



Published in final edited form as:

Int J Geriatr Psychiatry. 2012 August ; 27(8): 816–827. doi:10.1002/gps.2790.

Prevalence of Lifetime DSM-IV Affective Disorders among Older African Americans, Black Caribbeans, Latinos, Asians and Non-Hispanic Whites

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Abstract

Objectives—The purpose of this study is to estimate lifetime prevalence of 7 psychiatric affective disorders for older non-Hispanic Whites, African Americans, Caribbean Blacks, Latinos and Asian Americans and examine demographic, socioeconomic, and immigration correlates of those disorders.

Design—Data are taken from the older sub-sample of the Collaborative Psychiatric Epidemiology Surveys. Selected measures of lifetime DSM-IV psychiatric disorders were examined (i.e., panic disorder, agoraphobia, social phobia, generalized anxiety disorder, post-traumatic stress disorder, major depressive disorder, and dysthymia).

Setting—Community epidemiologic survey.

Participants—Nationally representative sample of adults aged 55 and older (n=3,046).

Measurements—Disorders were assessed using the DSM-IV World Mental Health Composite International Diagnostic Interview (WMH-CIDI).

Results—Major depressive disorder and social phobia were the two most prevalent disorders among the 7 psychiatric conditions. Overall, non-Hispanic Whites and Latinos consistently had higher prevalence rates of disorders, African Americans had lower prevalence of major depression and dysthymia, and Asian Americans were typically less likely to report affective disorders than their counterparts. There is variation across groups in the association of demographic, socioeconomic, and immigration variables with disorders.

Conclusions—This study furthers our understanding of the racial and ethnic differences in the prevalence of DSM-IV disorders among older adults and the correlates of those disorders. It highlights the importance of examining both between-and within-group differences in disorders and the complexity of the mechanisms associated with differences across groups. Findings from this study underscores the need for future research that more clearly delineates subgroup differences and similarities.

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Authors have no conflicts of interest.

Keywords

Depression; anxiety; elderly; race; ethnicity

Objective

Previous epidemiological studies have provided insight into symptoms of depression and anxiety among older adults through symptom checklist measures. These studies find that symptoms decline over time although older adults experience significant impairment (Ramsawh et al., 2009) and symptoms of depression and anxiety increase again after the mid-70s (Teachman, 2006). Depressive and anxiety symptoms are associated with increased disability particularly among older adults (Brenes et al., 2008) and persistent depressive symptoms are associated with cognitive deficits in older adults over time (Mojtabai and Olfson, 2004). Furthermore, Whites have higher levels of symptoms than other groups, both across age groups and among older adults (Cohen et al., 2006;Mehta et al., 2003).

Large nationally representative datasets build on this research by examining the full range of diagnostic categories and including older adults who meet criteria for disorders, but have not used mental health services or received mental health treatment. Similar to symptom-based research, studies of this type have found that the prevalence of depressive and anxiety disorders declines with age (Scott et al., 2008;Hasin et al., 2005;Grant et al., 2005;Mojtabai and Olfson, 2004) even when controlling for comorbid physical illness or pain (Scott et al., 2008). In fact, adults aged 65 and older have the lowest prevalence of disorders including major depression (Hasin et al., 2005;Mojtabai and Olfson, 2004), and generalized anxiety (Grant et al., 2005). Psychiatric disorders are associated with functional decline (Callahan et al., 2005), and poor physical functioning and illness (Cohen et al., 2006;Lyness et al., 2006). As observed in studies focusing on symptoms, Whites have higher prevalence of mood and anxiety disorders compared to other racial/ethnic groups. However, the variability in prevalence across specific disorders and racial/ethnic groups is complex (Smith et al., 2006;Hasin et al., 2005;Grant et al., 2005) with the lower lifetime risk for ethnic groups compared to Whites stemming from a small subset of disorders and beginning early in life (Breslau et al., 2006).

This study builds on this body of research as well as recent studies using data from the Collaborative Psychiatric Epidemiology Surveys (CPES) (Ford et al., 2007;Jimenez et al., 2010;González et al., 2010) to investigate differences in the prevalence of DSM-IV disorders in a national sample of five racial/ethnic groups aged 55 years and older.

Using data from the NSAL, a subset of the CPES, Ford et al (2007) found that 23% of African Americans aged 55 and older met diagnostic criteria for one lifetime disorder and 8.5% met criteria for a 12-month disorder. Alcohol abuse, PTSD, and major depression were most prevalent and those aged 55–64 had the highest prevalence while those 75 and older the lowest. The present study extends this work to include both between- and within-group analysis of older non-Hispanic Whites, African Americans, Black Caribbeans, Asian Americans, and Latinos.

