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Race, Stress, and Mental Health

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MINORITY STATUS AND MENTAL HEALTH

This chapter examines social conditions linked to the lives of minority group members and the larger social context within which mental health problems emerge. We will systematically examine the extent to which racial categorization and stratification predict variations in people's experiences of stress and mental health functioning.

One of the most critical issues in the study of the mental health of minority populations in the United States is to identify whether minority status predicts an increased risk for mental health problems (Vega and Rumbaut 1991). This research is contingent on an enhanced understanding of what race is, as well as the delineation of the specific factors linked to race that influence health status. Because the categories of race and ethnicity are not the cause of variations in health status, health researchers should avoid reifying these terms (Williams 1997). They are descriptive labels that reflect the variations in risk factors that could lead to ill health. Studies of minority health status should rest on a clear understanding of what racial and ethnic labels actually measure.

The Meaning of Race

Statistical Directive No. 15 of the Office of Management and Budget (OMB) requires federal agencies to report statistics for four racial groups (American Indian and Alaskan Native, Asian or Pacific Islander, African American, and white) and one ethnic category (Hispanic origin). In

terms of biological characteristics and genetics, these categories are more alike than different. Irrespective of geographic origin or race, all human beings are identical in 75 percent of known genetic factors (Lewontin 1984). In addition, some 95 percent of human genetic variation exists within racial groups, with relatively small and isolated populations, such as Eskimos and Australian Aborigines, contributing most of the between-group variation (Lewontin 1972). Moreover, there are no specific scientific criteria that will unambiguously distinguish different racial groups. Rather, the officially recognized racial categories in the United States may capture ethnic differences between population groups. An *ethnic group* is a group within the larger society that can be identified on the basis of common geographic origins, family patterns, language, religion, values, traditions and symbols, literature, music, dietary preferences, and employment patterns.

The development of the concept of race predates modern scientific theories of genetics. Historically, race was used to classify human variation as well as to develop an apparently scientific rationale for the exploitation of groups that were regarded as inferior (Montagu 1965). Three of the five categories currently used in OMB Statistical Directive No. 15 were in the first census. As required by Article I of the U.S. Constitution, this census enumerated whites, black slaves (recorded as three-fifths of a person), and Indians who paid taxes (Anderson and Fienberg 1995). Thus, from the beginning, racial categories reflected a hierarchy of racial preference: whites at the top, blacks at the bottom, and other groups in the middle. Although the three-fifths rule was eventually abandoned by the Thirteenth Amendment, there has been a history of racial oppression in the United States. Current racial categories capture some of the inequalities that emerged as attitudes and beliefs about racial groups became policies and societal arrangements to limit the opportunities and life chances of stigmatized groups.

Historical events and political factors, such as the influx of immigrants, shaped the development of new racial categories (Anderson and Fienberg 1995). The 1870 Census added "Chinese" as a new racial group because of the Chinese immigrants who entered the United States in the mid-nineteenth century. However, immigration and naturalization laws barred Chinese immigrants from becoming U.S. citizens. Only white immigrants could be citizens, and in 1882, the Chinese Exclusion Act barred further immigration. The 1890 Census added "Japanese" as a new category to the race or color question. The 1920 Census added "Filipino," "Hindu," and "Korean." The 1930 Census added "Mexican" as a new racial category.

Current categories do not capture all of the presumed racial and ethnic variation in the United States. Rather, they identify only the *minority* racial and ethnic groups. Instead of indicating the numerical size of a population, the term *minority* reflects stratification and access to power and resources (Nelson and Tienda 1985). Minority status reflects the convergence of ethnic origin and socioeconomic disadvantage. A *minority group* is one whose members are subjected to unequal treatment through prejudice and discrimination by a dominant group. Historically, only a select few ethnic groups have become minority groups.

History suggests that current racial and ethnic categories will change, and there is no consensus, even within minority groups, on preferred labels or terminology. A national survey of 60,000 adults in 1995 confirmed this (Tucker et al. 1996). Some 58 percent of Hispanics indicated that "Hispanic" was the term they preferred; 12 percent preferred "Latino"; 20 percent preferred some other term; and 10 percent had no preference. Almost two-thirds of whites preferred "white," while 44 percent of African Americans preferred "black" and 28 percent preferred "African American." Given that the racial/ethnic terms used should be those broadly recognized by a wide variety of people and those that respect individual dignity, the terms *African American* or *black* and *Hispanic* or *Latino* can be used interchangeably.

Race and Stress

There is growing recognition that stress is not randomly distributed in society. Rather, the social conditions in which a group is embedded are important determinants of the level of exposure to stress (Pearlin 1989; Williams and House 1991). Minority racial and ethnic status thus become crude proxies for exposure to both higher levels of stress and fewer resources to cope with stress, when compared to the white population. Challenges resulting from the need to adapt to mainstream American culture, in addition to socioeconomic disadvantage, can lead minority group members to experience higher levels of those stressful experiences captured by standard stress scales.

Additionally, there is growing interest in the extent to which stressors unique to minority status might also adversely affect the mental health status of these groups. The most frequently nominated stressors of this kind (Williams 1996a; Williams et al. 1997) are experiences of racial discrimination and blocked opportunity. These high levels of stress could adversely affect mental health status, although only a few recent attempts in the literature systematically examine the variation in gen-

eral measures of stress and race-related stressors across minority populations.

Stress is an important risk factor for mental health problems (Brown and Harris 1989; Elliot and Eisdorfer 1982), and there are important suggestions in the literature that discrimination might also adversely affect the mental health of minority group members. In the National Study of Black Americans, a global measure of racial discrimination was adversely related to physical and mental health status (Jackson et al. 1996; Williams and Chung, in press). Similarly, two studies of Hispanic women found reports of ethnic discrimination positively related to psychological distress (Amaro et al. 1987; Salgado de Snyder 1987). In a study of Puerto Ricans in New York, Rogler et al. (1994) found that people who scored high on a particular scale (one that captured the extent to which Puerto Ricans were treated unjustly because of discrimination against them) were more likely to be receiving mental health services than people who scored low on the scale. It has also recently been argued that racial discrimination is an important risk factor for the mental health of Asian Americans (Kuo 1995).

Race/Ethnicity and Mental Health

Mental health researchers have commonly used scales of psychological distress because they are easy to administer, do not consume much time, and provide a distribution of mental health status on a continuum (Vega and Rumbaut 1991). The scales consist of symptoms that are typically more prevalent at lower levels of socioeconomic status (SES) and relate to measures of stress and physical problems. These symptoms do not capture a clinical diagnosis; rather, they relate to demoralization.

Symptom checklist scales typically assess depressed mood, psychological distress, and a level of dysfunction (Link and Dohrenwend 1980; Vega and Rumbaut 1991). It is also important when analyzing mental health status to distinguish between somatic (and other symptoms of depression) and more cognitive and evaluative-oriented dimensions of mental health status, such as life satisfaction (Vega and Rumbaut 1991). Measures of subjective well-being attempt to capture an individual's overall perception of the quality of life (George 1992). Life satisfaction is the most frequently used measure in this regard, and it is closely related to other concepts that measure subjective well-being, such as morale and happiness. In addition, life satisfaction is a fairly stable indicator of an individual's long-term perception of the overall quality of his or her life.

