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Prevalence of Psychiatric Illnesses among Ethnic Minority Elderly

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Abstract

OBJECTIVES—To compare lifetime and 12-month prevalence of DSM-IV psychiatric disorders among a national representative sample of older Latinos, Asians, African-Americans, and Afro-Caribbean to non-Latino Whites.

DESIGN—Cross-sectional study conducted in 2001 through 2004.

SETTING—Urban and rural households in the contiguous United States.

PARTICIPANTS—A total of 4,245 community-dwelling residents aged 50 and older living in non-institutional settings. Data are from the NIMH Collaborative Psychiatric Epidemiology Surveys.

METHODS—The World Health Organization Composite International Diagnostic Interview assessed lifetime and 12-month psychiatric disorders. Interviewers matched the cultural background and language preference of participants. Bayesian estimates compared psychiatric disorder prevalence rates among ethnic/racial groups.

RESULTS—After gender adjustments, older non-Latino Whites had higher lifetime rates of any depressive disorder than African-Americans but were no different than older Latinos. Older Asians and Afro-Caribbean had significantly lower lifetime rates of any depressive, anxiety, and substance use disorders than non-Latino Whites. Immigrant Asians had higher lifetime rates of GAD than the U.S.-born Asians and immigrant Latinos had higher lifetime rates of dysthymia and GAD than U. S.-born Latinos. U.S. born Latinos had higher lifetime rates of substance abuse, especially alcohol abuse, than immigrant Latinos. There were no significant differences in the rates of 12-month psychiatric disorders between non-Latino whites and ethnic/racial minorities, except that older African-Americans had higher 12-month rates of any substance use disorder compared to non-Latino Whites.

CONCLUSION—Prevalence rates vary considerably by ethnicity and race as well as by nativity for older minorities, suggesting different patterns of illness and risk.

Keywords

ethnicity; prevalence; psychiatric illness; older adults

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INTRODUCTION

Ethnic minority persons constitute the fastest growing segment of the elderly population, becoming a larger and more important component of the aging of America (1). The racial/ethnic composition of elderly immigrants has shifted, with most immigrants aged 65 and over being of Latino and Asian ancestry, rather than of European descent (2). In recent years, empirical investigations of ethnic/racial minorities have dramatically increased and consistently find striking differences in how different ethnic and racial groups, particularly Latinos and Asian Americans, vary in their rates of psychiatric illness (3,4). Prior work, however, has focused on younger populations, and thus cannot shed light on the psychiatric profile of older ethnic/racial minorities.

Lifetime prevalence estimates of geriatric depression, anxiety, and substance abuse vary widely. For example, lifetime prevalence estimates of geriatric depression range from 2.3% to 15.8% (5,6). The lifetime prevalence of geriatric anxiety disorders ranges between 0.7% and 7.1% (7). The prevalence of lifetime geriatric alcohol abuse ranges from 2% to 16% (8,9). Such variability in the rates of psychiatric illness in the elderly is partly attributable to the conceptual and methodological inconsistencies that characterize epidemiological research (10–13).

Because diverse studies used different measures to assess for mental illness, comparisons become problematic when trying to contrast psychiatric diagnoses across elderly ethnic/racial groups. Some epidemiological studies that included Latino and African-American elderly used symptom checklists (14–16) while other studies of non-Latino Whites, African-Americans, and Chinese-Americans used standardized diagnostic tools to diagnose in regional and a few national samples (6,17,18).

An important factor to consider with ethnic minorities is nativity. There is substantial evidence to indicate that immigrants are at lower risk of mental illness than their U.S.-born counterparts (19–21), although these results vary by subethnicity (3,22). While the reasons for this inconsistency are unknown, some researchers argue that residing in the U.S. for a longer period of time may increase the risk of illness among some ethnic/racial immigrants as acculturation can increase the risk of health and mental health problems (23,24).

The goals of this paper are two-fold: First, we compare national lifetime and 12-month prevalence estimates of DSM-IV psychiatric disorders among older (ages 50 and older) Latino, Asian, African-American, and Afro-Caribbean respondents to non-Latino Whites. Second, we compare the prevalence rates of psychiatric illness between older immigrant respondents and the U.S.-born respondents within each ethnicity/racial group. We selected the age of fifty to define older adulthood as it has been used in other studies (25,26). Also, the average age of death for seriously mentally ill individuals, which includes those suffering from chronic major depression, is 52.4 years (27). In this analysis, the non-Latino Whites are the comparison group because they are the largest ethnic/racial group and typically have the highest rates of mental illness (3,28). We hypothesize that the non-Latino Whites in this older adult sample will have higher rates of psychiatric diagnoses when compared to the other ethnic minority groups. We also hypothesize that the US-born participants will have higher rates of psychiatric diagnoses than their immigrant counterparts.

