Latino and Asian American Survey: Prevalences and Partial Results of Multivariate Logistic Regression Analyses

Morbidity	Men						Women					
	Gay/bisexual (n = 84)		Heterosexual (n = 1,982)		Sexual orientation effect ^a		Lesbian/bisexual (n = 161)		Heterosexual (n = 2,271)		Sexual orientation effect ^a	
	%	SE	%	SE	OR	CI	%	SE	%	SE	OR	CI
Lifetime prevalence (%)												
Any depressive disorder ^b	9.7	4.6	10.5	0.9	0.84	0.27, 2.57	24.7	4.6	17.2	0.8	1.63	1.04, 2.55
Any anxiety disorder ^c	18.7	5.0	11.1	1.0	1.86	0.92, 3.72	14.1	2.8	17.0	1.0	0.82	0.52, 1.30
Alcohol abuse/dependency	7.3	4.0	14.3	1.4	0.48	0.14, 1.60	5.2	2.2	3.2	0.6	1.71	0.67, 4.34
Drug abuse/dependency	4.7	3.6	7.9	0.9	0.50	0.08, 3.27	4.4	2.2	1.9	0.6	2.39	0.66, 8.66
Any substance use disorder	7.3	4.0	14.9	1.5	0.44	0.13, 1.48	5.2	2.2	3.8	0.8	1.41	0.51, 3.93
Any eating disorder ^d	0.9	0.7	1.3	0.3	0.51	0.09, 2.92	4.1	2.3	1.8	0.4	2.33	0.57, 9.49
Any psychiatric disorder ^e	25.4	6.0	26.0	1.7	0.90	0.47, 1.75	33.9	4.7	26.6	1.5	1.37	0.90, 2.10
Suicide attempt	8.0	4.5	2.3	0.3	3.37	0.86, 13.21	8.5	3.1	5.2	0.5	1.71	0.79, 3.71
Any suicide symptom ^f	11.7	4.8	8.2	0.8	1.27	0.44, 3.64	13.6	3.5	11.1	1.1	1.21	0.71, 2.06
1-Year prevalence (%)												
Any depressive disorder ^b	8.1	4.4	6.0	0.7	1.11	0.31, 4.02	16.0	3.8	9.2	0.6	1.94	1.17, 3.21
Any anxiety disorder ^c	10.9	3.2	6.8	0.8	1.53	0.77, 3.01	11.3	3.2	10.3	0.8	1.16	0.60, 2.26
Alcohol abuse/dependency	0.6	0.5	3.0	0.5	0.19	0.03, 1.05	1.0	1.0	0.9	0.3	1.00	0.12, 8.13
Drug abuse/dependency	0.5	0.5	1.3	0.3	0.34	0.04, 2.72	2.9	2.0	0.2	0.1	12.05	1.10, 132.08
Any substance use disorder	0.6	0.5	4.0	0.5	0.14	0.03, 0.78	2.9	2.0	1.0	0.3	2.64	0.57, 12.30
Any eating disorder ^d	0.0	0.0	0.6	0.3	0.42	0.13, 1.31	1.4	0.9	0.8	0.3	1.53	0.30, 7.68
Any psychiatric disorder ^e	15.6	4.7	12.8	1.1	1.06	0.54, 2.08	21.9	4.1	15.9	1.0	1.48	0.94, 2.33
Suicide attempt	2.4	2.3	0.3	0.2	6.43	1.63, 25.36	2.4	1.8	0.6	0.2	4.98	0.84, 29.33
Any suicide symptom ^f	3.0	2.4	1.8	0.4	1.16	0.21, 6.55	2.6	1.8	2.5	0.4	0.99	0.22, 4.37

Note. Weighted prevalences and standard errors are shown. OR = odds ratio; CI = confidence interval.

^a Partial results of logistic regression analyses, within gender, controlling for the possible confounding effects of age, education level, race/ethnicity, marital/cohabiting status, nativity, language of interview, and family income.

^b Includes major depression and/or dysthymia.

^c Includes generalized anxiety disorder, agoraphobia without panic, panic disorder, social phobia, and/or post-traumatic stress disorder.

^d Includes bulimia and/or anorexia.

^e Includes any depressive, anxiety, substance use or eating disorder.

^f Includes suicidal ideation, suicide plan, and/or suicide attempt.

nority men and women reported an attempt within the 1 year prior to interview. The lifetime prevalence for both men and women did not differ significantly from heterosexually classified men and women after we adjusted for demographic confounding. However, gay and bisexual classified men were significantly more likely than heterosexually classified men to report a recent suicide attempt. Similar analyses of possible sexual orientation differences among women revealed only a statistical trend ($p = .08$) in the direction of greater prevalence among lesbian and bisexual classified women.

Comparisons Within Sexual Orientation Minority Respondents

Contrasts examining possible race differences within individuals classified as having a minority sexual orientation revealed no significant differences among either men or women. Similarly, in contrasts comparing, within gender, those who reported a lesbian, gay or bisexual identity versus those who reported only recent same-gender sexual experiences, we observed no significant differences in prevalence of psychiatric disorders or suicide symptoms.