The mental health literature indicates that racial/ethnic status might predict variations in mental health outcomes. Most of this research has focused on black-white differences in mental health. Early studies of treated populations tended to show that African Americans had more mental health problems than whites (Neighbors 1984; Williams and Fenton 1994). However, studies of more broad-based populations have been inconsistent. In an early review of eight community-based studies, Dohrenwend and Dohrenwend (1969) indicated that half showed higher rates of mental health problems for African Americans—and the other half showed higher rates for whites. Subsequent studies have frequently found higher rates of psychological distress for blacks than whites, with the racial difference reduced to non-significance when adjusted for SES (Neighbors 1984; Vega and Rumbaut 1991; Williams and Fenton 1994). However, the pattern is not uniform.

In a comprehensive review of the literature on minority mental health status, Vega and Rumbaut (1991) concluded that some recent studies find higher levels of distress for African Americans, while others find lower levels for African Americans compared to whites. These inconsistencies may be linked to regional variation or measurement error. Other studies have found no racial differences in psychological well-being. For example, in a large national study, race was found to be unrelated to self-esteem, and African American and white respondents did not report differences in experiencing an impending nervous breakdown (Veroff et al. 1981). Levels of psychological anxiety and physical health were also equivalent across race, and these researchers found no signs of demoralization in blacks' assessment of their lives. They concluded that African Americans probably handle stress in ways that do not translate into psychological problems.

Inconsistent Distribution of Mental Health Problems by Race/Ethnicity

Studies of psychiatric disorders suggest that African Americans are not disadvantaged compared to whites. The large Epidemiologic Catchment Area (ECA) study found few racial differences in psychiatric illness (Robins and Regier 1991). More recently, in the first national study of psychiatric disorders in the United States, Kessler et al. (1994) found that African Americans have lower rates of mental illness than whites in all major diagnostic categories.

The pattern of black-white differences in life satisfaction has also not been consistent. On the one hand, Bracy (1976) found that African

Americans consistently report lower levels of life satisfaction than whites, and this relationship persists even after adjustment for a broad range of SES and demographic characteristics. Clemente and Sauer (1996) report similar findings. Thomas and Hughes (1986), in an analysis of the relationship between race and life satisfaction in the General Social Survey between 1972 and 1985, found that African Americans consistently reported lower scores than whites, even after controlling for SES, age, and marital status. In contrast, Herzog et al. (1982) found that there were no racial differences in life satisfaction after adjustment for SES and demographic variables.

Research on the mental health of the Hispanic population to date does not provide a clear picture of the distribution of mental health problems for Hispanics when compared to the major racial groups or for subgroup variations within the Hispanic category (Vega and Rumbaut 1991; Rogler et al. 1989). For example, in the Hispanic Health and Nutrition Examination Survey (Hispanic HANES), Puerto Ricans had higher rates of depression than Cubans and Mexican Americans, as measured by the Center for Epidemiologic Studies Depression (CES-D) scale (Shrout et al. 1992). In some studies, Mexican Americans have higher symptoms than non-Hispanic whites or African Americans, but in the Hispanic HANES, Mexican Americans have low rates of depressive symptoms (Vega and Rumbaut 1991).

Our understanding of the distribution of psychological distress and psychiatric disorders in the Asian population is very limited (Sue et al. 1995; Vega and Rumbaut 1991). Sue et al. (1995) have argued that large-scale studies of Asian populations outside of the United States can provide useful information in the absence of good U.S. data. They reviewed studies conducted in Singapore, Taiwan, China, and Korea. Some of these studies found that the rates of psychiatric disorders are similar to those found for the U.S. population, while others found lower rates.

Early studies of U.S. treatment data report very low levels of mental health problems in the Asian population. However, several community-based studies have found high levels of psychological distress. Kuo (1984) conducted the first community study of the prevalence of CES-D defined depression among Asians. Asians had a higher level of depression than non-Hispanic whites. There was significant variation among the Asian groups, with Koreans having the highest rates of depressive symptoms. Chinese and Japanese had the lowest rates, with Filipinos having rates in the middle. A study of Korean immigrants in Chicago

found that this group had high scores on the CES-D depression scale (Huh and Kim 1988). Using the same measure, Ying (1988) found high mean scores for Chinese Americans in San Francisco. The recently conducted Chinese American Psychiatric Epidemiologic Study is the most comprehensive study of the mental health of any Asian American group. Involving a probability sample of Chinese Americans in Los Angeles, this study found that the rates of mental disorders are low for this population, with anxiety rates especially low (Sue et al. 1995).

Migration and Mental Health

Minority populations are very diverse, as some of the findings indicate, and many researchers argue that greater attention should be paid to this heterogeneity (Vega and Rumbaut 1991; Williams et al. 1994; Zane et al. 1994). Social circumstances such as the timing of migration and processes of incorporation into the United States vary, and they may affect importantly both the distribution of risk factors and the vulnerability of minority populations to mental health problems. Prior research in the mental health field indicates that socially disadvantaged people are likely to experience higher levels of stress than more advantaged individuals, and they are also likely to be more adversely affected by stressors. Refugees, especially those from Southeast Asia, might be particularly vulnerable in this regard (Lum 1995). Several studies have found high rates of mental health problems among Southeast Asian refugees (Buchwald et al. 1993; Kinzie et al. 1990; Lum 1995).

The literature reflects a concern about the ways that migration to the United States and acculturation can affect mental health status. The migration experience can include loss of social relationships, difficulties in finding new social ties, and problems of acquiring a new language and adapting to a new culture. The need to find one's way in a new and unfamiliar economic system, with possible changes in social status, can be a special source of stress. Vega and Rumbaut (1991) also emphasize that immigration to the United States brings important transitions in role behaviors. Role conflicts in parenting and role inconsistencies in employment status (working at jobs with lower status than in one's home country) are very common.

The relation of immigrant status to the health of Hispanics is not clear, and the relationship appears to vary for specific Hispanic groups. In the Hispanic HANES, immigrants from Cuba and Mexico seemed to have lower levels of depressive symptoms than non-Hispanic whites.

On the other hand, the opposite pattern existed for immigrants from Puerto Rico to the mainland. Puerto Ricans studied in New York reported higher CES-D scores than other studies reveal for Puerto Ricans on the island (Vega and Rumbaut 1991). Recent research by Shrout et al. (1992) compared rates of psychiatric disorders for island Puerto Ricans with Mexican immigrants and native-born Mexican Americans in Los Angeles. These investigators found that immigrant Mexican Americans had the fewest mental health problems, native-born Mexican Americans had the most problems, and Puerto Rican respondents fell in between.

Research reviewed by Sue et al. (1995) indicate that Asian American students, regardless of acculturation level, have higher levels of psychological distress than whites. However, less-acculturated Asian American students have more psychological problems than their more-acculturated peers. Several other studies suggest that foreign-born Asians, even those who have resided in the United States for ten years or more, have higher levels of distress than their white peers (Sue et al. 1995). In contrast, research on Southeast Asian refugees reviewed by Vega and Rumbaut (1991) indicate that the first three years after immigration is the period of greatest psychological impact. This period is characterized by initial euphoria, then disenchantment (with high rates of psychological distress), and, finally, recovery by the end of three years. Vega and Rumbaut (1991) also indicate that similar patterns have been found for Cuban, Eastern European, Korean, and Chinese immigrants. Rogler et al. (1991) report that negative, positive, and curvilinear relationships have been found for the relationship between acculturation and mental health status for Hispanics.