METHODS

Study Population

We used the combined pooled data from the three epidemiological studies included as part of the NIMH Collaborative Psychiatric Epidemiology Surveys (CPES; (29)): the National Latino and Asian American Study (NLAAS; (30)), the National Survey of American Life (NSAL;

(31)), and the National Comorbidity Survey Replication (NCS-R; (32)). These studies collected epidemiological information on mental health and substance disorders, along with information concerning service utilization among the general population. There was a focus on ethnic minority groups in the NLAAS (Latino and Asian subgroups) and the NSAL (African American and immigrant blacks of Afro-Caribbean heritage). The NCS-R was a naturally representative sample (33). In response to the lack of epidemiological data and the vast heterogeneity of the Asian population, (34) suggested aggregating the various Asian groups in order to make broad comparisons and establish baseline information. Given our small sample size, we heed this suggestion and combine the sub-ethnic groups in the Asian, Latino, and Afro-Caribbean sample to present data for each of these groups in the aggregate.

Although each of these studies was conducted independently, they all used an adaptation of a multiple-frame approach to estimation and inference for population characteristics (35,36). This approach allowed for the integration of design-based analysis weights to combine datasets as though they were a single, nationally-representative study (37). Design and methodological information can be found at the CPES website (http://www.icpsr.umich.edu/CPES/index.html).

The NLAAS is a nationally-representative survey of household residents (18 and older) in the non-institutionalized Latino and Asian populations residing in the contiguous United States. For the purposes of this study, only respondents 50 years of age or greater were included in the analyses. The sample included 685 Latinos and 580 Asian Americans. The NSAL is a nationally-representative survey of household residents in the non-institutionalized black population. The sample included African-Americans as well as those of African descent who come from the various nations of the Caribbean. The subsample of respondents aged 50+ used in these analyses included 1060 African Americans and 366 Black respondents of Caribbean descent. The NCS-R is a nationally representative sample of English-speaking, non-institutionalized adults ages 18 or older living in civilian housing in the contiguous United States. In the present study, 1554 non-Latino White participants of the NCS-R aged 50+ were included in our analyses. Race/ethnicity categories were based on respondents' self-reports to questions based on U.S. Census categories.

Procedures for Data Collection in Diverse Languages

Interviews for the studies were conducted by professional interviewers from the University of Michigan Survey Research Center. Interviewers were selected to match the cultural background and the language preferences of the participants of NLAAS and NSAL (31). All interviews in the NSAL and NCS-R were conducted in English. The majority of CPES interviews were completed face-to-face using a computer-assisted instrument. Those interviews which were not completed in person were done over the telephone. As a measure of quality control, all interviewers received extensive training on the instruments and were required to complete a training certification. Also, a 10% random sample of each interviewer's completed respondents was re-contacted by telephone for validation. Informed consent was obtained after all interview procedures were explained to participants. All study methods and protocols were approved by the Internal Review Boards of the principal investigators' institutions and the University of Michigan.

Diagnostic Assessment

In the NLAAS, NSAL and NCS-R, the World Health Organization Composite International Diagnostic Interview (WMH-CIDI; (38)) was used to identify the presence of lifetime and 12-month psychiatric disorders with organic exclusion rules according to the fourth edition of the *Diagnostic and Statistical Manual-Text Revision* (DSM-IV-TR; (39)) and ICD-10. Each diagnostic section of the interview included questions assessing lifetime persistence of the

disorder, intensity and duration of the distress, and impairment associated with the disorder. The discrete disorders included in this study were classified in one of four composite diagnostic categories for either lifetime or 12-month prevalence: any depressive disorder (dysthymia or major depressive episode); any anxiety disorder (agoraphobia, social phobia, generalized anxiety disorder, posttraumatic stress disorder, or panic disorder); any substance disorder (drug abuse, drug dependence, alcohol abuse, or alcohol dependence); or any psychiatric disorder. DSM-IV diagnoses based on the WMH-CIDI showed good concordance with the Structured Clinical Interview for DSM-IV (40).

Statistical Analyses

Sociodemographic characteristics and immigration measures were described using weighted estimates while Pearson chi-squared tests for contingency tables with second-order-Rao-Scott adjustments used to assess significant differences among groups (41,42). Models were adjusted for sampling design using a first-order Taylor series approximation, and analysis of significance was performed using design-adjusted Wald tests (42–44).

The lifetime and 12-month prevalence rates of psychiatric illness for each ethnic minority group were estimated using Bayesian methods. Bayesian estimates address the problems of small sample sizes and large sample weighting. To compare lifetime and 12 month prevalence rates, we conducted pairwise comparisons between each minority group and non-Latino whites and between U.S.-born participants and immigrants within each ethnic/racial group.