Discussion

Across several general population surveys examining possible sexual orientation-related differences in substance use and mental health morbidity, three of the most robust findings have been, when compared to heterosexual women and men, a greater prevalence of suicide attempts among lesbian, gay, and bisexual individuals (Balsam, Beauchaine, Mickey, & Rothblum, 2005; Cochran & Mays, 2000a; Faulkner & Cranston, 1998; Garofalo, Wolf, Wissow, Woods, & Goodman, 1999; Gilman et al., 2001; Remafedi, French, Story, Resnick, & Blum, 1998; Saewyc et al., 1998); a greater prevalence of depression sometimes seen among gay and bisexual men when compared to heterosexual men and sometimes seen among lesbians and bisexual women when compared to heterosexual women (Cochran & Mays, 2000a; Cochran et al., 2003; Fergusson et al., 1999; Gilman et al., 2001; Russell & Joyner, 2001); and a greater prevalence of substance use disorders among lesbians and bisexual women when compared to heterosexual women (Burgard et al., 2005; Cochran et al., 2000; Cochran & Mays, 2000b; Drabble et al., 2005). In addition, despite expectations that gay/bisexual men may experience a greater burden of substance use disorders than is true among heterosexual men, this

does not appear to be generally so (Cochran et al., 2003, 2004; Drabble et al., 2005; Gilman et al., 2001; Sandfort et al., 2001). In many ways, our findings examining mental and substance use disorders among Latino and Asian American lesbians, gay men, and bisexual women and men echo this. Among those interviewed in the NLAAS, gay and bisexually classified men were significantly more likely than heterosexually classified men to report a recent history of a suicide attempt. Although the sexual orientation-related difference among women did not achieve statistical significance, the trend nonetheless was in that direction as well. Further, lesbian and bisexually classified women were more likely than heterosexually classified women to evidence depressive disorders, both lifetime and in the past year, and to have positive recent histories of drug use disorders. In contrast, gay/bisexual classified men were less likely than heterosexually classified men to meet criteria for recent substance use dependency or abuse.

At the same time, it is also the case that the prevalence of the disorders observed among Latino and Asian American sexual orientation minorities in the NLAAS appears similar to and in many cases lower than those reported among sexual orientation minorities in general in previously conducted general population-based surveys. For a variety of reasons, direct comparisons are not really possible given the differences in survey methodologies, choice of diagnostic instruments used, and approaches to classifying respondents into lesbian, gay, bisexual, and heterosexual categories. However findings from the work of Gilman et al. (2001), the closest methodological match to the NLAAS study design, are illustrative. Gilman et al. used information available in the National Comorbidity Survey (NCS), a general population-based survey that used a research methodology similar to that of the NLAAS, including use of a CIDI-based interview. Still, in the NCS, diagnoses were based on criteria from the *DSM-III-R* (American Psychiatric Association, 1987), unlike the *DSM-IV* criteria used in the NLAAS. Further, in the Gilman et al. study, the method of sexual orientation classification and comparison differed: 1-year prevalence of disorders and suicide symptoms were compared between individuals reporting any same-gender sexual partners in the 5 years prior to interview and those who reported only opposite-gender sexual partners. This effectively restricted the sample to persons who were recently sexually active. Therefore the Gilman et al. findings may over- or underestimate the prevalence of some disorders, especially if they are confounded with sexual activity. This is most likely to be true for substance use disorders (Cochran et al., 2000).

Nevertheless, comparison of our results with Gilman et al.'s (2001) findings suggests that some disorders among Latino and Asian American sexual orientation minorities in the NLAAS appear to occur at clearly lower prevalence. In the NCS study, for example, Gilman et al. reported that approximately 20% of sexual orientation minorities met criteria for a recent (past year) history of a substance use disorder, a rate far in excess of what was observed in the NLAAS sample (2%, CI = 0.7%–6.3%). Further, in the NCS, more than a third of lesbian and bisexually classified women (35.1%, *SE* = 7.9%) evidenced a recent depressive disorder. This was more than twice the rate observed in the current study (14.7%, *SE* = 3.9%). In a somewhat less parallel comparison, 40% (*SE* = 7.6%) of lesbian and bisexually classified women in the NCS met criteria for at least one of six anxiety disorders measured, but in the NLAAS only 11% (*SE* = 3.2%) of lesbian and bisexually classi-

fied women met criteria for any of the five anxiety disorders assessed. Much of the difference here, however, may lie in the fact that the NCS and NLAAS measured identical anxiety disorders with one exception: The NCS also assessed prevalence of simple phobias, and this was strongly associated with sexual orientation among women. Nevertheless, the pattern of greatly lower prevalence of depressive, anxiety, and substance use disorders seen among Latino and Asian American lesbians, gay men, and bisexual women and men interviewed in the NLAAS as compared to sexual orientation minorities interviewed in the NCS mirrors the lower prevalence of psychiatric and substance use disorders seen in surveys of Latino and Asian American populations in general when compared to non-Hispanic Whites (Alegria et al., 2007; Alegria et al., 2006; Bromberger et al., 2004; Grant et al., 2004; Hasin et al., 2005; Ortega et al., 2000).