Consistent with previous studies, Jimenez et al (2010) found that Whites aged 60 and older in the CPES data had significantly higher prevalence for several lifetime disorders compared to Asian Americans, African Americans, and Black Caribbeans. Whites did not differ significantly from Latinos, however, in terms of lifetime prevalence and there were no differences across racial/ethnic groups in the prevalence of 12-month disorders. The work of Jimenez et al (2010) also enhances our understanding of the relationship between immigration and diagnosis among older adults. In particular, their finding that the

prevalence of disorders did not differ between older adults born in the U.S. and immigrants is contrary to what has been reported in previous studies (Ortega et al., 2000; Alegría et al., 2008). Similarly, González et al (2010) found that the prevalence of major depressive disorder was greater for U.S. vs. foreign born respondents, except for foreign born respondents aged 65 and older. Neither Jimenez et al nor González et al examine demographic and socioeconomic correlates. The present study builds on their work by examining the prevalence of selected psychiatric disorders, in conjunction with demographic, socioeconomic, and immigration factors, both across and within five racial/ethnic groups of older adults.

Methods

Sample

This study utilizes data from three surveys that comprise the Collaborative Psychiatric Epidemiology Surveys (CPES) which include data about the prevalence of mental disorders, their associated impairments, and their treatment in a representative sample of the adult population in the United States. Non-Hispanic Whites in our study are from the National Comorbidity Survey Replication (NCS-R), African Americans and Black Caribbeans are from the National Survey of American Life (NSAL), and Latinos and Asian Americans are from the National Latino and Asian American Study (NLAAS). Data for each survey were collected in face-to-face interviews by the Institute for Social Research at the University of Michigan between February 2001 and November 2003. The CPES surveys share the multistage area probability sample designs common to the national surveys conducted by the Survey Research Center (Heeringa et al., 2004; Pennell et al., 2004). In addition, the surveys share a common set of objectives and instrumentation and were designed to allow integration of design-based analysis weights to combine data sets as though they were a single, nationally representative study (Heeringa & Berglund, 2007). Final response rates for the CPES surveys two-phase sample designs were computed using the American Association of Public Opinion Research (AAPOR) guidelines for Response Rate 3 (American Association for Public Opinion Research, 2006) and range from 70.9% for the NCS-R to 73.2% for the NLAAS. (See Heeringa et al., 2004 for a more detailed discussion of the CPES samples). The analytic sample for this study is adults from the CPES who are aged 55 and over (n=3,046).

Measures

Diagnostic assessment—The CPES surveys used the World Mental Health Composite International Diagnostic Interview (WMH-CIDI), a fully structured diagnostic interview used to assess mental disorders. The WMH-CIDI is an expanded version of the World Health Organization CIDI that includes expanded diagnostic sections as well as a greater number of disorders (Kessler and Üstün, 2004). The mental disorders examined in the present analysis include anxiety disorders (panic disorder, agoraphobia, social phobia, generalized anxiety disorder, posttraumatic stress disorder) and mood disorders (major depressive disorder, dysthymia). Bipolar disorder was excluded because it was not assessed in the NLAAS.

Covariates—The main predictor of interest is race/ethnicity (non-Hispanic White, African American, Black Caribbean, Asian, or Latino) determined by self-report at the time of household screening. Covariates include age, gender, and education (fewer than twelve years, twelve years, or 13 years or more of education). Household income was measured by a three-category variable which indexes income to the poverty line based on 2001 Census data. Measures of employment status (employed, not employed) and marital status (married,

not married) are dichotomized while region is measured by a four-category variable (Northeast, Midwest, South, or West).

Analysis strategy—Cross-tabulations illustrate differences across racial and ethnic groups in demographic, socioeconomic, and immigration factors as well as prevalence of disorders. Percentages are weighted based on the distribution of the racial and ethnic groups in the population. The standard errors reflect the recalculation of variance using the study's complex design. Design-corrected F statistics were used to test differences between race/ethnic groups. Predicted prevalence estimates of affective disorder were calculated for each racial/ethnic group, adjusting for age, gender, employment status, poverty-income level, education, marital status, region, and nativity. Multivariate logistic regression models predict the association of covariates with the odds of having a mood or anxiety disorder. All analyses were conducted with Sudaan 10.0 using the Taylor linearization method for calculating the complex design-based estimates of variance. A p-value <.05 was considered statistically significant.

Results

Demographic characteristics of the sample are presented in Table 1. A higher proportion of Caribbean Blacks are in the youngest age group (52.1%) compared to the other racial and ethnic groups, whereas a higher proportion of non-Hispanic Whites are aged 75 or older (28.3%). Consistent with most samples of older adults, there are slightly more women than men with the exception of Caribbean Blacks, the youngest of the five groups, for whom the percentage of men and women is equal. Asian Americans have the highest level of education (51.8% with ≥ 13 years of education), whereas Latinos have the lowest level of education (64.5% with < 12 years). Consistent with their younger ages, more than half of Caribbean Blacks were employed at the time of the interview (58.7%). A higher proportion of Latinos (18.8%) and Asians (17.7%) have incomes below the poverty level compared to the other groups. More African Americans (55.9%) and Caribbean Blacks (47.9%) have incomes 100 to 300% of poverty while a higher proportion of Whites (63.7%) have incomes at or greater than 300% of poverty. More Asian Americans are married (76.8%) followed by non-Hispanic Whites (63.2%). African Americans have the lowest proportion of married persons (40.4%). A higher proportion of Caribbean Blacks (48.5%) live in the Northeastern United States while more African Americans (56%) live in the South. More Asians (74.8%) live in the Western United States. Whites and African Americans are almost entirely U.S. born while 28.3% of Caribbean Blacks, 36.7% of Latinos, and 21.1% of Asians were born in the United States. Among those who were foreign born, most have lived in the U.S. for 20 years or more with a higher proportion of Asians having lived in the U.S. less than 20. More Latinos (60.5%) were less than 35 years old at immigration compared to Caribbean Blacks (42.8%) and Asians (30.5%).