RESULTS

Sociodemographic and Immigration Characteristics

Table 1 examines sociodemographic and immigration characteristics among non-Latino white, Latino, Asian, African-American, and Afro-Caribbean older adults. A greater proportion of Latinos reported lower income (35.1% reported <$15,000) and fewer years of education (56.1% reported <12 years) as compared to the non-Latino whites. The majority of Latino, Asian, and Afro-Caribbean respondents reported being born outside of the U.S., and the majority of Latinos and Asians described their English proficiency as either “fair” or “poor.” Almost three-quarters (72%) of Afro-Caribbeans spent less than a third of their life in the U.S. Nearly half the Asians spent about one to two-thirds of their lives in the U.S. while half the Latinos spent more than two-thirds of their lives in the U.S.

Gender Adjusted Lifetime and 12-month Prevalence Estimates

Table 2 presents gender-adjusted lifetime prevalence rates of psychiatric disorders for non-Latino White, Latino, African-American, and Afro-Caribbean older adults. Non-Latino Whites and Latinos had similar lifetime prevalence rates of any psychiatric disorder (31.8% Whites, 31% Latinos) any depressive disorder (16.9% Whites, 17.0% Latinos) and of any anxiety disorder (18.7% Whites, 18.2% Latinos). In contrast, Asians (14.0%) and African-Americans (17.6%) had significantly lower rates of any psychiatric disorder compared to non-Latino Whites.

When contrasted to African-Americans on specific psychiatric disorders, non-Latino Whites had higher rates of any depressive disorder (16.3% vs. 9.0%, p <.001) and generalized anxiety disorder (GAD) (7.6% vs. 3.6%, P<.P<.001) while African-Americans had higher rates of drug dependence (0.67% vs. 1.77%, P=.05). Non-Latino Whites also exhibited increased prevalence of any depressive disorder (16.9% vs. 8.8%, P=.01), any anxiety disorder (18.7% vs. 11.5%, P=.05), and any substance use disorder (9.3% vs. 4.4%, P=.05) than the older Afro-Caribbean respondents.

Table 3 presents 12-month prevalence data of psychiatric illness by race/ethnicity. Rates of any psychiatric disorder for Latinos (14.5%) and African-Americans (11.2%) were not statistically significantly different from non-Latino Whites (11.2%). In contrast, Asians (6.5%, p=.01) and Afro-Caribbean (6.3%, p=.05) had lower rates of any 12-month psychiatric disorder compared to non-Latino Whites. Significantly higher rates of any 12-month depressive disorders are seen in Latinos than in non-Latino Whites (8.6% vs. 5.3%, P=.05). Asians had the lowest rates of major depression across all ethnic/racial group groups and significantly lower rates for major depression (1.7% vs. 5.0%, p <.001) and GAD (0.7% vs. 3.2%, p<.001) compared to non-Latino Whites. Also mirroring the lifetime prevalence estimates, African-Americans (1.7%, P=.03) had lower 12-month rates of GAD than non-Latino Whites (3.2%) while African-Americans had higher rates of any 12-month substance use disorder (1.3% vs. 0.4%, P=.04) than their non-Latino white counterparts. Afro-Caribbean older adults (3.1%, P=.05) had significantly lower rates of any 12-month anxiety than non-Latino Whites (8.4%).

Exploratory Analyses: Lifetime and 12-Month Prevalence Estimates Compared by Ethnicity and Nativity

Tables 4 presents the exploratory analyses which are the gender adjusted lifetime prevalence estimates for non-Latino White, Latino, Asian, African-American, and Afro-Caribbean respondents stratified by nativity. Comparisons were made between the U.S.-born and the immigrant respondents for each ethnic/racial group. Results indicate that amongst the non-Latino Whites, those who were born in the U.S. fared worse than those born outside the U.S. The U.S.-born, non-Latino Whites had significantly higher rates of any depressive disorder (17.3% vs. 7.3%, P=.005), any anxiety disorder (19.1% vs. 8.5%, P=.006), and any alcohol dependence (3.5% vs. 0.3%, P=.004; not shown in Table 4) than the immigrant non-Latino Whites

Results were mixed when analyzing the Latino sample. Immigrant Latinos (19.1%) had slightly higher rates of any depressive disorder than their U.S. born counterparts (13.6%). Specifically, immigrant Latinos had higher rates of dysthymia (4.7% vs. 1.6%, P=.04) and GAD (8.2% vs. 3.5%, P=.03; data not shown in Table 4), but the U.S.-born Latinos had higher rates of any substance use disorder (12.3% vs. 5.4%, P=.03), including alcohol dependence (5.4% vs. 1.1%, P=.04), alcohol abuse (11.9% vs. 5.0%, P=.02), and drug abuse (5.0% vs. 1.3%, P=.05) (not shown in Table 4) than their immigrant counterparts.