Thus our findings suggest two broad conclusions. First, like previous surveys of the general population have demonstrated, minority sexual orientation appears to be a risk indicator for some small elevation in mental health and substance use morbidity, especially among women, within Latinos and Asian Americans. Recent histories of suicide attempts also appear elevated. Second, despite concerns (Diaz et al., 2001; Meyer, 2003; P. A. Wilson & Yoshikawa, 2004) that social adversity associated with dual statuses (ethnic/racial minority status and minority sexual orientation status) might in an additive manner result in even higher levels of psychiatric disorders as compared to White lesbians, gay men, and bisexual individuals, the current study does not find evidence that this is so. Instead, when results from the NLAAS are compared to the most similar study of sexual orientation and psychiatric disorders in the published literature (Gilman et al., 2001), Latino and Asian American individuals of minority sexual orientation status seem to be at similar or somewhat lower risk for psychiatric disorders as compared to lesbians, gay men, and bisexual individuals in general. This might occur because Latino and Asian American individuals of minority sexual orientation benefit to some degree from protective factors that are thought to be associated with the lower risk for psychiatric disorders seen among Latino and Asian American populations in general. Although Latino and Asian American subpopulations in the United States are notably heterogeneous, many are immigrants and foreign nativity has been shown to have generally protective effects on rates of psychiatric disorders (Alegria et al., 2007). Other factors might include more common cultural or religious proscriptions that discourage substance use, thus limiting the risk for developing substance use disorders (Alegria et al., 2007; SAMHSA, Office of Applied Studies, 2007; Wallace, Meyers, & Osai, 2004; Wills, Yaeger, & Sandy, 2003); possibly higher rates of family cohesion (Maton, 1993); and differential patterns of social and familial support (Abe-Kim, Takeuchi, & Hwang, 2002; Coohy, 2001; Laumann, Ellingson, Mahay, Paik, & Youm, 2004).

Over the years, there has been much speculation that possessing dual minority statuses presents a complicated stressor for ethnic/racial minority lesbians, gay men, and bisexual individuals (Chan, 1997; Cochran & Mays, 1994; Morales, 1989). These dual identities are also likely to shape the nature of complaints and concerns that Latino and Asian American lesbians, gay men, and bisexual individuals bring with them into the psychotherapy milieu (Fukuyama & Ferguson, 2000). Our findings are reassuring in that they hint that the complexity of possible exposures to discrimina-

tion experienced by Latino and Asian American lesbians, gay men, and bisexual adults might not exert additive effects on levels of psychiatric morbidity.

Our findings, however, provide little guidance on two issues that are relevant for the practice environment. One is that pathways into treatment may be fraught with more barriers for those with dual minority status (Abe-Kim et al., 2002; Cauce et al., 2002; Leong, 1986; Leong, Chang, & Lee, 2007). Research has shown that cognitive matching of therapists with clients is helpful at times to treatment outcomes, and this is more likely to occur when therapist and client share similar cultural backgrounds that facilitate shared beliefs concerning problem perception, coping orientation, and treatment goals (Zane et al., 2005). For example, Zane et al. (2005) in their recent study found that different types of matches (pre-treatment, psychological distress) resulted in different types of therapeutic outcomes among Asian American and White American clients. However, the relevant dimensions of match for ethnic/racial minority individuals who also possess minority sexual orientation are not known, nor have they been extensively studied (Liddle, 1996, 1997, 1999).

A second issue is that intervention research demonstrating psychotherapy efficacy for both Latinos and Asian Americans (Abe-Kim et al., 2002; Munoz & Mendelson, 2005; Zane et al., 2005) and sexual orientation minorities (Eubanks-Carter, Burckell, & Goldfried, 2005; Safren, 2005; Shoptaw et al., 2005) is relatively sparse despite the fact that sexual orientation minorities tend to utilize mental health services at higher rates than heterosexuals (Cochran et al., 2003; Liddle, 1997). Studies including sufficiently large numbers of dual (ethnicity/sexual orientation) minority status individuals are relatively nonexistent. Only future research specifically targeting the concerns of ethnic/racial minority lesbians, gay men, and bisexual individuals can provide needed empirical guidance for the practitioner and those engaged in efforts to train clinicians to provide effective therapy to these subpopulations.

Several study limitations append a cautionary note to these conclusions. One pertains to classification of individuals for sexual orientation. In the current study, we considered all persons who identified as gay or bisexual or who reported any same-gender sexual experiences in the year prior to interview as possessing a minority sexual orientation. Definitions of sexual orientation vary (Cochran, 2001), and a different study definition might have resulted in somewhat different findings. However, recent findings from population-based surveys of the general population suggest that even those individuals who self-identify as heterosexual but report a history of same-gender sexual behaviors show elevations in mental health morbidity (Cochran & Mays, 2007; McNair, Kavanagh, Agius, & Tong, 2005; A. M. Smith, Rissel, Richters, Grulich, & de Visser, 2003) and substance use disorders (Drabble et al., 2005) similar to those who identify as gay or bisexual. This does not obviate recent observations that suggest that within the subpopulation of individuals with markers of minority sexual orientation, there might be differences as well. For example, several studies (Burgard et al., 2005; Gruskin, Hart, Gordon, & Ackerson, 2001; Jorm, Korten, Rodgers, Jacomb, & Christensen, 2002) have reported differential patterns of risk between individuals who were classified as lesbian or gay versus bisexual. To this end, a second limitation of the study is that the numbers of individuals classified as sexual orientation minorities in the NLAAS were relatively small. This has two relevant conse-

quences. One is a reduction in statistical power to detect differences both between heterosexual and non-heterosexual respondents and within those classified as sexual orientation minorities. A second is because heterosexual respondents overwhelmingly predominate in the NLAAS sample, even small misclassification errors in that group may work to bias findings toward the null (Black, Gates, Sanders, & Taylor, 2000; Cochran, 2001).

A third study limitation is that the NLAAS, like the great majority of recent general population surveys that have assessed markers of sexual orientation, did not measure other hypothesized mediating constructs, such as anti-gay discrimination. Thus, although we posit that stress associated with the stigmatization of homosexuality lies at the heart of the differences we observed, consistent with the minority stress theory (Meyer, 2003), only future studies with appropriate measurements will be able to determine if the model is correct.