METHODS OF ANALYSIS

The goals of this study, using data from the CMHS, are to (1) assess the extent to which race/ethnicity predicts variations in levels of stress; (2) examine the extent to which mental health problems are differentially distributed across racial/ethnic status; and (3) identify the nature of the association between generational status and mental health. One of the important strengths of this study is that it uses a set of common measures of both stress and mental health status across a broad range of minority populations. Studies of this kind are rare in research on minority mental health (Vega and Rumbaut 1991).

Measures of Mental Health Status and Stress

The same measures were used in both survey samples. All single items and indices are coded in the direction of the variable name so that a high score reflects a high value of that variable. Two measures of mental health status are considered in the analyses. Psychological distress was assessed by the five-item mental health subscale of the SF-36 (Ware et al. 1995). This scale (Cronbach's alpha = .76) sums the frequency with which the respondent felt (a) calm and peaceful, (b) downhearted and blue, (c) so down in the dumps that nothing could cheer him or her up; (d) had been a very nervous person in the previous 30 days, and (e) had been a happy person in the previous 30 days. These items are typical of the symptoms of depression and anxiety and are commonly used in health surveys to measure psychological distress. The second measure of mental health status is a global indicator of general well-being, with "life satisfaction" being a single-item rating of the respondent's satisfaction with life on a five-point scale, ranging from very satisfied to very dissatisfied.

The survey recorded five measures of stress. "Global stress" is a summary measure of the general undesirable life events that a respondent experienced during the previous year. The eleven items constituting the global stress scale are divided into four types of stress: relationship (illness or death of a close family member, problems with aging parents, problems with children, and problems with spouse or partner); occupational (hassles at work and trouble balancing work and family demands); financial (problems with money and loss of one's job or of spouse's job); racial bias (respondent or family treated badly because of race or cultural background), and violence (fear of crime or violence in one's community and knowing someone who was a victim of violence). For each of these items of stress, respondents indicated the extent to which they were affected by them. The coding scheme (for creating the index) gave a value of 2 for respondents who indicated that they were affected strongly, a value of 1 for those who indicated that they were affected somewhat, and a value of 0 for those who indicated that they were not affected at all.

For analyses that use the main sample, where the focus is on differences between blacks, whites, and Hispanics, the analytic categories, black and white, exclude persons of Hispanic origin. When we performed analyses for the Asian or black population, we included all

respondents who self-identified with these categories, irrespective of their responses on the ethnicity question. Given a central interest in the heterogeneity of racial and ethnic minority populations, an attempt was made whenever possible to look at ethnic variation within each of the categories. Accordingly, in selected analyses, we further divided Hispanics into Mexican, Puerto Rican, and "other Latinos" (a residual category that consists of Cubans, Dominicans, Costa Ricans, and an "Other" category). Similarly, we divided blacks into those who indicated that they were of Caribbean heritage versus those who were not, and we divided the Asian category into Chinese, Vietnamese, and Korean.

Sociodemographic Control Variables

Age (in years), gender (1 = female, 0 = male), and marital status are sociodemographic control variables used in our analyses. Given that prior research indicates considerable variation in mental health status among unmarried groups (Williams, Takeuchi, and Adair 1992), we divided marital status into a set of four dummy variables: single, widowed, separated and divorced, and married (reference category).

Two measures of SES are used. Education, based on formal years of schooling, is divided into four categories that capture meaningful differences in educational credentials: less than high school completion, high school completion, some college, and college graduate (which is the reference category in the regression analyses). Income is our second measure of SES. It describes the total household income in the previous year. We divided income into four dummy variables: less than \$7,500; \$7,501–\$25,000; \$25,001–\$50,000; and greater than \$50,000 (the reference category in the regression analyses). Because the meaning of a given level of household income is related importantly to the number of people dependent on it, we control for household size whenever we use household income. Household size is a count of the number of people living in the household, ranging from 0 to 10 or more.

The issue of adaptation to American society is a significant factor when considering the health experience of minority populations that have a large number of immigrants. We employ a measure of generational status that combines length of stay in the United States with generation in the United States. This variable consists of four categories. Respondents who were not born in the United States (first-generation immigrants) were divided into recent immigrants (five years or less in the

United States) and long-term immigrants (six years or more in the United States). The third category, second-generation, consists of U.S.-born individuals with at least one parent born outside the United States. The third-generation category (reference category in the regression analyses) consists of the remaining respondents who were born in the United States—as were their parents.

Data Analysis

The data for both the main and Asian samples were weighted to take into account different probabilities of selection and to adjust the demographics of the sample to the Current Population Survey's latest parameters on the basis of gender, race, age, educational attainment, and health insurance status. Simple descriptive analyses present racial differences in the distribution of stress. We report an overall F-test for the mean differences between the categories, and Duncan's Multiple Range Test to determine the sample means that differ significantly from one another. However, we rely primarily on ordinary least-squares regression analyses to examine the relationship between race and mental health status and to assess the impact of stress on health. The regression models allow us to test for statistical significance and to control simultaneously for age, gender, SES, and household size. These statistical procedures assume simple random sampling and tend to underestimate variances and overestimate statistical significance when the sampling design is complex. Accordingly, for analyses with the main sample, we use the SUDAAN software (Shah et al. 1992) to make the appropriate adjustments to standard errors and p values.

We ran a set of hierarchical regression models in which the major classes of potential explanatory variables were entered in separate blocks. Model 1 in Tables 11.2 through 11.5 presents the association between race/ethnicity and health, controlled for age. Model 2 adds gender and marital status, while model 3 adds the two measures of socioeconomic status (income and education) and household size. Model 4 considers the additive contribution of stress to health status. A fifth model, consistently run, is not presented in these tables. This fifth model assessed the extent to which stress might have a more adverse impact on the mental health functioning of some racial/ethnic groups than others. Here we created interaction terms that capture the multiplicative relationship between stress and racial or ethnic status, and we added these to the previous model.

SUMMARY OF FINDINGS

Racial/Ethnic Differences in Stress

Mean scores on stress measures for whites, African Americans, and Latinos indicate that survey respondents from the two minority populations tend to have higher levels of stress than whites (Table 11.1). The scores for African Americans and Latinos on the summary measure of stress (global stress) are significantly higher than that of whites. African Americans have the highest overall score, with a recorded level of stress significantly higher than that of Latinos.

This pattern, indicating higher levels of stress for the two minority groups, is evident across all of the subtypes of stress. However, the overall F-test for differences is significant only for financial stress and racial bias. African Americans and Latinos have identical mean scores on financial stress, with their level of stress significantly higher than that of whites. Large differences are evident concerning racial bias. Compared to whites, scores on racial bias are seven times as high for African Americans and four times as high for Latinos. The differences between African Americans and Latinos are also statistically significant, while racial/ethnic differences in relationship and occupational stress are not statistically significant.