Table 2 presents the predicted prevalence of lifetime DSM-IV affective disorders by race and ethnicity adjusting for age, gender, employment status, poverty-income level, education, marital status, region and nativity. Overall, non-Hispanic Whites (23.5%) and Latinos (22.8%) have the highest prevalence of any affective disorder, whereas Asian Americans (12.3%) and African Americans (13.7%) have the lowest prevalence and Caribbean Blacks fall in between (17.5%). This pattern is true for one affective disorder or two or more disorders.

Non-Hispanic Whites have the highest prevalence of any anxiety disorder (16.8%) followed by Latinos (15.2%). A smaller proportion of Asian Americans have any anxiety disorder (7.9%) while African Americans and Caribbean Blacks have similar prevalence (11.0% vs.

11.5% respectively). Non-Hispanic Whites and Latinos also have the highest prevalence for social phobia and generalized anxiety disorder.

With regard to mood disorders, Latinos (13.9%) and non-Hispanic Whites (13.8%) had the highest prevalence of any mood disorder followed by Caribbean Blacks (11.2%). African Americans (5.4%) and Asian Americans (6.4%) had the lowest prevalence. This pattern is largely due to differences in the prevalence of major depressive disorder.

Table 3 presents odds ratios and 95% confidence intervals for logistic regression models of any lifetime mood or anxiety disorder. Results are presented with both non-Hispanic Whites and African Americans (the two largest groups) as the reference group for race/ethnicity. Compared to African Americans, Whites and Latinos were more likely to meet criteria for a mood or anxiety disorder. No other groups differed significantly compared to Whites. Older age cohorts were less likely to meet criteria for either a mood or anxiety disorder and men were less likely than women to have a disorder. Respondents who were not working were more likely to have a disorder and those who were not married were more likely to have a disorder compared to those who were married. Respondents who were born outside the U.S. were less likely to have a disorder than U.S.-born older adults.

Tables 4 and 5 present within group differences in prevalence for any mood disorder and any anxiety disorder respectively. Due to the small number of cases, these tables show bivariate comparisons only. The prevalence of mood disorders declines with age among Whites and African Americans while anxiety disorders decline with age among Whites only. Compared to men, significantly higher proportions of White and Latino women have a mood disorder and more White and African American women meet criteria for anxiety disorders. Significantly more Latinos who are not working (19.6%) suffer from mood disorders than those who are working (6.4%). For anxiety disorders, significantly more Asians who are not working (12%) meet criteria for a disorder than those who are working (3.3%) Among African Americans lower income is associated with higher prevalence of both mood and anxiety disorders. Not being married is significantly associated with higher prevalence of mood and anxiety disorders among non-Hispanic Whites, higher prevalence of anxiety disorders among African Americans, and a higher prevalence of mood disorders among Latinos. Whites born in the U.S had significantly higher prevalence of both mood and anxiety disorders than those born outside of the U.S., while foreign-born Asian Americans had a higher prevalence of anxiety disorders than those born in the United States.

Conclusions

This study examined prevalence rates for psychiatric disorders among a national sample of older non-Hispanic Whites, African Americans, Caribbean Blacks, Latinos and Asian Americans. Overall, older non-Hispanic Whites and Latinos consistently had higher prevalence rates of disorders compared to the other racial and ethnic groups in this study and had significantly greater odds of meeting criteria for a mood or anxiety disorder compared to African Americans. The similarity in prevalence for Whites and Latinos is inconsistent with previous research indicating that Latinos, particularly immigrant Latinos, are at lower risk for most psychiatric disorders compared to Whites (Alegria et al., 2008; Breslau et al., 2006; Takeuchi et al., 2007). However, recent research has also found that the protective effect of immigration is inconsistent across Latino subgroups and disorders (Alegria et al., 2008; Jimenez et al., 2010; González et al., 2010). Further, the lower risk for disorders among Latinos is more pervasive in younger cohorts and within lower education groups (Breslau et al., 2006). The current study supports Breslau et al.'s finding by indicating that prevalence between White and Latino older adults is similar. Furthermore, while nativity, length of time in the U.S., and age of immigration have been postulated as possible reasons for a higher

risk of disorders among older Latinos (Burnam et al., 1987; Vega et al., 1998), these factors were not significantly related to prevalence among Latinos in this study. This is consistent with Jimenez et al.'s (2010) findings related to nativity and extends the inquiry by considering additional immigration-related variables.