Fourth, we acknowledge that our comparisons with the findings reported by Gilman et al. (2001) are very inexact. The NCS-based study provides the best existing match to NLAAS findings, but the two surveys differ importantly enough that comparisons of disorder prevalences are crude at best. However, the robustness of differences in observed prevalences argues that better designed studies are likely to observe similar findings.

Finally, because of the small numbers of sexual orientation minorities in the NLAAS, we were also unable to examine with confidence ethnic/racial differences within a very diverse sample. Only future studies that include sizable numbers of ethnic/racial minority lesbians, gay men, and bisexual individuals will be able to definitively examine the ways in which lesbian, gay and bisexual Latino and Asian American subgroups experience different levels of risk. Given the ethnic/racial subgroup differences in risk for psychiatric disorders observed among Latinos (Alegria et al., 2006) and thought to exist among Asian Americans (Hsu, Davies, & Hansen, 2004) unselected for sexual orientation, we anticipate that Latino and Asian American lesbians, gay men, and bisexual women and men are likely to show similar subgroup diversity in their patterns of risk as well.

References

- Abe-Kim, J., Takeuchi, D., & Hwang, W.-C. (2002). Predictors of help seeking for emotional distress among Chinese Americans: Family matters. *Journal of Consulting and Clinical Psychology, 70*(5), 1186–1190.
- Alegria, M., Canino, G., Meng, X., Sribney, W., Shrout, P., Duan, N., et al. (2007). *Is the immigrant paradox evidenced for all Latino groups? Lifetime prevalence results from the National Latino and Asian American Study*. Manuscript submitted for publication.
- Alegria, M., Canino, G., Stinson, F. S., & Grant, B. F. (2006). Nativity and DSM-IV psychiatric disorders among Puerto Ricans, Cuban Americans, and non-Latino Whites in the United States: Results from the National Epidemiologic Survey on Alcohol and Related Conditions. *Journal of Clinical Psychiatry, 67*(1), 56–65.
- Alegria, M., Takeuchi, D., Canino, G., Duan, N., Shrout, P., Meng, X. L., et al. (2004). Considering context, place and culture: The National Latino and Asian American Study. *International Journal of Methods in Psychiatric Research, 13*(4), 208–220.
- American Psychiatric Association. (1987). *Diagnostic and statistical manual of mental disorders* (3rd ed. rev.). Washington, DC: Author.
- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.
- Balsam, K. F., Beauchaine, T. P., Mickey, R. M., & Rothblum, E. D.