Because of the different sampling strategy for the Asian sample of survey respondents, we did not perform tests of significant differences

with the other racial/ethnic groups. Nonetheless, we can offer an overall descriptive profile of the distribution of specific types of stress for this group (see Table 11.1). Overall, Asian respondents report high levels of stress. In general, Asians reported higher levels of stress than do whites, and similar levels to Hispanics. Racial bias is a significant stressor for Asians. This is interesting because the mean level for Asians exceeds that of all other groups, including African Americans. This pattern is noteworthy because stereotypic images of Asians as the "model minority" could lead to the conclusion that Asian Americans do not experience racial discrimination. The sampling strategy used in this study for selecting Asians, however, based on readily identified Asian surnames, could have over-represented Asians who are at higher risk for experiencing discrimination.

There is heterogeneity in each of the minority populations (data not shown). For each group, the major subgroups of that population experience differences in levels of stress. For Hispanics, we record mean levels of stress for Mexicans, Puerto Ricans, and other Latinos. A consistent pattern appears for Hispanics across all of the types of stress. Puerto Ricans have the highest level of stress (5.99), and the category "other Latinos" tends to show higher levels of stress than Mexicans (for global stress, 5.43 vs. 5.02). The F-test is significantly different for the following stress indicators: global, relationship, occupational, and violence. Puerto Ricans have higher means than Mexicans on global and relationship stress and violence, while other Latinos have higher occupational stress scores than Mexicans.

Stress levels differ between the native-born black population and blacks of Caribbean ancestry (data not shown). Interestingly, the mean on the global stress measure for Caribbean blacks (6.66) is higher than that of American blacks (5.72). This pattern is consistent across all types of stress, but it is statistically significant only for financial stress (1.56 vs. 1.23); it is marginally significant for violence. The high level of financial stress for Caribbean blacks is surprising because recent research documents that Caribbean immigrants continue to have a higher socioeconomic status than other African Americans (Kalmijn 1996).

Among Chinese, Vietnamese, and Koreans, there is a pronounced pattern of significant differences in levels of stress (data not shown). Chinese have the highest levels of stress (6.50); Koreans, the lowest levels (3.37); and Vietnamese are in-between (5.46). Chinese have a higher score than Vietnamese and Koreans on global and occupational stress. The Chinese also surpass Koreans on relationship, financial, and vio-

Table 11.1 Mean Levels of Stress for Racial Groups

Race/ Ethnicity	Global	Relationship	Occupational	Financial	Racial Bias	Violence
Whites (W)	4.45	1.74	0.97	0.94	0.04	0.75
Blacks (B)	5.81	1.90	1.02	1.26	0.30	1.33
Latinos (L)	5.28	1.78	1.01	1.26	0.17	1.07
F Ratio	31.95*	1.75	0.46	24.79*	138.91*	65.81
Duncan's Test	B > L			B & L > W	B & L > W	B & L > W
Asians	5.10	1.80	0.89	1.03	0.41	0.97

Source: Data from The Commonwealth Fund Minority Health Survey, 1994.

*p ≤ 0.01.

lence stress. Stress levels for the Vietnamese exceed those of the Koreans for violence, as well as global, relationship, and financial stress.

Psychological Distress

Concerning psychological distress in the main sample, model 1 shows the association between race/ethnicity and psychological distress adjusted for age (Table 11.2). Age is inversely related to psychological dis-

Table 11.2 The Association to Psychological Distress of Race, Sociodemographic Factors, Socioeconomic Status, and Stress (unstandardized regression coefficients)

	Model 1	Model 2	Model 3	Model 4
Age				
45-64	-0.09	-0.01	-0.11	-0.07
≥65	-0.68 ^a	-0.55	-0.66	-0.65
Race/ethnicity				
African Americans	-0.41	-0.41	-0.34	-0.09
Latinos	-0.64 ^b	-0.64 ^b	-0.31	-0.22
Gender-female				
Single		0.26	0.24	0.32
Widowed		-0.16	-0.30	-0.19
Separated/divorced		-0.07	-0.13	0.09
Education				
<High school			0.61	0.35
High school			0.12	0.06
Some college			0.17	0.23
Income				
<\$7,500			3.89 ^b	2.93 ^b
\$7,501-\$25,000			1.90 ^b	1.45 ^b
\$25,001-\$50,000			1.15 ^b	0.88 ^b
Household size				
Global stress			0.12	-0.16 ^a
Intercept	12.14	12.04	10.21	8.66 ^b
R ²	0.00	0.00	0.04	8.04
N	3,080	3,080	3,080	3,080

Source: Data from The Commonwealth Fund Minority Health Survey, 1994.

Note. Referent categories: age 18-44, whites, married, college graduate, income >\$50,000.

^a $p \leq 0.10$.

^b $p \leq 0.01$.

tress, with a marginally significant tendency for people over age 65 to have lower levels of distress than adults under age 45. For race/ethnicity, it is interesting that Latinos report significantly *lower* levels of distress than whites. Also, although not statistically significant, the direction of the association is for African Americans to have lower levels of psychological distress than whites.

Model 2 considers the contribution of gender and marital status. Surprisingly, both of these variables are unrelated to psychological distress. Model 3, presenting the contribution of education, income, and household size, shows a strong graded inverse relationship between income and psychological distress, with each higher income category having lower levels of distress than the preceding category. Although people who did not complete high school tend to have higher levels of distress than college graduates, this pattern is not statistically significant. Interestingly, consideration of the SES variables and household size reduces the relationship between race and distress; the coefficient for Latinos is reduced by more than 50 percent, to non-significance.

Model 4, which adds the global measure of stress, indicates a strong positive relationship between stress and psychological distress. The addition of stress produces a dramatic increase in the R² of the overall model (from 4% to 22%) and also affects some of the other variables. First, the consideration of stress weakens the relationship between SES and psychological distress. The coefficients for income diminish somewhat, but they remain significant when stress is added to the model. Second, the association for household size becomes marginally significant and reverses direction after adjustment for stress. In contrast to a non-significant positive association between household size and distress noted in model 3, model 4 shows a weak inverse relationship between household size and distress. This suggests that, in the face of stress, people residing in larger households may be able to mobilize enough social support to reduce the negative effects of stress on their mental health status.

In additional analyses (not shown), we assessed the relationship of each of the subtypes of stress to psychological distress in a model that adjusted for age, race/ethnicity, gender, marital status, SES, and household size. Considered singly, all of the stress measures are positively related to psychological distress. However, when all of the subtypes of stress are entered simultaneously into the regression model, the association of racial bias and violence with distress becomes non-significant. Williams et al. (1995) have noted that a single-item measure of racial dis-

crimination can overlap with other measures of stress on a standard life events inventory, and that adjusting racial bias for other stress reduces its association with mental health status.