Consistent with prior research, women had higher prevalence for disorders (e.g., Kessler et al., 2005). Additionally, within selected racial/ethnic groups (i.e., Whites, African Americans, and Latinos) persons who are not married and not working had higher prevalence for disorders. Current perspectives on the higher prevalence of disorders for persons who are unmarried and unemployed focus on distinguishing between social selection vs. social causation processes (Mastekaasa, 1992). In addition, however, previous research has demonstrated the ways in which the processes of immigration and acculturation can differentially affect men and women (e.g., Black et al., 1998). The higher prevalence of mood disorders among older Latinos who are not working and not married suggests a need to examine the correlates of psychiatric disorders among discrete demographic and ethnic subgroups of the Latino population.

There are several possible explanations for the lower prevalence of major depression and dysthymia among African Americans. Prior evidence suggests that Blacks express psychological distress differently than non-Hispanic Whites with symptom presentation less focused on mood disturbances and more focused on somatic complaints (Brown et al., 1996; Das et al., 2003). Furthermore, dysphoric mood, suicidal thoughts, agitation or anxiety may be less characteristic of depression for African Americans (Wohl et al., 1997; Gallo et al., 1998). Moreover, symptoms of depression may be minimized or interpreted by African Americans as part of life's burden to be endured or as normal signs of the aging process (Neal-Barnett and Smith, 1997; Steffens et al., 1997). Thus, the diagnostic measures used in the CPES may not adequately capture symptom presentation, culturally-bound explanatory models, and sociocultural experiences. Other plausible explanations for the lower rates of mood disorders among African Americans may be related to increased levels of religious involvement and church-based social support which are linked to higher levels of psychological well being (Krause, 2002; Levin et al., 1995). Older African Americans consistently report higher levels of religious involvement (Taylor et al., 2007; Taylor et al., 2004) and informal social support from church members (Krause, 2002). Additionally, research on older African Americans indicates that church attendance was inversely associated with mood disorders (Chatters et al., 2008).

Among African Americans, the higher prevalence of disorders for those with less income and among those who are not married suggest that disorders are associated with fewer material resources and socially supportive relationships and networks. The finding that being married is a protective factor for older African Americans is consistent with previous epidemiological research (Ford et al., 2007). Interestingly, region was not significant in this study although prior research has found lower prevalence of disorders among older Black adult residents of the South who have larger social networks that provide assistance with health and mental health problems (Chatters et al., 1985; Ford et al., 2007).

Of all the groups studied, Asian Americans were less likely to report any anxiety disorder. This is consistent with recent work based on younger age cohorts which documented that Asian Americans less frequently endorsed symptoms of all four anxiety disorders compared with other racial groups (Asnaani et al., 2010). Language and cultural differences may influence the degree to which diagnostic instruments capture the meaning of anxiety symptoms among Asian Americans (Alegria et al., 2004; Johnson et al., 2007). Others have also speculated that cultural differences in terms of a collectivistic worldview, emphasizing

the importance of maintaining harmonious relationships and overall well being, may account for lower anxiety rates (Asnaani et al., 2010; Landrine, 1992).

Lastly, immigration-related phenomena such as degree of bilingual fluency, duration of exposure to U.S. culture, and acculturative stress have been suggested as potential explanations for different rates of anxiety among immigrants (Breslau and Chang, 2006; Takeuchi et al., 2007). Jimenez et al (2010) found that older Asian immigrants had higher lifetime rates of generalized anxiety disorder compared to older Asians born in the United States. Our finding that older foreign-born Asian Americans had a higher prevalence of anxiety disorders than those born in the U.S. is consistent with this work. However, Asians as a whole consistently have lower rates of most psychiatric disorders compared to other groups in the United States. Further, it is interesting to note that the prevalence of disorders in Asian countries are generally lower than in the U. S. (WHO World Mental Health Survey Consortium, 2004). Given that immigrants tend to have better health compared to those who remain in the home country, the higher prevalence of anxiety disorders in this sample of foreign-born Asian immigrants lends some support for acculturative stress hypotheses; however, this cannot be directly assessed from this data.

Although prevalence rates of psychiatric disorders differ among racial and ethnic groups, we should avoid the interpretation that some groups have higher vs. lower need for mental health services based only on these findings. As alluded to earlier, differential presentation of self-reported psychiatric symptomatology among racial and ethnic groups are a possible explanation for the differences in rates across categories (Alegria and McGuire, 2003; Alegria et al., 2007). Further, other aspects of cultural context may affect symptom presentation of depression among older ethnic and racial minorities beyond the somatization of distress (Diefenbach et al., 2009). This has implications for practice in that clinicians and other service providers will need to consider potential group-specific norms regarding presentation of distress and the meanings of symptoms. Provider factors that may increase clinician bias and misdiagnosis will equally need attention. Although this research could not account for these nuanced approaches to psychiatric diagnosis the study strongly underscores the need for future research that explores culturally-based explanatory models of both symptom presentation and provider interpretation.