- (2005). Mental health of lesbian, gay, bisexual, and heterosexual siblings: Effects of gender, sexual orientation, and family. *Journal of Abnormal Psychology, 114*(3), 471–476.
- Black, D., Gates, G., Sanders, S., & Taylor, L. (2000). Demographics of the gay and lesbian population in the United States: Evidence from available systematic data sources. *Demography, 37*(2), 139–154.
- Bowleg, L., Huang, J., Brooks, K., Black, A., & Burkholder, G. (2003). Triple jeopardy and beyond: Multiple minority stress and resilience among black lesbians. *Journal of Lesbian Studies, 7*(4), 87–108.
- Breslau, J., Aguilar-Gaxiola, S., Kendler, K. S., Su, M., Williams, D., & Kessler, R. C. (2006). Specifying race-ethnic differences in risk for psychiatric disorder in a USA national sample. *Psychological Medicine, 36*(1), 57–68.
- Bromberger, J. T., Harlow, S., Avis, N., Kravitz, H. M., & Cordal, A. (2004). Racial/ethnic differences in the prevalence of depressive symptoms among middle-aged women: The Study of Women's Health Across the Nation (SWAN). *American Journal of Public Health, 94*(8), 1378–1385.
- Brooks, V. (1981). *Minority stress and lesbian women*. Lexington, MA: D. C. Heath.
- Burgard, S. A., Cochran, S. D., & Mays, V. M. (2005). Alcohol and tobacco use patterns among heterosexually and homosexually experienced California women. *Drug and Alcohol Dependence, 77*(1), 61–70.
- Cauce, A. M., Domenech-Rodríguez, M., Paradise, M., Cochran, B. N., Shea, J. M., Srebnik, D., et al. (2002). Cultural and contextual influences in mental health help seeking: A focus on ethnic minority youth. *Journal of Consulting and Clinical Psychology, 70*(1), 44–55.
- Chan, C. S. (1997). Don't ask, don't tell, don't know: The formation of a homosexual identity and sexual expression among Asian American lesbians. In B. Greene (Ed.), *Ethnic and cultural diversity among lesbians and gay men: Psychological perspectives on lesbian and gay issues* (Vol. 3, pp. 240–248). Thousand Oaks, CA: Sage.
- Choi, K. H., Han, C. S., Hudes, E. S., & Kegeles, S. (2002). Unprotected sex and associated risk factors among young Asian and Pacific Islander men who have sex with men. *AIDS Education and Prevention, 14*(6), 472–481.
- Choi, K. H., Yep, G. A., & Kumekawa, E. (1998). HIV prevention among Asian and Pacific Islander American men who have sex with men: A critical review of theoretical models and directions for future research. *AIDS Education and Prevention, 10*(3 Suppl.), 19–30.
- Cochran, S. D. (2001). Emerging issues in research on lesbians' and gay men's mental health: Does sexual orientation really matter? *American Psychologist, 56*(11), 931–947.
- Cochran, S. D., Ackerman, D., Mays, V. M., & Ross, M. (2004). Patterns of drug use among homosexually active men and women in the 1996 NHSDA. *Addiction, 99*(8), 989–998.
- Cochran, S. D., Keenan, C., Schober, C., & Mays, V. M. (2000). Estimates of alcohol use and clinical treatment needs among homosexually active men and women in the U.S. population. *Journal of Consulting and Clinical Psychology, 68*(6), 1062–1071.
- Cochran, S. D., & Mays, V. M. (1994). Depressive distress among homosexually active African American men and women. *American Journal of Psychiatry, 151*(4), 524–529.
- Cochran, S. D., & Mays, V. M. (2000a). Lifetime prevalence of suicide symptoms and affective disorders among men reporting same-sex sexual partners: Results from NHANES III. *American Journal of Public Health, 90*(4), 573–578.
- Cochran, S. D., & Mays, V. M. (2000b). Relation between psychiatric syndromes and behaviorally defined sexual orientation in a sample of the US population. *American Journal of Epidemiology, 151*(5), 516–523.
- Cochran, S. D., & Mays, V. M. (2007). Is sexual orientation a risk factor for physical health complaints? Results from the California Quality of Life Survey. *American Journal of Public Health*. Advance online publication. doi: 10.2105/AJPH.2006.087254