In contrast to non-Latino Whites, Asian immigrants had higher rates of any anxiety disorder (10.3% vs.6.8%, P=0.26), particularly GAD (0.6% vs. 3.1% GAD, P=.05; not shown in Table 4), compared to U.S.-born Asians. Due to small sample size of immigrant African-Americans, no meaningful comparisons could be made with the African-American sample. In the Afro-Caribbean sample, U.S.-born respondents had higher rates of any psychiatric disorder than their immigrant counterparts (28.3% vs. 13.7%, P=.05). There was a trend for higher rates of any depressive disorders and any anxiety disorder for the Afro-Caribbean immigrants compared to U.S.-born Afro-Caribbeans, but this trend did not reach statistical significance. Although this is not statistically significant, this may be clinically significant, and requires further study.

In Table 5, comparisons between U.S.-born Asians, African-Americans, and Afro-Caribbean with their immigrant counterparts yielded few statistically significant differences. However, some interesting patterns did emerge. U.S.-born, non-Latino Whites had higher rates of any psychiatric disorders (11.5% vs. 4.7%, p=0.02) major depressive disorders (5.5% vs. 1.0%, P=.001) and anxiety disorders (8.7% vs. 3.3%, P=.04) than their immigrant counterparts. Immigrant Latinos and Asians had higher rates of any psychiatric disorder compared to U.S.-born Latinos (16.3% vs. 3.3%, P=0.17) and U.S.-born Asians (7.4% vs. 3.3%, P=0.09). Immigrant Latinos had greater rates of dysthymia (1.1% vs. 3.9%, p=.05) and post-traumatic

stress disorder (PTSD) (3.2% vs. 0.8%, p=.04) than U.S.-born Latinos (not shown in Table 5). Asians immigrants reported higher rates of any anxiety disorder than U.S.-born Asians (7% vs. 2.7%, P=0.04).

DISCUSSION

This study compared lifetime and 12-month prevalence rates of many psychiatric illnesses in a nationally representative sample of five ethnic minority older adults. Older non-Latino Whites did not have higher rates of psychiatric diagnoses when compared to the other ethnic minority groups. Also, US-born participants did not always have higher rates of psychiatric diagnoses than their immigrant counterparts.

This study has several limitations. First, we did not report on the presence of dementia due to small numbers of respondents with dementia. Second, we did not report on severe mental illness rates because of the difficulty of assessing severe mental illness and the early mortality in this population. Third, the sample size was very small for immigrant non-Latino Whites and African-Americans, and for the U.S.-born Afro-Caribbean sample used in the nativity analyses. While small sample sizes may limit the generalizability, meaningful differences were found, and this remains the largest dataset of ethnic minority older adults. Third, a Type II error is possible with the multiple comparisons being made, so the results should be replicated with bigger sample sizes. Fourth, this study did not examine various sub-ethnic Latino and Asian groups due to limited sample size for the older sub-ethnic populations. Fifth, lifetime prevalence rates can be subject to recall bias, particularly in the elder adults (45), caution must be used when interpreting lifetime rates of psychiatric disorders.

The results from this study further support the claim that the rates of psychiatric disorders are lower among older Asians. Previous epidemiological studies with Asians have concentrated on adults (30) or focused primarily on Chinese adults (18). While these studies may not be comparable in terms of participants' ages or sample heterogeneity to our study, they do point out that Asians, when combined as a group, tend to have lower rates of psychiatric illness than non-Latino Whites.

Several explanations have been proposed. First, the way Asians express their mental illness may not be captured in instruments designed for Western populations. Previous research has indicated that cultural and linguistic factors affect the reported rates of psychiatric illness. Chinese respondents are more reluctant to report psychological distress, (46), are more likely to somaticize (46,47), and tend to describe depressive symptoms differently when compared to western populations (48). Chang and colleagues (49) found that symptom patterns and forms of depression in Korea, as defined by the DSM framework, are not identical to those in the U.S. So the results observed for the Asian sample might be linked to category fallacy (50).

Older African-Americans had lower lifetime prevalence rates of depression and generalized anxiety disorder, and higher rates of drug dependence than older non-Latino Whites. These findings are consistent with the results of Ford, et al. (17) who found that older African Americans have lower rates of depression and anxiety and higher rates of substance use and alcohol abuse compared to non-Latino Whites. This finding may reflect Ford and colleagues' (17) hypothesis that substance abuse among African-Americans, specifically African-American men, is due to traditional male socialization. Thus, it may be more socially acceptable for African-American men with depression to cope by abusing substances (17).