Hispanics. Similar model analyses, conducted for the Hispanic population only, focus on the heterogeneity of this population. These analyses contrast Puerto Ricans and other Latinos with Mexican Americans. Model 1 shows that both Puerto Ricans and other Latinos tend to have higher levels of distress than Mexican Americans, but this pattern is significant for Puerto Ricans only (Table 11.3). For Hispanics, age is unrelated to psychological distress, and gender and marital status are also unrelated to distress. Model 3 reveals a strong inverse relationship between income and psychological distress for Latinos, with household size and education also related to distress. Hispanic survey respondents who have not completed high school, as well as those with some college education, have higher levels of distress than college graduates. There is also a strong positive relationship between household size and psychological distress, with respondents in larger households reporting higher levels of distress. Unlike the pattern for psychological stress in the main sample (Table 11.2), where consideration of SES reduces the association between race and distress, the significant coefficient for Puerto Ricans increases slightly when SES is taken into account (Table 11.3).

Model 4 reveals that global stress for Hispanics is strongly related to psychological distress. The addition of this stress variable reduces dramatically, but does not completely eliminate, the higher levels of distress for Puerto Ricans when compared to Mexicans. This suggests that the higher levels of stress for Puerto Ricans, compared to Mexican Americans, play a major role in accounting for the elevated levels of psychological symptoms among Puerto Ricans. The consideration of stress reduces the association between household size and distress to non-significance, and this also mediates the association between income and psychological distress. The pattern reported for the subtypes of stress in the main sample is identical, in additional analyses, to that observed for Latinos. All of the stress measures are individually related to distress, but the associations with discrimination and violence do not remain significant when all of the stress measures are considered simultaneously.

African Americans. We present the association between ethnicity, stress, and psychological distress for U.S. respondents of African descent by contrasting respondents of Caribbean ancestry with other African Americans (Table 11.4). Model 1 shows that Caribbean blacks have significantly higher levels of psychological distress than other blacks. How-

Table 11.3 The Association to Psychological Distress of Ethnicity, Sociodemographic Factors, Socioeconomic Status, and Stress, for Hispanics Only (unstandardized regression coefficients)

	Model 1	Model 2	Model 3	Model 4
Age				
45-64	-0.42	-0.47	-0.49	-0.35
≥65	-0.35	-0.08	-0.35	-0.06
Ethnicity				
Puerto Ricans	1.34 ^a	1.35 ^a	1.38 ^a	0.78 ^b
Other Latinos	0.30	0.33	0.47	0.11
Gender-female		0.46	0.53	0.48
Marital status				
Single		0.30	0.31	0.24
Widowed		1.07	0.87	0.15
Separated/divorced		0.90	0.75	0.47
Education				
<High school			1.31 ^c	0.66
High school			0.53	0.72 ^b
Some college			1.03 ^c	1.18 ^a
Income				
<\$7,500			3.23 ^c	2.30 ^a
\$7,501-\$25,000			1.60 ^a	0.78 ^b
\$25,001-\$50,000			0.81	0.11
Household size			0.24 ^c	0.13
Global stress				0.62 ^a
Intercept	12.28	11.84	9.06	7.12
R ²	0.01	0.02	0.06	0.24
N	1,001	1,001	1,001	1,001

Source: Data from The Commonwealth Fund Minority Health Survey, 1994.

Note: Referent categories: age 18-44, Mexicans, married, college graduate, income >\$50,000.

^ap ≤ 0.01.

^bp ≤ 0.10.

^cp ≤ 0.05.

ever, similar to the pattern observed for Latinos, age is unrelated to distress. Model 2 shows the incremental contribution of gender and marital status. The association between Caribbean ancestry and distress is unchanged by adjustments for these demographic variables. However, here we note for the first time that there is a significant association between gender and psychological distress: black women report higher levels of distress than black men.

Table 11.4 The Association to Psychological Distress of Ethnicity, Sociodemographic Factors, Socioeconomic Status, and Stress, African Americans Only (unstandardized regression coefficients)

	Model 1	Model 2	Model 3	Model 4
Age				
45-64	0.69	0.55	0.20	0.05
≥65	-0.62	-0.77	-0.97	-1.00 ^a
Ethnicity				
Caribbean ancestry	1.56 ^b	1.60 ^b	1.44 ^b	1.06 ^c
Gender—female		0.94 ^c	0.74	0.76 ^a
Marital status				
Single		-0.46	-0.65	-0.67
Widowed		0.15	0.53	0.41
Separated/divorced		1.28	1.22	1.03
Education				
<High school			0.28	0.35
High school			-0.35	-0.33
Some college			0.25	0.46
Income				
<\$7,500			3.82 ^b	3.20 ^b
\$7,501-\$25,000			2.35 ^b	1.47 ^b
\$25,001-\$50,000			0.12	-0.17
Household size			0.21 ^c	0.11
Global stress				
Intercept	12.27	11.82	9.96	0.52 ^b
R ²	0.01	0.02	0.08	7.76
N	1,048	1,048	1,048	1,048

Source: Data from The Commonwealth Fund Minority Health Survey, 1994.

Note: Referent categories: age 18-44, American blacks, married, college graduate, income >\$50,000.

^ap ≤ 0.10.

^bp ≤ 0.01.

^cp ≤ 0.05.

Model 3 adds the SES variables and household size. Of the two SES indicators, only income is associated with distress. The two lowest income categories have higher levels of distress than the highest income category. There is also a positive association between household size and psychological distress. Adjustment for SES and household size reduces the association of both ethnicity and gender to psychological distress, with gender no longer being significant.

As we have seen in our earlier analyses, model 4 shows a strong positive relationship between the global stress measure and psychological distress. The significant association between household size and distress

shown in model 3 is now reduced by almost one-half and is no longer significant. In contrast, the coefficients for ethnicity and income in model 3 are reduced but remain significant in model 4. Thus, similar to the pattern among Hispanics, differential exposure to stress accounts for a substantial part of subgroup variations in distress. In additional analyses (not shown here), we entered all of the subtypes of the global stress variable into a regression model that contained all of the model 3 variables. We found that relationship, occupational, and financial stress are all significantly related to high levels of distress. When all of the subtypes of stress are simultaneously considered, racial discrimination and fear of violence are unrelated to distress for African Americans.

Asians. For the Asian sample, the focus is on ethnic variations between Vietnamese, Koreans, and Chinese concerning the relationship between stress and psychological distress. Consistent with the literature, which documents important variations in mental health status for ethnic groups within the Asian population, we find that levels of psychological distress vary for these three Asian groups. Compared to the Chinese, Vietnamese report lower levels of distress, and Koreans report higher levels (data not shown).

This pattern of the distribution of mental health problems is not parallel to the earlier observed distribution of stress, which showed that Chinese had the highest level of stress, Koreans the lowest, with Vietnamese in between. In model 2, gender and marital status are unrelated to psychological distress, while in model 3, income is significantly associated with psychological distress. Here Asians at the two lowest levels of income report greater distress than those at the highest level. Education is also related to mental health status, but the pattern is somewhat surprising. Asians with some college, when compared to Asian college graduates, have elevated levels of psychological distress. The other educational categories do not differ from college graduates in terms of psychological distress.