- Cochran, S. D., Mays, V. M., Brown, E. R., & Ponce, N. (2007). *Demography of sexual orientation in California: Health and public policy implications*. Manuscript submitted for publication.
- Cochran, S. D., Mays, V. M., & Sullivan, J. G. (2003). Prevalence of mental disorders, psychological distress, and mental health services use among lesbian, gay, and bisexual adults in the United States. *Journal of Consulting and Clinical Psychology, 71*(1), 53–61.
- Consolacion, T. B., Russell, S. T., & Sue, S. (2004). Sex, race/ethnicity, and romantic attractions: Multiple minority status adolescents and mental health. *Cultural Diversity and Ethnic Minority Psychology, 10*(3), 200–214.
- Cooney, C. (2001). The relationship between familism and child maltreatment in Latino and Anglo families. *Childhood Maltreatment, 6*(2), 130–142.
- Crawford, I., Allison, K. W., Zamboni, B. D., & Soto, T. (2002). The influence of dual-identity development on the psychosocial functioning of African-American gay and bisexual men. *Journal of Sex Research, 39*(3), 179–189.
- Diaz, R. M., Ayala, G., Bein, E., Henne, J., & Marin, B. V. (2001). The impact of homophobia, poverty, and racism on the mental health of gay and bisexual Latino men: Findings from 3 US cities. *American Journal of Public Health, 91*(6), 927–932.
- Diaz, R. M., Bein, E., & Ayala, G. (2006). Homophobia, poverty, and racism: Triple oppression and mental health outcomes in Latino gay men. In A. M. Omoto & H. S. Kurtzman (Eds.), *Sexual orientation and mental health* (pp. 207–224). Washington, DC: American Psychological Association.
- DiPlacido, J. (1998). Minority stress among lesbians, gay men, and bisexuals: A consequence of heterosexism, homophobia, and stigmatization. In G. Herek (Ed.), *Stigma and sexual orientation: Understanding prejudice against lesbians, gay men, and bisexuals* (pp. 138–159). Thousand Oaks, CA: Sage.
- Drabble, L., Midanik, L. T., & Trocki, K. (2005). Reports of alcohol consumption and alcohol-related problems among homosexual, bisexual and heterosexual respondents: Results from the 2000 National Alcohol Survey. *Journal of Studies on Alcohol, 66*(1), 111–120.
- Dube, E. M., & Savin-Williams, R. C. (1999). Sexual identity development among ethnic sexual-minority male youths. *Developmental Psychology, 35*(6), 1389–1398.
- Estrada, D., & Rutter, P. (2006). Using the multiple lenses of identity: Working with ethnic and sexual minority college students. *Journal of College Counseling, 9*(2), 158–166.
- Eubanks-Carter, C., Burckell, L. A., & Goldfried, M. R. (2005). Enhancing therapeutic effectiveness with lesbian, gay, and bisexual clients. *Clinical Psychology: Science and Practice, 12*(1), 1–18.
- Faulkner, A. H., & Cranston, K. (1998). Correlates of same-sex sexual behavior in a random sample of Massachusetts high school students. *American Journal of Public Health, 88*(2), 262–266.
- Fergusson, D. M., Horwood, L. J., & Beautrais, A. L. (1999). Is sexual orientation related to mental health problems and suicidality in young people? *Archives of General Psychiatry, 56*(10), 876–880.
- Fergusson, D. M., Horwood, L. J., Ridder, E. M., & Beautrais, A. L. (2005). Sexual orientation and mental health in a birth cohort of young adults. *Psychological Medicine, 35*(7), 971–981.
- Fukuyama, M. A., & Ferguson, A. D. (2000). Lesbian, gay, and bisexual people of color: Understanding cultural complexity and managing multiple oppressions. In R. M. Perez, K. A. DeBord, & K. J. Bieschke (Eds.), *Handbook of counseling and psychotherapy with lesbian, gay, and bisexual clients* (pp. 81–105). Washington, DC: American Psychological Association.
- Garofalo, R., Wolf, R. C., Wissow, L. S., Woods, E. R., & Goodman, E. (1999). Sexual orientation and risk of suicide attempts among a representative sample of youth. *Archives of Pediatric and Adolescent Medicine, 153*(5), 487–493.