Older Latinos were found to have equal or worse psychopathology compared to older non-Latino Whites. The finding that lifetime rates of psychiatric illness were not significantly different between older Latinos and non-Latino Whites is inconsistent with previous data on younger adults (3,51). Also in contrast to previous psychiatric epidemiology studies, we found

that older Latinos had higher 12-month rates of major depressive episode compared to non-Latino Whites. A possible reason could be that older Latinos may experience family intergenerational conflict which is a significant interpersonal stressor (52). They may feel more culturally, socially or linguistically isolated and marginalized when the younger generation becomes acculturated and their children's beliefs, values and behaviors begin to deviate from the more traditional ones the elder adults hold. Highly burdened immigrant families who are working hard and economically challenged may lack time and energy to care for elders and fail to demonstrate the respect and family affiliated values that the elders may expect (53).

This is the first study to measure the epidemiology of psychiatric illnesses in the elderly Afro-Caribbean population. When compared to older non-Latino Whites, older Afro-Caribbean respondents had significantly lowers rates of many psychiatric disorders. Low acculturation may help explain this finding. The majority of the Afro-Caribbean in this study have spent less than a third of their lives in the U.S. Alegría, et al. (54) reported that the longer immigrants remain in their country of origin during the ages at which people are most at risk of developing psychiatric disorders, after age 7 but before the late 20's, the less cumulative risk of onset of disorders they appear to experience (54). While the study by Alegría and colleagues was done with Latinos, a similar principle could explain the findings for Afro-Caribbean.

A closer look at the lifetime and 12 month prevalence rates of psychiatric disorders among immigrant and U.S.-born respondents may provide insight into the ethnic minority elderly risk of mental illness. Immigrant Asians had more than twice the rate of any current anxiety disorder, particularly GAD, than their U.S.-born counterparts. Immigrant Latinos had higher rates of dysthymia and GAD while the U.S.-born Latinos had higher rates of any substance use disorder, alcohol dependence, and alcohol and drug abuse. This pattern of psychopathology was unique to older Latino and Asian immigrants and is not seen in the younger immigrant adults (3) or in the older Afro-Caribbean or other minority groups.

We found that the majority of Latino and Asian immigrants had low proficiency of English despite being in the U.S. for half of their lives compared to the more recent English-speaking Afro-Caribbean immigrants. The lack of English proficiency may make the immigrant Latinos and Asians feel socially isolated during their older years and make them feel like they do not belong in the dominant culture (55). This may lead to feelings of anxiety and depression. Also, older immigrants may lack the language and cultural fluency necessary to overcome social isolation and access barriers to quality health care that could relieve anxiety and depression (56–58).

Furthermore, when people migrate, there is an expectation that life will be better in the new host country. Unfortunately, there is often a discrepancy between migration-related expectations and post-migration reality (59). Whitley and colleagues found that immigrants who migrated for economic reasons linked their psychological illnesses to the events that followed the migration when their achievements failed to match their expectations (59). Although this study focused on West Indian immigrants in Canada, the same principle could apply to Asian and Latino immigrants who faced similar socioeconomic conditions.

Our finding that rates of alcohol and drug use are higher for U.S.-born Latinos than Latino immigrants is consistent with previous research that linked immigration and acculturation experiences to alcohol abuse for Latinos (24). Research shows that for some Mexican immigrants, longer time in the U.S. is associated with greater alcohol use (24). Other studies of Latino families show higher rates of alcohol addiction in immigrants' offspring than in the immigrants themselves. These results possibly reflect the adoption of American values and attitudes toward drinking and the rejection of traditional values (24). Alcohol abuse could also be a direct response to acculturation pressures and associated intergenerational conflicts.

As the population continues to increase in age and diversity, future studies should focus on those 50 years of age and older with larger numbers of ethnic minority elderly. Future research could compare prevalence rates of elderly ethnic minorities living in the U.S. with those living in the countries of origin. Future research can replicate findings and test the hypotheses presented to explain these results. For instance, future research could clarify the reasons for inconsistencies with Latino immigrant findings and explore plausible reasons such as differences in intergenerational conflict, segmented assimilation, or unfulfilled migratory expectations. Cross-cultural equivalence of diagnostic measurement issues among Asian ethnicities also warrants further investigation.

In summary, lifetime and 12-month psychiatric disorder rates among older adults differed between ethnicities/races. Clinicians should be aware of the different risks of psychiatric disorders among older ethnic minorities and may want to consider screening for depressive and anxiety symptoms particularly among older Latinos and African Americans.