Model 4 for the Asian subgroups reveals a strong positive relationship between global stress and psychological distress. Asians with higher levels of stress are more likely to have mental health problems. Adjustment for global stress reduces the coefficient for Vietnamese to non-significance. Although Koreans have the lowest levels of stress, they have the highest levels of mental health problems. Moreover, adjustment for stress produces a classic suppression effect, with the coefficient for Koreans becoming larger than in the previous model. When adjusted for global stress, the association between income and distress is reduced,

especially for the second-lowest income group. Analyses (not shown) of subtypes of stress reveal the now familiar pattern of each kind of stress being positively related to distress: relationship, occupational, and financial stress are significant when we consider all simultaneously.

Differential Vulnerability. We find consistently that stress is strongly related to psychological distress for all of the racial/ethnic groups studied. Based on prior theory and research, we were interested in whether the relationship between stress and psychological distress varies for either the major racial/ethnic minority populations considered or for the subgroups within each of the populations. We systematically evaluated this hypothesis of differential vulnerability. In analyses not shown, we created multiplicative interaction terms between global stress and the relevant racial or ethnic status category. We added these interaction terms to a new model that included age, race or ethnicity, gender, marital status, education, income, household size, and global stress. We found none of the interactions between global stress and race or ethnicity to be significant.

In addition, in similar analyses we explored interactions between each of the subtypes of stress (relationship, occupational, financial, racial discrimination, and fear of violence) and race and ethnic status. We found few significant associations. In the main sample, there was a marginally significant tendency for relationship stress and occupational stress to be more strongly related to psychological distress for African Americans than for whites, and a significant pattern for violence to have a weaker association with distress for African Americans than for whites. There were no significant interactions between the subtypes of stress and ethnicity for African Americans or Asians. For Hispanics, there was one significant association: financial stress was less strongly related to distress for Puerto Ricans than for Mexican Americans.

Our findings suggest that stress has uniform adverse effects on the mental health status of the major racial/ethnic groups surveyed. However, there is no overwhelming support for a clear and consistent pattern of differential vulnerability.

Race, Stress, and Life Satisfaction

We systematically evaluated the relationship between race, sociodemographic factors, SES, and stress to life satisfaction. Here we used regression models very similar to those just described for psychological distress

to demonstrate the relationship between race/ethnicity, stress, and life satisfaction for African Americans, whites, and Latinos (Table 11.5). Model 1 shows that age is unrelated to life satisfaction. There is a marginally significant relationship between race/ethnicity and our indicator of psychological well-being: African Americans have higher levels of life satisfaction than whites, but Latinos have lower levels. The addition of gender and marital status in model 2 makes little incremental contribution to explained variance, and this addition does not reduce the relationship between race and life satisfaction.

Table 11.5 The Association to Life Satisfaction of Race, Sociodemographic Factors, Socioeconomic Status, and Stress (unstandardized regression coefficients)

	Model 1	Model 2	Model 3	Model 4
Age				
45-64	-0.00	-0.03	-0.02	-0.03
≥65	-0.02	-0.10 ^a	-0.09	-0.09
Race/ethnicity				
African Americans	0.09 ^a	0.10 ^a	0.10 ^a	0.04
Latinos	-0.09 ^a	-0.09 ^a	-0.05	-0.04
Gender-female		-0.06 ^a	-0.05	-0.05
Marital status				
Single		-0.06	-0.06	-0.07
Widowed		0.19 ^a	0.21 ^b	0.19 ^a
Separated/divorced		-0.06	-0.05	-0.08 ^a
Education				
<High school			-0.05	-0.02
High school			-0.05	-0.04
Some college			0.01	0.01
Income				
<\$7,500			-0.80 ^c	-0.48 ^c
\$7,501-\$25,000			-0.34 ^c	-0.28 ^c
\$25,001-\$50,000			-0.16 ^c	-0.13 ^c
Household size			0.00	0.04 ^b
Global stress				-0.08 ^c
Intercept	4.31	4.37	4.60	4.87
R ²	0.00	0.01	0.04	0.13
N	3,080	3,080	3,080	3,080

Source: Data from The Commonwealth Fund Minority Health Survey, 1994.

Note: Referent categories: age 18-44, whites, married, college graduate, income < \$50,000.

^ap ≤ 0.10.

^bp ≤ 0.05.

^cp ≤ 0.01.

There is a marginally significant tendency for women to report lower levels of life satisfaction than men. In addition, marital status is weakly related to well-being. Widowed individuals report only marginally significant higher levels of life satisfaction than the married. Of the two SES variables considered in model 3, only income is related to life satisfaction. Money may not buy happiness, but there is a strong positive relationship between income and life satisfaction. People at each higher level of income report more life satisfaction than those in the income category beneath them. It is also worth noting that adjustment for SES reduces the marginally significant coefficient for Latinos to non-significance, but it leaves the coefficient for African Americans unchanged.

Model 4 considers the contribution of stress to life satisfaction. There is a significant inverse relationship between global stress and life satisfaction. Consistent with the pattern observed for psychological distress, global stress is also associated with reduced levels of psychological well-being. The addition of global stress in model 4 also changes some of the relationships observed in model 3. The marginally significant coefficient for race (black) is reduced by more than one-half to non-significance, and new patterns emerge in the relationship between marital status and life satisfaction. The earlier observed pattern (marginally significant) of widowed individuals having higher levels of life satisfaction than the married is unchanged. But, in addition, there is a marginally significant tendency for the separated/divorced to report lower levels of life satisfaction than the married. The association between income and distress is now reduced, but it remains significant when adjusted for stress. Similar to the pattern observed for psychological distress, the association between household size and life satisfaction becomes positive when adjusted for global stress. Instructively, the variables considered here explain less of the variance in life satisfaction (13%) than the variance observed earlier for psychological distress (22%).

Hispanics. Concerning the relationship between ethnic variation, stress, and life satisfaction for Hispanics, when adjusted for the demographic variables, Puerto Ricans and other Latinos tend to have lower levels of life satisfaction than Mexican Americans—but this relationship is only marginally significant for other Latinos (data not shown). Women also report lower levels of life satisfaction than males, but marital status is unrelated to life satisfaction. The association of gender and ethnicity to life satisfaction remains significant when adjusted for SES. Of the two SES variables considered, only income is significantly related to life satisfaction for Hispanics. As noted previously (Table 11.5), there is a strong

positive relationship between income and life satisfaction. And similar to the analyses conducted for the main sample, we see a strong inverse relationship between global stress and life satisfaction. The addition of global stress makes an important contribution to explained variance, increasing the R^2 from 5 percent in model 3 to 20 percent in model 4. Household size becomes marginally significant in model 4. That is, there is a tendency for larger households to report lower levels of life satisfaction. When adjusted for stress, the association of life satisfaction with both ethnicity and marital status are reduced to non-significance. Global stress also mediates a substantial part of the association between income and psychological well-being.

African Americans. Concerning the relationships between stress and life satisfaction for African Americans, the association is similar to the one observed for psychological distress. Model 1 indicates that blacks of Caribbean ancestry report lower levels of life satisfaction than other African Americans (data not shown). This relationship is unchanged when adjusted for gender and marital status. Gender and marital status are unrelated to levels of life satisfaction. Model 3 shows that the consideration of SES and household size has minimal impact on the significant relationship of ethnicity to life satisfaction observed in model 2. Also, there is a strong inverse relationship between household size and life satisfaction. Respondents who reside in larger households report lower levels of life satisfaction. As expected, model 4 reveals a significant inverse relationship between global stress and life satisfaction.