- Gilman, S. E., Cochran, S. D., Mays, V. M., Hughes, M., Ostrow, D., & Kessler, R. C. (2001). Risk of psychiatric disorders among individuals reporting same-sex sexual partners in the National Comorbidity Survey. *American Journal of Public Health, 91*(6), 933–939.
- Grant, B. F., Hasin, D. S., Stinson, F. S., Dawson, D. A., Goldstein, R. B., Smith, S., et al. (2006). The epidemiology of *DSM-IV* panic disorder and agoraphobia in the United States: Results from the National Epidemiologic Survey on Alcohol and Related Conditions. *Journal of Clinical Psychiatry, 67*(3), 363–374.
- Grant, B. F., Stinson, F. S., Hasin, D. S., Dawson, D. A., Chou, S. P., & Anderson, K. (2004). Immigration and lifetime prevalence of *DSM-IV* psychiatric disorders among Mexican Americans and non-Hispanic whites in the United States: Results from the National Epidemiologic Survey on Alcohol and Related Conditions. *Archives of General Psychiatry, 61*(12), 1226–1233.
- Greenberger, E., Chen, C., Tally, S. R., & Dong, Q. (2000). Family, peer, and individual correlates of depressive symptomatology among U.S. and Chinese adolescents. *Journal of Consulting and Clinical Psychology, 68*(2), 209–219.
- Greene, B. (1994). Ethnic-minority lesbians and gay men: Mental health and treatment issues. *Journal of Consulting and Clinical Psychology, 62*(2), 243–251.
- Gruskin, E. P., Hart, S., Gordon, N., & Ackerson, L. (2001). Patterns of cigarette smoking and alcohol use among lesbians and bisexual women enrolled in a large health maintenance organization. *American Journal of Public Health, 91*(6), 976–979.
- Hasin, D. S., Goodwin, R. D., Stinson, F. S., & Grant, B. F. (2005). Epidemiology of major depressive disorder: Results from the National Epidemiologic Survey on Alcoholism and Related Conditions. *Archives of General Psychiatry, 62*(10), 1097–1106.
- Hsu, E., Davies, C. A., & Hansen, D. J. (2004). Understanding mental health needs of Southeast Asian refugees: Historical, cultural, and contextual challenges. *Clinical Psychology Review, 24*(2), 193–213.
- Jorm, A. F., Korten, A. E., Rodgers, B., Jacomb, P. A., & Christensen, H. (2002). Sexual orientation and mental health: Results from a community survey of young and middle-aged adults. *British Journal of Psychiatry, 180*, 423–427.
- Kandel, D., Chen, K., Warner, L. A., Kessler, R. C., & Grant, B. (1997). Prevalence and demographic correlates of symptoms of last year dependence on alcohol, nicotine, marijuana and cocaine in the U.S. population. *Drug and Alcohol Dependence, 44*(1), 11–29.
- Kessler, R. C., Abelson, J., Demler, O., Escobar, J. I., Gibbon, M., Guyer, M. E., et al. (2004). Clinical calibration of *DSM-IV* diagnoses in the World Mental Health (WMH) version of the World Health Organization (WHO) Composite International Diagnostic Interview (WMH-CIDI). *International Journal of Methods in Psychiatric Research, 13*(2), 122–139.
- Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of *DSM-IV* disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry, 62*(6), 593–602.
- Kessler, R. C., Chiu, W. T., Demler, O., Merikangas, K. R., & Walters, E. E. (2005). Prevalence, severity, and comorbidity of 12-month *DSM-IV* disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry, 62*(6), 617–627.
- Kessler, R. C., McGonagle, K. A., Zhao, S., Nelson, C. B., Hughes, M., Eshleman, S., et al. (1994). Lifetime and 12-month prevalence of *DSM-III-R* psychiatric disorders in the United States. Results from the National Comorbidity Survey. *Archives of General Psychiatry, 51*(1), 8–19.
- Kessler, R. C., & Ustun, T. B. (2004). The World Mental Health (WMH) Survey Initiative Version of the World Health Organization (WHO) Composite International Diagnostic Interview (CIDI). *International Journal of Methods in Psychiatric Research, 13*(2), 93–121.
- Laumann, E. O., Ellingson, S., Mahay, J., Paik, A., & Youm, Y. (Eds.). (2004). *The sexual organization of the city*. Chicago, IL: University of Chicago Press.
- Leong, F. T. L. (1986). Counseling and psychotherapy with Asian-Americans: Review of the literature. *Journal of Counseling Psychology, 33*(2), 196–206.
- Leong, F. T. L., Chang, D. F., & Lee, S. H. (2007). Counseling and psychotherapy with Asian Americans: Process and outcomes. In F. T. L. Leong, A. Ebreo, L. Kinoshita, A. G. Inman, & L. H. Yang (Eds.), *Handbook of Asian American psychology* (2nd ed., pp. 429–447). Thousand Oaks, CA: Sage.
- Liddle, B. J. (1996). Therapist sexual orientation, gender, and counseling practices as they relate to ratings on helpfulness by gay and lesbian clients. *Journal of Counseling Psychology, 43*(4), 394–401.
- Liddle, B. J. (1997). Gay and lesbian clients' selection of therapists and utilization of therapy. *Psychotherapy: Theory, Research, Practice and Training, 34*(1), 11–18.
- Liddle, B. J. (1999). Gay and lesbian clients' ratings of psychiatrists, psychologists, social workers, and counselors. *Journal of Gay & Lesbian Psychotherapy, 3*(1), 81–93.
- Maton, K. I. (1993). A bridge between cultures: Linked ethnographic-empirical methodology for culture anchored research. *American Journal of Community Psychology, 21*(6), 747–774.
- Mays, V. M., Chatters, L. M., Cochran, S. D., & Mackness, J. (1998). African American families in diversity: Gay men and lesbians as participants in family networks. *Journal of Comparative Family Studies, 29*(1), 73–87.
- Mays, V. M., & Cochran, S. D. (2001). Mental health correlates of perceived discrimination among lesbian, gay, and bisexual adults in the United States. *American Journal of Public Health, 91*(11), 1869–1876.
- Mays, V. M., Cochran, S. D., & Rhue, S. (1993). The impact of perceived discrimination on the intimate relationships of black lesbians. *Journal of Homosexuality, 25*(4), 1–14.
- Mays, V. M., Cochran, S. D., & Roeder, M. R. (2004). Depressive distress and prevalence of common problems among homosexually active African American women in the United States. *Journal of Psychology and Human Sexuality, 12*(2/3), 27–46.
- McNair, R., Kavanagh, A., Agius, P., & Tong, B. (2005). The mental health status of young adult and mid-life non-heterosexual Australian women. *Australian and New Zealand Journal of Public Health, 29*(3), 265–271.
- Meyer, I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychological Bulletin, 129*(5), 674–697.
- Mills, T. C., Paul, J., Stall, R., Pollack, L., Canchola, J., Chang, Y. J., et al. (2004). Distress and depression in men who have sex with men: The Urban Men's Health Study. *American Journal of Psychiatry, 161*(2), 278–285.
- Miville, M. L., & Ferguson, A. D. (2006). Intersections of sexism and heterosexism with racism: Therapeutic implications. In M. G. Constantine & D. W. Sue (Eds.), *Addressing racism: Facilitating cultural competence in mental health and educational settings* (pp. 87–103). Hoboken, NJ: Wiley.
- Morales, E. S. (1989). Ethnic minority families and minority gays and lesbians. *Marriage & Family Review, 14*(3–4), 217–239.
- Munoz, R. F., & Mendelson, T. (2005). Toward evidence-based interventions for diverse populations: The San Francisco General Hospital prevention and treatment manuals. *Journal of Consulting and Clinical Psychology, 73*(5), 790–799.
- Nemoto, T., Operario, D., Soma, T., Bao, D., Vajrabukka, A., & Crisostomo, V. (2003). HIV risk and prevention among Asian/Pacific Islander men who have sex with men: Listen to our stories. *AIDS Education and Prevention, 15*(1 Suppl. A), 7–20.
- Ortega, A. N., Rosenheck, R., Alegria, M., & Desai, R. A. (2000). Accul-