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Table 1

Sociodemographic Characteristics by Race/Ethnicity for Respondents 50+

	NCS-R Non- Latino Whites	NLAAS Latinos	NLAAS Asians	NSAL African- Americans	NSAL Afro- Caribbean	
	(N =1554)	(N = 685)	(N = 580)	(N = 1060)	(N = 366)	
Sociodemographic Variables	**% (SE)**	**% (SE)**	**% (SE)**	**% (SE)**	**% (SE)**	**p**
Age						
50–65	54.6% (2.6)	63.89% (2.9)	63.7% (3.9)	62.5% (1.7)	63.8% (5.5)	0.4
65+	45.4% (2.6)	36.1% (2.9)	36.3% (3.9)	37.6% (1.7)	36.2% (5.5)	
Sex						
Male	45.1% (2.4)	45.1% (2.2)	45.1% (2.1)	45.8% (1.7)	42.6% (5.6)	96.7
Female	54.9% (2.4)	54.9% (2.2)	54.9% (2.1)	54.2% (1.7)	57.4% (5.6)	
Education						
≤ 11	18.1% (1.7)	55.9% (2.3)	25.8% (2.6)	35.2% (1.7)	33.9% (6.3)	< .001
12	32.9% (1.5)	16.6% (1.7)	19.2% (2.4)	31.4% (1.6)	28.7% (2.4)	
13–15	25.3% (1.6)	16.0% (1.8)	21.3% (1.9)	17.1% (1.4)	10.5% (2.6)	
≥ 16	23.7% (1.7)	11.4% (1.8)	33.7% (2.8)	16.4% (1.8)	26.9% (4.7)	
Household Income						
≤ $14,999	15.3% (1.3)	35.1% (3.0)	24.1% (2.8)	29.0% (2.1)	15.5% (2.7)	< .001
$15,000–$34,999	24.5% (1.3)	24.3% (2.7)	15.6% (1.9)	32.8% (1.5)	33.3% (4.8)	
$35,000–$74,999	33.2% (1.8)	27.7% (2.3)	28.6% (3.4)	26.4% (1.3)	27.5% (3.9)	
≥ $75,000	27.0% (1.8)	13.0% (2.3)	31.8% (3.2)	11.8% (1.6)	23.7% (2.8)	
Nativity						
Born In U.S.	95.6% (0.9)	38.4% (3.3)	18.1% (4.8)	99.1% (0.3)	28.0% (3.9)	< .001
Born outside U.S.	4.4% (0.9)	61.6% (3.3)	81.9% (4.8)	0.9% (0.3)	72.0% (3.9)	
Ratio of life lived in the U.S.						
<0.3	0.0% (0.0)	12.8% (1.6)	32.0% (4.0)	0.3% (0.2)	72.0% (3.9)	< .001
0.3–0.7	0.0% (0.0)	35.2% (2.5)	46.1% (3.9)	0.0% (0.0)	0.0% (0.0)	
0.7	100% (0.0)	52.1% (2.8)	21.9% (5.3)	99.7% (0.2)	28.0% (3.9)	
Proficiency in English Language						
Poor/Fair	0.0% (0.0)	60.8% (2.3)	48.2% (3.5)	0.0% (0.0)	8.9% (4.1)	< .001

	NCS-R Non- Latino Whites	NLAAS Latinos	NLAAS Asians	NSAL African- Americans	NSAL Afro- Caribbean	
	(N =1554)	(N = 685)	(N = 580)	(N = 1060)	(N = 366)	
Sociodemographic Variables	**% (SE)**	**% (SE)**	**% (SE)**	**% (SE)**	**% (SE)**	**p**
Good/Excellent	100% (0.0)	39.2% (2.3)	51.9% (3.4)	100% (0.0)	91.0% (4.1)	

SE = Standard error

P = p-value

Table 2

Gender Adjusted Lifetime Prevalence of Psychiatric Disorders by Race/Ethnicity for Respondents 50+ (Bayesian Estimates)