Limitations

This study has several limitations. First, because segments of the population such as homeless and institutionalized individuals were not represented, our findings are not generalizable to these subgroups. Second, disorder-specific symptoms and behaviors may be underreported due to item non-response to sensitive questions which is a common issue in survey interviewing. Third, we cannot examine discrete groups of Latinos (e.g., Mexican American) or Asian Americans (e.g., Chinese) because of the small sample size of older adults in these groups. Fourth, the relatively small sample sizes of Asian Americans and Caribbean Blacks coupled with low prevalence rates makes it more difficult to analyze discrete disorders among these two groups. We did not adjust for health status because this information was not available for non-Hispanic Whites. Despite these limitations, this study is one of a recent group of investigations that examines the prevalence rates of psychiatric disorders among five racial and ethnic groups that significantly enhances our understanding of psychiatric disorders within and across older minority groups.

Acknowledgments

Funding/Support: Data collection on which this study is based was supported by the National Institute of Mental Health (NIMH; U01-MH57716), the Office of Behavioral and Social Science Research at the National Institutes of

Health (NIH), and the University of Michigan. Preparation of this manuscript was supported by grants from the NIMH to KDL, MPA, LMC (R01-MH084963), from NIA to LMC and RJT (R01 AG018782).

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Characteristics of 3,046 adults aged 55 years and older by race/ethnicity from the Collaborative Psychiatric Epidemiology Surveys, 2001–3003

Table 1

	Non-Hispanic White n=1130		African American n=780		Caribbean Black n=262		Latino American n=498		Asian American n=376		SE	p-value ^b
	% ^a	SE	%	SE	%	SE	%	SE	%	SE		
Age group, %												
55–64 years	40.0	2.5	47.4	2.1	52.1	5.6	46.0	3.6	46.7	3.7	<0.001	
65–74 years	31.7	2.3	36.7	2.3	39.8	5.3	35.7	3.4	36.3	3.7	0.462	
75+ years	28.3	1.9	16.0	1.6	8.2	2.1	18.3	2.3	17.1	1.7	<0.001	
Female, %	56.4	2.1	59.3	1.8	50.4	5.4	56.0	3.1	54.8	2.6	<0.001	
Education, %												
<12 years	22.1	2.2	38.4	2.2	36.1	5.5	64.5	3.2	28.5	3.0	<0.001	
12 years	35.1	2.2	31.8	2.0	31.3	3.7	15.8	2.1	19.8	2.5	<0.001	
13 years	42.8	2.4	29.8	2.4	32.6	5.6	19.7	2.4	51.8	3.4	<0.001	
Employed, %	34.2	1.5	33.9	2.7	58.7	4.2	27.6	3.6	39.8	4.1	<0.001	
Poverty-income level, %												
<100% poverty	3.9	0.7	5.9	1.1	3.0	0.9	18.8	2.2	17.7	2.4		
100–300% poverty	32.4	1.9	55.9	2.6	47.9	3.9	41.4	3.6	27.6	2.6		
300% poverty	63.7	1.8	38.2	2.5	49.1	3.9	39.9	3.4	54.7	3.6	<0.001	
Married/partner, %	63.2	1.8	40.4	2.3	54.6	7.0	57.8	2.9	76.8	2.8	<0.001	
Region, %												
Northeast	22.2	3.9	15.7	2.1	48.5	8.3	20.6	2.8	13.8	7.2		
Midwest	28.3	3.0	19.3	2.8	8.0	2.2	7.6	2.5	3.5	2.0		
South	30.9	3.8	56.0	3.2	36.4	9.8	38.6	5.4	8.0	2.2		
West	18.6	3.0	9.0	2.3	7.1	3.4	33.2	4.9	74.8	7.3	<0.001	
US-born, %	94.9	1.1	97.0	0.7	28.3	6.0	36.7	4.5	21.1	5.8	<0.001	
Among foreign-born only:												
Years in US, %												
<10 years	n/a		n/a		7.8	2.9	9.6	2.0	21.2	2.5		
11 – <20 years	n/a		n/a		17.6	3.0	8.5	1.8	25.8	2.9		
20 years	n/a		n/a		74.3	4.6	80.6	2.7	53.1	4.4		

	Non-Hispanic White	African American	Caribbean Black	Latino American	Asian American	
	n=1130	n=780	n=262	n=498	n=376	
% ^a	SE	%	SE	%	SE	
Age <35 years at immigration, %	n/a	n/a	42.8	4.5	60.5	4.1
			30.5	4.8	4.8	4.8
						<0.001

^aWeighted percentage and standard error (SE) adjusted for complex survey design. Percentages may not total 100 because of rounding.

^bAdjusted Wald *F*-Test.