Asians. Concerning the relationships among ethnicity, sociodemographic factors, SES, stress, and life satisfaction for Asians only, significant variation with life satisfaction emerges (data not shown). This variation for the Asian subgroups is similar to the pattern observed for psychological distress. Compared to the Chinese, Vietnamese have higher levels of life satisfaction and Koreans have lower levels. This pattern remains unchanged when adjusted for the sociodemographic variables and SES. When controlled for global stress, the coefficient for Vietnamese is reduced to non-significance but the coefficient for Koreans becomes larger. In addition, only the SES variables and global stress are significantly related to life satisfaction. There is the expected positive relationship between income and life satisfaction, with people in the two lowest-income categories tending to report lower levels of life satisfaction than those in the highest category. This relationship is reduced and remains marginally significant only for the lowest-income group when adjusted for global stress. Similar to the Asian pattern for psychological

distress, Asians with some college education have lower levels of life satisfaction. Global stress is also significantly related to life satisfaction: reports of higher levels of stress among Asian Americans are predictive of lower levels of life satisfaction.

In other analyses (not shown), we disaggregated the subtypes of global stress and examined their relationships with life satisfaction singly and in combination. Considered individually, all of the measures of stress were inversely related to life satisfaction in the main sample and in the subgroups (African Americans, Hispanics, and Asians), with one exception. That is, violence was unrelated to life satisfaction for African Americans. When considered simultaneously, relationship stress, occupational stress, and financial stress are associated with lower levels of life satisfaction in the main sample as well as for African Americans, Latinos, and Asians. In addition, for African Americans and Asians, violence becomes positively related to life satisfaction when controlled for the other measures of stress.

Differential Vulnerability. Similar to the analyses reported earlier for psychological distress, we performed a series of analyses to evaluate systematically the extent to which stress might have a differential impact on life satisfaction for the racial and ethnic groups in the survey. We found only one significant association. The coefficient representing the interaction of global stress and Vietnamese ethnicity was positively related to life satisfaction. That is, global stress has a smaller negative impact on life satisfaction levels of Vietnamese Americans than on other racial/ethnic groups. In additional analyses (not shown) where the global stress measure was disaggregated, this pattern was evident for racial bias as well as relationship, occupational, and financial stress.

Analyses for the association between generational status and psychological stress for the main survey sample, as well as for each of the major minority groups (Table 11.6), show that generational status does not predict variations in psychological distress. In the main sample and for the African American and Asian samples, recent immigrants (five years or less in the United States) tend to have higher levels of psychological distress than third-generation residents, but these differences are not statistically significant.

Summarizing a similar set of analyses for the life satisfaction variable, we found that generational status is unrelated to life satisfaction in the main sample, but there are important subgroup differences (Table 11.6). For Hispanics, recent immigrants report higher levels of psychological well-being than their third-generation counterparts. An opposite pattern is evident for Asians, with all recent and longer-term immigrants

Table 11.6 The Association between Generational Status and Psychological Distress^a and between Generational Status and Life Satisfaction^b (unstandardized regression coefficients)

	Main Sample	Hispanics	African Americans	Asians
Psychological distress				
First generation				
≤5 years	1.83	-0.32	1.65	1.40
≥6 years	0.53	0.05	0.88	1.06
Second generation				
Constant	-0.39	0.07	-1.41	0.54
R ²	8.08	7.08	7.85	7.46
Life satisfaction				
R ²	0.22	0.24	0.21	0.27
First generation				
≤5 years	0.01	0.32 ^b	-0.59	-0.62 ^c
≥6 years	-0.00	0.04	0.01	-0.50 ^b
Second generation				
Constant	0.04	0.02	0.15	-0.50 ^d
R ²	4.86	4.96	4.77	5.11
R ²	0.13	0.20	0.12	0.16

Source: Data from The Commonwealth Fund Minority Health Survey, 1994.

Note: Relevant category: third generation. Each column represents two separate regression models—one each for psychological distress and for life satisfaction.

^aAdjusted for age, gender, marital status, race or ethnicity, SES, household size, and global stress.

^b $p \leq 0.05$.

^c $p \leq 0.01$.

^d $p \leq 0.10$.

having lower levels of well-being than third-generation Asian Americans. Among African Americans, recent immigrants tend to have lower levels of life satisfaction than their third-generation peers, but this difference is not significant. Consistent with the literature, then, we find some evidence of poorer mental health status for recent immigrants, but this pattern varies depending on the minority group and the health status indicator.

Limitations of the Study

The CMHS provides a unique opportunity to consider risk factors for mental health status and for overall levels of mental health status for whites and a broad range of minority populations in the United States.

Many of our results are consistent with prior research, but others are not. We must consider carefully the extent to which potential sample limitations might shed light on some of the observed discrepancies between our findings and other research. This issue is particularly relevant because the CMHS is a probability-based sample of households with telephones in the United States.

It has been known for some time that telephone coverage is not uniform in terms of region and SES. Households in the South and low SES households, more generally, have lower levels of telephone coverage. Because at least some minority populations are over-represented in Southern states, and because most minority populations contain a disproportionate number of lower SES persons, this issue becomes especially relevant in minority health research.

Over the last few years, the telephone has become a major alternative to face-to-face interviews. For the most part, primarily because of cost considerations, survey researchers have adopted the telephone as a research instrument (Groves and Kahn 1979). Much of the preliminary evidence comparing the relative efficacy of telephone versus face-to-face interviews suggests that there may be little or no major differences (Groves and Kahn 1979). Early studies of this kind either focused on predominantly white populations or did not assess racial differences. Some recent evidence indicates that African Americans and Hispanics (unlike whites) substantially under-report the frequency of alcohol problems in telephone interviews, when compared to personal interviews (Aquilino 1994). We do not know to what extent this phenomenon may generalize to other sensitive health topics, conditions, and experiences. At the same time, experience with multiple waves of data collection over a twelve-year period in the National Study of Black Americans (with wave 1 being a personal interview and all other waves being telephone interviews) suggests that under-reporting is unlikely to be a major problem in studies of stress and mental health for African Americans.

For African Americans, Asians, and Hispanics, the CMHS differs in important ways from the 1990-1994 Current Population Survey (see Technical Appendix) population characteristics. Most relevant for our findings is the tendency for most of these populations in the CMHS sample to be higher in SES than the populations from which they were drawn. Given a very strong relationship between SES and health, and the interaction of SES with minority health status (Williams 1996b; Williams and Collins 1995), caution should be used when generalizing these findings to the larger minority populations in the United States. At

the same time, the fact that we can document important racial/ethnic differences in stress and health, even with a relatively advantaged sample of minority group members, emphasizes the power of racial/ethnic status as a critically important determinant of life chances and well-being.