	NCS-R Non- Latino Whites	NLAAS Latinos	NLAAS Asians	NSAL African- Americans	NSAL Afro- Caribbean	Any Ethnic Difference
	(N =1554)	(N = 685)	(N = 580)	(N = 1060)	(N = 366)	
Life Time	% (SE)	% (SE)	% (SE)	% (SE)	% (SE)	p
Any Depressive Disorder	16.9% (1.2)	17.0% (1.8)	6.9%*** (1.3)	9.0%*** (0.9)	8.8%** (2.6)	< 0.01
Major Depressive Episode	16.3% (1.2)	16.4% (1.7)	6.7%*** (1.2)	9.0%*** (0.9)	7.5%*** (2.3)	< 0.01
Dysthymia	3.9% (0.6)	3.5% (0.8)	1.9*% (0.7)	2.7% (0.5)	2.3% (1.5)	0.21
Any Anxiety Disorder	18.7% (1.2)	18.2% (1.9)	9.4%*** (1.5)	15.5% (1.2)	11.5%* (2.7)	< 0.01
Agoraphobia w/out panic disorder	1.0% (0.3)	2.2% (0.6)	0.6% (0.4)	2.3%* (0.5)	2.1% (1.5)	0.03
General anxiety disorder	7.6% (0.8)	6.3% (1.1)	2.6%*** (0.9)	3.6%*** (0.6)	1.5%*** (1.0)	< 0.01
Panic disorder	3.7% (0.6)	2.4% (0.8)	1.5%** (0.6)	2.3% (0.5)	2.4% (1.2)	0.11
PTSD	5.1% (0.7)	3.9% (0.9)	2.0%** (0.7)	6.7% (0.8)	3.9% (1.6)	< 0.01
Social Phobia	9.0% (0.9)	7.8% (1.3)	3.3%*** (0.8)	6.4%* (0.8)	1.8%*** (1.0)	< 0.01
Any Substance Use Disorder	9.3% (0.9)	8.1% (1.3)	1.3%*** (0.5)	11.7% (1.1)	4.4%* (1.9)	< 0.01
Alcohol dependence	3.4% (0.6)	2.7% (0.9)	0.3%*** (0.2)	3.8% (0.7)	2.1% (1.3)	< 0.01
Alcohol abuse	8.6% (0.9)	7.6% (1.3)	1.1%*** (0.5)	10.8% (1.1)	3.9%* (1.7)	< 0.01
Drug dependence	0.7% (0.2)	1.2% (0.5)	0.1% (0.1)	1.8%* (0.4)	0.8% (0.6)	< 0.01
Drug abuse	2.2% (0.4)	2.7% (0.8)	0.3%*** (0.2)	3.7% (0.7)	1.1% (0.8)	< 0.01
Any Psychiatric Disorder	31.8% (1.5)	31.0% (2.3)	14.0%*** (1.7)	26.8%* (1.5)	17.6%*** (3.0)	< 0.01

* Denotes significance at P=.05

** Denotes significance at P=.01

*** Denotes significance at p >.001

Asterisks within cells signifies difference with Non-Latino Whites

Table 3

Gender Adjusted 12-Month Prevalence of Psychiatric Disorders by Race/Ethnicity for Respondents 50+ (Bayesian Estimates)

	NCS-R Non- Latino Whites	NLAAS Latinos	NLAAS Asians	NSAL African- Americans	NSAL Afro- Caribbean	Any Ethnic Difference
	(N =1554)	(N = 685)	(N = 580)	(N = 1060)	(N = 366)	
Past 12 Months	% (SE)	% (SE)	% (SE)	% (SE)	% (SE)	p
Any Depressive Disorder	5.3% (0.7)	8.6%* (1.3)	1.9%*** (0.7)	4.2% (0.7)	4.2% (1.9)	< 0.01
Major Depressive Episode	5.0% (0.7)	8.2%* (1.3)	1.7%*** (0.6)	4.2% (0.7)	4.1% (1.9)	< 0.01
Dysthymia	1.8% (0.4)	2.8% (0.8)	0.7% (0.4)	1.7% (0.4)	1.4% (1.4)	0.10
Any Anxiety Disorder	8.4% (0.9)	9.4% (1.4)	5.6%* (1.2)	8.8% (0.9)	3.1%* (1.4)	< 0.01
Agoraphobia w/out panic disorder	0.4% (0.2)	1.9%* (0.6)	0.6% (0.4)	1.0% (0.3)	0.4% (0.6)	0.12
General anxiety disorder	3.2% (0.5)	2.6% (0.7)	0.7%*** (0.5)	1.7%* (0.4)	1.2% (1.0)	0.07
Panic disorder	1.6% (0.4)	1.7% (0.6)	1.1% (0.5)	1.6% (0.4)	0.6% (0.6)	0.55
PTSD	2.2% (0.5)	2.3% (0.7)	1.4% (0.6)	2.8% (0.5)	0.6%* (0.5)	0.04
Social Phobia	3.7% (0.6)	3.8% (0.9)	2.1% (0.7)	4.0% (0.6)	1.2%* (0.8)	0.03
Any Substance Use Disorder	0.4% (0.2)	0.8% (0.4)	0.1% (0.2)	1.3%* (0.4)	0.4% (0.5)	0.05
Alcohol dependence	0.2% (0.1)	0.6% (0.4)	0.1% (0.1)	0.9% (0.3)	0.4% (0.5)	0.18
Alcohol abuse	0.4% (0.2)	0.3% (0.3)	0.1% (0.1)	1.1% (0.4)	0.4% (0.5)	0.07
Drug dependence	0.1% (0.1)	0.1% (0.2)	0.1% (0.1)	0.1% (0.1)	0.2% (0.4)	0.97
Drug abuse	0.1% (0.1)	0.1% (0.2)	0.1% (0.2)	0.2% (0.1)	0.2% (0.3)	0.97
Any Psychiatric Disorder	11.2% (1.0)	14.5% (1.7)	6.5%** (1.2)	11.3% (1.1)	6.3%* (2.1)	< 0.01