Table 2
Adjusted predicted prevalence of lifetime CIDI/DSM affective disorders in 3,046 adults aged 55 years and older by race/ethnicity, CPES

	Non-Hispanic White		African American		Caribbean Black		Latino American		Asian American		<i>p</i> -value ^b					
	%	SE	N ^a	%	SE	N	%	SE	N	%		SE	N			
Anxiety disorders																
Panic disorder	3.0	0.6	61	1.5	0.5	15	2.0	1.5	3	2.5	1.4	16	1.2	0.7	6	0.325
Agoraphobia without panic	1.7	0.4	36	1.4	0.4	15	2.0	1.2	4	1.8	0.8	18	0.6	0.4	5	0.571
Social phobia	8.0	0.6	166	4.0	0.8	35	1.6	0.7	8	5.6	1.9	31	2.0	0.8	9	<0.001
Generalized anxiety disorder	7.1	1.0	156	2.4	0.5	24	3.6	2.5	4	6.2	1.4	39	2.6	1.0	10	<0.001
Posttraumatic stress disorder	4.6	0.6	83	4.5	0.9	46	3.0	1.3	9	2.1	0.7	22	2.0	1.1	6	0.148
Any anxiety disorder	16.8	1.3	340	11.0	1.4	102	11.5	4.0	26	15.2	2.3	89	7.9	1.8	31	0.001
Mood disorders																
Major depressive disorder	13.2	1.3	267	5.1	0.8	53	10.4	5.1	15	12.7	2.5	83	6.3	1.7	24	<0.001
Dysthymia	3.2	0.6	57	1.3	0.4	16	2.3	1.4	4	3.3	0.9	27	2.2	1.1	7	0.099
Any mood disorder	13.8	1.4	278	5.4	0.8	55	11.2	5.1	17	13.9	2.6	91	6.4	1.6	25	<0.001
Any affective disorder	23.5	1.6	480	13.7	1.5	130	17.5	4.9	36	22.8	2.8	136	12.3	2.3	48	<0.001
One affective disorder	13.6	1.0	277	9.3	1.4	80	12.5	4.4	28	14.4	2.2	72	9.2	1.8	35	0.032
Two or more affective disorders	10.0	1.2	203	4.4	0.6	50	5.2	3.6	8	8.4	1.7	64	3.2	1.2	13	<0.001

CIDI, Composite International Diagnostic Interview; DSM, Diagnostic and Statistical Manual; CPES, Collaborative Psychiatric Epidemiology Surveys

Predicted prevalence estimates calculated from logistic regression models for any lifetime affective disorder associated with race/ethnicity, adjusted for age, gender, employment status, poverty-income level, education, marital status, region, and nativity. Estimates for OCD and bipolar disorder are unavailable.

^aWeighted %, standard error (SE), and unweighted sample size (N).

^bAdjusted Wald *F* test.

Table 3

Multivariate-adjusted odds ratios for any lifetime CIDI/DSM mood or anxiety disorder associated with selected demographics

	Mood disorders		Anxiety disorders	
	OR	95% CI	OR	95% CI
Race / ethnicity				
African American as reference	1.00		1.00	
White	2.99	2.07 – 4.31	1.78	1.27 – 2.49
Caribbean Black	3.17	1.00 – 10.08	1.70	.71 – 4.07
Latino	3.91	2.11 – 7.24	2.21	1.29 – 3.79
Asian	1.61	.78 – 3.33	1.09	.53 – 2.22
p-value ^a	<.001		0.001	
White as reference				
African American	0.33	.23 – .48	0.56	.40 – .79
Caribbean Black	1.06	.34 – 3.28	0.95	.41 – 2.24
Latino	1.31	.74 – 2.32	1.24	.75 – 2.07
Asian	0.54	.28 – 1.02	0.61	.32 – 1.18
p-value	<.001		0.001	
Age				
55–64	1.00		1.00	
65–74	0.57	.40 – .83	0.48	.36 – .64
75+	0.24	.15 – .36	0.22	.13 – .38
p-value	<.001		<.001	
Gender				
Female	1.00		1.00	
Male	0.50	.37 – .69	0.68	.51 – .91
p-value	<.001		0.009	
Education				
< High school	0.99	.66 – 1.49	0.97	.67 – 1.41
High school	0.80	.56 – 1.13	0.69	.50 – .97
> High school	1.00		1.00	
p-value	0.34		0.08	
Employment status				
Working	1.00		1.00	
Not working	1.36	1.04 – 1.79	1.47	1.07 – 2.01
p-value	0.03		0.02	
Poverty income level				
<100% poverty	1.34	.76 – 2.36	1.62	.98 – 2.66
100–300% poverty	1.00		1.00	
300% poverty	1.08	.76 – 1.55	0.99	.73 – 1.34
p-value	0.59		0.16	
Marital status				

	Mood disorders		Anxiety disorders	
	OR	95% CI	OR	95% CI
Married	1.00		1.00	
Not married	1.77	1.38 – 2.46	1.69	1.17 – 2.46
p-value	<.001		0.01	
Region				
Northeast	1.3	.73 – 2.31	1.28	.80 – 2.04
Midwest	0.96	.60 – 1.54	1.27	.83 – 1.93
South	1.00		1.00	
West	1.37	.89 – 2.10	1.37	.90 – 2.09
p-value	0.34		0.46	
Nativity				
US-born	1.00		1.00	
Foreign-born	0.54	.33 – .90	0.47	.31 – .71
p-value	0.02		<.001	

CIDI, Composite International Diagnostic Interview; DSM, Diagnostic and Statistical Manual; OR, odds ratio; CI, confidence interval

Data presented are odds ratios and 95% confidence intervals estimated from multivariate logistic regression models of any lifetime mood disorder or any lifetime anxiety disorder and selected characteristics.