- turation and the lifetime risk of psychiatric and substance use disorders among Hispanics. *Journal of Nervous and Mental Disease*, 188(11), 728–735.
- Pennell, B. E., Bowers, A., Carr, D., Chardoul, S., Cheung, G. Q., Dinkelmann, K., et al. (2004). The development and implementation of the National Comorbidity Survey Replication, the National Survey of American Life, and the National Latino and Asian American Survey. *International Journal of Methods in Psychiatric Research*, 13(4), 241–269.
- Pinhey, T. K., & Millman, S. R. (2004). Asian/Pacific Islander adolescent sexual orientation and suicide risk in Guam. *American Journal of Public Health*, 94(7), 1204–1206.
- Remafedi, G., French, S., Story, M., Resnick, M. D., & Blum, R. (1998). The relationship between suicide risk and sexual orientation: Results of a population-based study. *American Journal of Public Health*, 88(1), 57–60.
- Root, M. P. P., & Suyemoto, K. L. (2005). Race, gender, class, and culture through the looking glass of interracial and intercultural intimate relationships. In M. P. Mirkin, K. L. Suyemoto, & B. F. Okun (Eds.), *Psychotherapy with women: Exploring diverse contexts and identities* (pp. 111–134). New York: Guilford Press.
- Rosario, M., Schrimshaw, E. W., & Hunter, J. (2004). Ethnic/racial differences in the coming-out process of lesbian, gay, and bisexual youths: A comparison of sexual identity development over time. *Cultural Diversity and Ethnic Minority Psychology*, 10(3), 215–228.
- Rosario, M., Schrimshaw, E. W., Hunter, J., & Gwadz, M. (2002). Gay-related stress and emotional distress among gay, lesbian, and bisexual youths: A longitudinal examination. *Journal of Consulting and Clinical Psychology*, 70(4), 967–975.
- Russell, S. T., Driscoll, A. K., & Truong, N. (2002). Adolescent same-sex romantic attractions and relationships: Implications for substance use and abuse. *American Journal of Public Health*, 92(2), 198–202.
- Russell, S. T., & Joyner, K. (2001). Adolescent sexual orientation and suicide risk: Evidence from a national study. *American Journal of Public Health*, 91(8), 1276–1281.
- Saewyc, E. M., Bearinger, L. H., Heinz, P. A., Blum, R. W., & Resnick, M. D. (1998). Gender differences in health and risk behaviors among bisexual and homosexual adolescents. *Journal of Adolescent Health*, 23(3), 181–188.
- Safren, S. A. (2005). Affirmative, evidence-based, and ethically sound psychotherapy with lesbian, gay, and bisexual clients. *Clinical Psychology: Science and Practice*, 12(1), 29–32.
- SAMHSA, Office of Applied Studies. (2007). *Religious involvement and substance use among adults*. Retrieved May 20, 2007, from <http://oas.samhsa.gov/2k7/religion/religion.htm>
- Sandfort, T. G. M., de Graaf, R., Bijl, R. V., & Schnabel, P. (2001). Same-sex sexual behavior and psychiatric disorders: Findings from the Netherlands mental health survey and incidence study (NEMESIS). *Archives of General Psychiatry*, 58(1), 85–91.
- Shah, B., Barnwell, B. G., Bieler, G. S. (1996). *SUDAAN version 6.40 user's manual* (2nd ed.). Research Triangle Park, NC: Research Triangle Institute.
- Shoptaw, S., Reback, C. J., Peck, J. A., Yang, X., Rotheram-Fuller, E., Larkins, S., et al. (2005). Behavioral treatment approaches for methamphetamine dependence and HIV-related sexual risk behaviors among urban gay and bisexual men. *Drug and Alcohol Dependence*, 78(2), 125–134.
- Siegel, K., & Epstein, J. A. (1996). Ethnic-racial differences in psychological stress related to gay lifestyle among HIV-positive men. *Psychological Reports*, 79(1), 303–312.
- Skegg, K., Nada-Raja, S., Dickson, N., Paul, C., & Williams, S. (2003). Sexual orientation and self-harm in men and women. *American Journal of Psychiatry*, 160(3), 541–546.
- Smith, A. (1997). Cultural diversity and the coming-out process. In B. Greene (Ed.), *Ethnic and cultural diversity among lesbians and gay men* (Vol. 3, pp. 279–300). Thousand Oaks, CA: Sage.
- Smith, A. M., Rissel, C. E., Richters, J., Grulich, A. E., & de Visser, R. O. (2003). Sex in Australia: Sexual identity, sexual attraction and sexual experience among a representative sample of adults. *Australian and New Zealand Journal of Public Health*, 27(2), 138–145.
- Span, S. A., & Vidal, L. A. (2003). Cross-cultural differences in female university students' attitudes toward homosexuals: A preliminary study. *Psychological Reports*, 92(2), 565–572.
- Stata Corporation. (2005). *Stata 9 user's guide*. College Station, TX: Stata Press.
- Ullrich, P. M., Lutgendorf, S. K., & Stapleton, J. T. (2003). Concealment of homosexual identity, social support and CD4 cell count among HIV-seropositive gay men. *Journal of Psychosomatic Research*, 54(3), 205–212.
- Wallace, J. M., Meyers, V. L., & Osai, E. R. (2004). *Faith matters: Race/ethnicity, religion and substance use*. Baltimore, MD: Annie E. Casey Foundation.
- Wichstrom, L., & Hegna, K. (2003). Sexual orientation and suicide attempt: A longitudinal study of the general Norwegian adolescent population. *Journal of Abnormal Psychology*, 112(1), 144–151.
- Wills, T. A., Yaeger, A. M., & Sandy, J. M. (2003). Buffering effect of religiosity for adolescent substance use. *Psychology of Addictive Behaviors*, 17(1), 24–31.
- Wilsnack, R., & Wilsnack, S. (Eds.). (1997). *Gender and alcohol: Individual and social perspectives*. New Brunswick, NJ: Rutgers Center on Alcohol Studies.
- Wilson, B. D. M., & Miller, R. L. (2002). Strategies for managing heterosexism used among African American gay and bisexual men. *Journal of Black Psychology*, 28(4), 371–391.
- Wilson, P. A., & Yoshikawa, H. (2004). Experiences of and responses to social discrimination among Asian and Pacific Islander gay men: Their relationship to HIV risk. *AIDS Education and Prevention*, 16(1), 68–83.
- Yeh, C. J., Inman, A. C., Kim, A. B., & Okubo, Y. (2006). Asian American families' collectivistic coping strategies in response to 9/11. *Cultural Diversity and Ethnic Minority Psychology*, 12(1), 134–148.
- Yoshikawa, H., Wilson, P. A., Chae, D. H., & Cheng, J. F. (2004). Do family and friendship networks protect against the influence of discrimination on mental health and HIV risk among Asian and Pacific Islander gay men? *AIDS Education and Prevention*, 16(1), 84–100.
- Yoshioka, M. R., & Schustack, A. (2001). Disclosure of HIV status: Cultural issues of Asian patients. *AIDS Patient Care and STDs*, 15(2), 77–82.
- Zane, N., Sue, S., Chang, J., Huang, L., Huang, J., Lowe, S., et al. (2005). Beyond ethnic match: Effects of client-therapist cognitive match in problem perception, coping orientation, and therapy goals on treatment outcomes. *Journal of Community Psychology*, 33(5), 569–585.
- Zea, M. C., Reisen, C. A., & Poppen, P. J. (1999). Psychological well-being among Latino lesbians and gay men. *Cultural Diversity and Ethnic Minority Psychology*, 5(4), 371–379.
- Zea, M. C., Reisen, C. A., Poppen, P. J., Bianchi, F. T., & Echeverry, J. J. (2005). Disclosure of HIV status and psychological well-being among Latino gay and bisexual men. *AIDS and Behavior*, 9(1), 15–26.

Received July 27, 2006

Revision received May 21, 2007

Accepted June 14, 2007 ■