* Denotes significance at P=.05

** Denotes significance at P=.01

*** Denotes significance at p >.001

Asterisks within cells signifies difference with Non-Latino Whites

Table 4

Gender Adjusted Lifetime Prevalence Rates of Psychiatric Disorders by Race/Ethnicity According to Nativity for Respondents 50+ (Bayesian Estimates)

		NCS-R Non- Latino Whites (N =1554)	NLAAS Latinos (N = 685)	NLAAS Asians (N = 580)	NSAL African- Americans (N = 1060)	NSAL Afro- Caribbean (N = 366)
	U.S.	(N =1498)	(N = 149)	(N = 96)	(N = 1052)	(N = 60)
	IM	(N =56)	(N = 536)	(N = 484)	(N = 8)	(N = 306)
Life Time		% (SE)	% (SE)	% (SE)	% (SE)	% (SE)
Any Depressive Disorder	U.S.	17.3% (1.2)	13.6% (3)	9.2% (3.4)	9.1% (0.9)	16.4% (6.7)
	IM	7.3% (3.4)	19.1% (2.2)	6.4% (1.4)	3.6% (6.8)	5.9% (2.6)
	p	< 0.01	0.14	0.45	0.42	0.15
Any Anxiety Disorder	U.S.	19.1% (1.3)	17.2% (3.3)	6.8% (2.6)	15.5% (1.2)	16% (5.5)
	IM	8.5% (3.6)	18.8% (2.3)	10.3% (1.7)	13.3% (8.3)	9.9% (3.1)
	p	< 0.01	0.70	0.26	0.79	0.34
Any Substance Use Disorder	U.S.	9.4% (0.9)	12.3% (2.8)	3.0% (1.7)	11.8% (1.1)	9.4% (5.0)
	IM	7% (4)	5.4% (1.3)	0.9% (0.5)	8.8% (7.3)	2.6% (1.8)
	p	0.55	0.02	0.23	0.69	0.20
Any Psychiatric Disorder	U.S.	32.2% (1.5)	31.5% (4.1)	16.3% (3.9)	26.9% (1.5)	28.3% (6.5)
	IM	23.2% (6)	30.6% (2.7)	13.3% (1.9)	15.2% (8.9)	13.7% (3.5)
	p	0.15	0.85	0.51	0.19	0.05

U.S. = U.S.-born

IM = immigrants

p = p-value

Table 5

Gender Adjusted 12-Month Prevalence Rates of Psychiatric Disorders by Race/Ethnicity According to Nativity for Respondents 50+ (Bayesian Estimates)

		NCS-R Non- Latino Whites (N =1554)	NLAAS Latinos (N = 685)	NLAAS Asians (N = 580)	NSAL African- Americans (N = 1060)	NSAL Afro- Caribbean (N = 366)
	U.S.	(N =1498)	(N = 149)	(N = 96)	(N = 1052)	(N = 60)
	IM	(N =56)	(N = 536)	(N = 484)	(N = 8)	(N = 306)
Past 12 Months		% (SE)	% (SE)	% (SE)	% (SE)	% (SE)
Any Depressive Disorder	U.S.	5.5% (0.7)	5.8% (2.0)	0.8% (0.8)	4.2% (0.6)	8.2% (5.4)
	IM	1.0% (1.2) < 0.01	10.3% (1.7) 0.08	2.1% (0.8) 0.25	1.2% (3.3) 0.38	2.8% (1.8) 0.34
Any Anxiety Disorder	U.S.	8.7% (0.9)	6.7% (2.1)	2.7% (1.6)	8.8% (0.9)	4.7% (3.4)
	IM	3.3% (2.4) 0.03	11.1% (1.8) 0.11	7% (1.4) 0.04	2.5% (3.7) 0.10	2.5% (1.5) 0.55
Any Substance Use Disorder	U.S.	0.4% (0.2)	1.6% (1)	0.5% (0.7)	1.3% (0.4)	1.2% (1.7)
	IM	0.7% (1.1) 0.82	0.4% (0.3) 0.24	0.1% (0.1) 0.56	0.8% (3.1) 0.86	0.1% (0.4) 0.55
Any Psychiatric Disorder	U.S.	11.5% (1)	11.6% (2.7)	3.3% (1.9)	11.4% (1.1)	11.4% (5.6)
	IM	4.7% (2.8) 0.02	16.3% (2.2) 0.17	7.4% (1.4) 0.09	3.0% (4.4) 0.07	4.5% (2.0) 0.25

U.S. = U.S.-born

IM= immigrant