^aAdjusted Wald *F* test

Table 4
Prevalence of lifetime CIDI/DSM mood disorder by selected sociodemographic characteristics and ethnicity, CPES

	White			African American			Black Caribbean			Latino			Asian			
	%	SE	N	%	SE	N	%	SE	N	%	SE	N	%	SE	N	
Age																
55-64	18.6	1.9	149	8.9	1.7	36	18.4	8.7	8	17.4	3.7	51	5.3	1.8	13	
65-74	12.9	1.8	95	5.9	1.5	16	5.6	4	5	15.7	3.3	25	7.3	3.6	7	
75+	6.8	1.6	34	1.7	0.8	3	7.8	4.2	4	12.9	4.1	15	8.9	4.2	5	
F ₂ ^a	15.6***			7.6***			0.8			0.3			0.4			
Gender																
Male	8.3	1.4	68	5.8	1.5	16	21.5	11.8	7	9.3	2.6	24	5.3	2.1	11	
Female	17.5	1.6	210	7.2	1.1	39	3.4	1.3	10	21.2	3.6	67	7.7	2.6	14	
F ₁	28.1***			0.6			1.9			7.8**			0.4			
Employment status																
Working	14.4	1.6	107	7.1	1.4	20	11.7	7.7	7	6.4	2.3	13	6.3	2.6	9	
Not working	12.9	1.5	170	6.4	1.2	35	13.4	9	10	19.6	3	78	6.8	1.9	16	
F ₁	0.9			0.2			0			14.7***			0			
Education																
< 12 years	13.2	2.7	52	6.9	1.1	25	14.2	10.7	6	16.7	3.2	62	2.8	1.4	5	
12 years	11.9	1.5	84	8.9	2.2	21	2.1	1.5	3	20.7	5.1	17	8.8	5.3	5	
> 12 years	14.9	1.5	142	4	1.2	9	20.3	12.4	8	9.9	3.7	12	7.9	2.3	15	
F ₂	1.5			2.1			1.5			2			2.4			
Poverty-income level																
<100% poverty	21.4	6.2	13	11.7	4.9	8	15.1	8.3	3	15.6	5.6	17	15.9	6.3	8	
100-300% poverty	12.9	1.7	88	7.6	1.3	36	9.6	7.8	7	15.3	2.7	44	7.2	3.9	7	
300% poverty	13.3	1.4	177	3.6	0.9	12	13.1	9.2	7	16.9	4.3	30	3.3	1	10	
F ₂	1.2			3.8*			0.1			0.1			2			
Marital status																
Married	11	1.3	138	5.5	1.5	15	17.9	8.5	7	12.9	2.4	43	5.3	2	13	
Not married	17.6	2.4	140	7.4	1.2	40	5.8	2.9	10	20.2	3.9	48	10.9	3.5	12	
F ₁	6.9**			0.9			2.2			4.6*			1.4			

Region	White			African American			Black Caribbean			Latino			Asian		
	%	SE	N	%	SE	N	%	SE	N	%	SE	N	%	SE	N
Northeast	15.1	4	54	11.5	1.5	14	13	7.5	13	22.6	5.3	27	4.5	4.7	1
Midwest	10.9	1.7	76	7.5	2.7	11	0	0	0	11.2	5.8	5	22.2	11.1	1
South	12.7	2.1	81	5.4	0.9	31	1.3	1.1	3	14.9	3.7	47	4.3	4.3	1
West	16.6	2.5	67	0	0	0	66.1	35.1	1	14.2	5.8	12	6.5	1.5	22
F ₃	1.3			n/a			n/a			0.8			0.4		
Nativity															
US-born	13.9	1.4	270	6.4	0.9	55	27	12.8	4	12	4.9	12	8	3.3	6
Foreign-born	5.7	2.3	8	2.2	2.3	1	5.4	2.2	13	18.3	2.2	79	6.2	1.9	19
F ₁	5.3*			1.7			1.8			1.8			0.2		
Among foreign-born only:															
Years in US															
<10 years															
11 – <20 years															
20 years															
F ₂															
Age at immigration															
<35 years															
35 years															
F ₁															

CIDI, Composite International Diagnostic Interview; DSM, Diagnostic and Statistical Manual; CPES, Collaborative Psychiatric Epidemiology Surveys; SE, Standard error

Any mood disorder includes dysthymia and major depression.

Prevalence estimates calculated from cross-tabulation of any lifetime mood disorder and selected characteristic stratified by race/ethnicity.

^aTest of association determined by adjusted Wald *F*-test for each race/ethnicity.

* $p < .05$,

** $p < .01$,

*** $p < .001$

Table 5
Prevalence of lifetime CIDI/DSM anxiety disorders by selected sociodemographic characteristics and ethnicity, CPES

	White		African American		Black Caribbean		Latino		Asian						
	%	N	%	N	%	N	%	N	%	N					
Age															
55-64	23.6	17	192	15.3	2.2	58	12.6	5	14	18.6	3.7	57	7.3	1.6	15
65-74	13.9	1.7	100	12.6	2.5	34	12.4	7.8	7	19.8	3.5	24	9.3	4.1	10
75+	8.7	2.2	48	7.7	2.5	10	14.2	6.9	5	12	5.5	8	10.3	4.5	6
F ₂ ^d	22.1***		2.9			0			0.8		0.3				
Gender															
Male	12.5	1.4	106	9.5	1.9	26	19.3	10.4	11	12.5	3.3	25	9.2	2.9	17
Female	19.3	1.7	234	15.6	1.7	76	6.1	1.6	15	22.1	3.5	64	8	2	14
F ₁	10.9**		6.6*			1.6			2.9		0.2				
Employment status															
Working	17.4	1.6	124	11	2.3	26	8.9	3.3	13	17.3	6.1	26	3.3	2.5	5
Not working	15.8	1.6	216	14.2	1.8	76	17.9	9	13	18	3.2	63	12	2	26
F ₁	0.7		1.2			1			0		9.2**				
Education															
<High school	16.1	2.9	66	16.1	2.5	51	15.6	10.7	7	18.9	2.7	56	7.9	3	9
High school	13.5	1.6	100	12.1	2.9	29	11.2	5.7	8	19.6	5.7	16	13.2	4.3	9
>High school	18.8	1.5	174	10.4	2.4	22	10.7	5.3	11	12.8	4.9	17	7.1	2.2	13
F ₂	2.7		1.3			0.1			0.8		0.7				
Poverty-income level															
<100% poverty	29.8	6.3	2.1	26.2	7.6	12	13.1	8.5	3	19.6	8.1	13	14.1	5.3	9
100-300% poverty	15.4	2	108	14.1	1.6	69	15.7	8.5	13	14.8	3.1	36	5.8	2.9	6
300% poverty	16	1.1	211	7.5	1.6	22	7.6	3.3	10	20.2	4.7	40	8.1	2.3	16
F ₂	4.1*		5.0**			0.6			0.8		0.8				
Marital status															
Married	14	1.4	171	8.7	1.8	23	12.3	6	12	16.4	2.5	45	9.5	2.4	27
Not married	20.2	2.4	169	16.1	2.1	79	13.1	5.2	14	19.9	3.7	44	5.3	3.1	4

	White		African American		Black Caribbean		Latino		Asian			
	%	SE	N	%	SE	N	%	SE	N	%	SE	N
F ₁	4.5*			6.1*			0		0.7			1
Region												
Northeast	17.4	3.7	75	14.5	2.8	17	17.7	7.9	19	15.6	5.9	20
Midwest	15.7	2.2	97	17.6	3.6	26	14.6	17.6	1	8.7	5.5	3
South	14.6	2	98	9.7	1.4	51	1.8	1.4	5	21.8	2.5	52
West	18.8	2.2	70	13.3	6.6	9	17.8	17.1	1	16.7	4.5	14
F ₃	0.8			1.9			1.4		1.1			n/a
Nativity												
US-born	16.9	1.3	333	12.5	1.4	101	15.2	9.3	4	17.2	3.9	14
Foreign-born	5	2.2	7	6.2	4.7	2	10.3	3.6	22	18.2	2.6	75
F ₁	11.0*			1.3			0.4		0			5.9*
Among foreign-born only:												
Year in US												
<10 years							43.2	15.1	4	15.9	4.8	11
11 – <20 years							11.3	6.4	6	11.7	5	10
20 years							6.7	3.1	12	18.1	2.8	53
F ₂							1.6		0.5			0.4
Age at immigration												
<35 years							9.3	4.7	9	16.2	3.3	37
35 years							11	4.3	12	19.2	3.9	37
F ₁							0.1		0.3			0.8

CIDI, Composite International Diagnostic Interview; DSM, Diagnostic and Statistical Manual; CPES, Collaborative Psychiatric Epidemiology Surveys; SE, Standard error

Any anxiety disorder includes panic disorder, agoraphobia, social phobia, generalized anxiety disorder, and posttraumatic stress disorder.

Prevalence estimates calculated from cross-tabulation of any lifetime anxiety disorder and selected characteristic stratified by race/ethnicity.

⁴Test of association determined by adjusted Wald F-test for each race/ethnicity.

* p<.05,

** p<.01,

100<.000

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