DISCUSSION AND RESEARCH IMPLICATIONS

Minority Groups Handle Stress Differently

The analyses reported here offer additional evidence that racial/ethnic status is a crude proxy for uncovering differences in living and working conditions for major subgroups in the U.S. population. We have found that the major minority groups, compared to whites, report higher levels of a broad range of stressors. Our measurement of stress attempts to capture stress related to minority status itself. As expected, we find that the gap between whites and minority group members on racial bias is larger than that of any other type of stress. Traditional inventories used to elicit stress in the population do not include measures of racial discrimination. This finding highlights the importance of this source of stress, and it suggests that researchers must give more systematic attention to the conceptualization and measurement of race-related stressors (Williams 1996a; Williams et al. 1997).

Our analyses show that levels of health status vary by racial/ethnic group, but the pattern is complex. Compared to whites, African Americans do not differ on psychological distress, and they tend to have higher levels of life satisfaction. In contrast, Hispanics report poorer health status than whites on both mental health measures. It is possible that these data understate mental health problems for both African Americans and Latinos. First, as noted earlier, given the higher SES profile of the sample in the CMHS, compared to the overall U.S. African American and Hispanic population, the CMHS could under-represent disadvantaged segments of the African American and Latino population—those groups known to have higher levels of health problems. Moreover, it is well documented that the U.S. Census is less successful in counting minority populations than the white population, and that individuals omitted from the census are more likely to be of low SES (Notes and Comments 1994; Williams 1996b).

Second, the measure of psychological distress used in this study could also understate mental health problems. The symptoms of depression and anxiety assessed in the psychological distress scale used in this

study are similar to those commonly used in surveys like the Center for Epidemiologic Studies Depression (CES-D) scale to assess psychological distress. However, a comparison of the scale in the CMHS with the CES-D reveals that the CMHS scale lacks items that capture hopelessness, self-concept, and somatic symptoms such as problems with sleeping, eating, or crying. Given that other research indicates that minority patients tend to somatize their symptoms of psychological distress (Buchwald et al. 1993; Kinzie et al. 1990; Rogler et al. 1989), the under-representation of somatic symptoms in this scale may underestimate the degree of psychological distress in minority populations.

At the same time, the patterns of findings reported here are consistent with other research that finds few racial differences in psychological distress (Vega and Rumbaut 1991; Williams et al. 1997) and no racial difference in or better mental health status when psychiatric disorders are considered (Kessler et al. 1994; Robins and Regier 1991). At any rate, these particular findings emphasize the need to pay greater attention to those health-enhancing cultural resources that minority group members have and that may shield them from some of the adverse consequences of stress (Mirowsky and Ross 1980; Rogler et al. 1989; Williams and Fenton 1994). It has been suggested that a broad range of cultural resources, including family support and religious involvement, may play an important role in buffering minority populations from the negative effects of stress.

Our analyses also provide compelling evidence that all of the major minority populations are characterized by considerable heterogeneity. We documented these variations not only for the Hispanic and Asian populations but also for the African American population. In particular, we found a consistent and surprising pattern, with people of Caribbean ancestry scoring worse on psychological distress and life satisfaction than other African Americans. This is an intriguing and unexpected pattern, and it should receive attention in future research. In addition, length of stay in the United States appears to be a useful indicator of variations in health status. Future research on the relationship between acculturation and mental health status should also give greater attention to the use of bicultural strategies (participating in both the culture of origin *and* that of the new society). Several studies reviewed by Vega and Rumbaut (1991) suggest that immigrants who use bicultural strategies seem to do better in terms of mental health status than those who exclusively remain tied to their culture of origin or become Americanized.

Policy Implications

The literature on the use of mental health services in the United States indicates that sociodemographic characteristics predict demand (Crow et al. 1994). Generally, whites use mental health services at a higher level than non-whites, women are more likely to use mental health services than men, SES is positively related to health services utilization, people older than 40 use fewer mental health services than younger adults, and the use of services varies by region.

Although our findings provide an important snapshot of the mental health status of racial and ethnic minority populations in the United States, the data do not provide a firm basis for identifying the need for mental health services, developing cost-effective care, or reducing uncertainty in determining the appropriate levels of use for various demographic subgroups.

In an attempt to contain spiraling health care costs, a number of managed care strategies have been implemented to reduce unnecessary medical care utilization while assuring the provision of needed adequate medical and mental health services (Mechanic et al. 1995). Some of these managed care plans are concerned about the implications of sociodemographic variations for managed care. However, neither the findings of this study nor the larger literature provides enough information to use demographic data to calibrate precisely the actual need or demand for a specific population.

Estimates based on patterns of use do not capture the level of need that exists within a population. In the National Comorbidity Survey, only 40 percent of the people who had a psychiatric illness had ever received treatment, while almost half of all people in treatment did not meet the criteria for psychiatric illness (Kessler et al. 1994). Accordingly, there is a critical need for broad-based population data that can better identify the characteristics of people with serious mental health problems, whether or not they are in treatment. The available data from large studies like the Epidemiologic Catchment Area Study and the National Comorbidity Survey provide some representation of the African American population, but they offer limited coverage of Hispanics and virtually no coverage of Asian Americans.

Stress and Socioeconomic Status: Predictors of Poorer Health

Our analyses also indicate that the social context is not benign; it can have a broad range of pathogenic consequences. For both of the mental

health outcomes considered (psychological distress and life satisfaction) for all of the subgroups included, two classes of variables consistently predict poorer health status: stress and SES. Both of these constructs capture important aspects of the social environment and highlight the role that the social context can play in enhancing or impairing health status.

Our findings here are consistent with the larger body of literature that finds stress to be an important determinant of adverse changes in physical and mental health status. Similarly, one of the strongest known predictors of physical health is socioeconomic position. Interestingly, we consistently find that income is a stronger predictor of stress than education. This finding is particularly significant in view of a growing body of evidence that indicates widening income inequality in the United States and other western countries, plus the worsening of the health status of both poorer populations and at least some minority groups (Williams and Collins 1995). Note, however, that income is one aspect of SES that is readily amenable to intervention through policy. Thus, there is an urgent need for more efforts at a societal level to reduce income inequalities and thereby improve the overall health status of populations.

Efforts to understand the distribution of mental health problems within the population must give more attention to the measurement of the construct. First, researchers should not take constructs developed and normed on one population and apply them indiscriminately to other populations. Second, efforts to understand the distribution of psychopathology must give careful attention to measuring the appropriate dimension of mental health status. Evidence to date indicates that scales of psychological distress capture qualitatively different phenomena than measures of psychiatric disorder. Therefore, these measures cannot be substituted for each other (Downey and Coyne 1991).

These data also suggest that there may be considerable unmet need for mental health services within the U.S. population. Economic status affects mental as well as physical health. Consistent with other research, we found that economic status is one of the strongest predictors of variations in mental health. Importantly, we uncovered economic status variations in mental health for each of the minority populations considered. Thus, there may be considerable need for outreach and targeted recruitment efforts to ensure that these groups have appropriate access to mental health services. This is critically important, especially given that many members of minority populations are unlikely to have health care insurance. Moreover, many of them receive primary medical care in hospital emergency rooms and other non-optimal organized care settings. The re-

ceipt of this type of care is often associated with a loss of dignity, the absence of continuity, and a lack of incentives to seek preventive and primary care in a timely manner.

The vast majority of American adults enter the health care system at least once each year (see Chapter 1). Our findings and other data suggest that there may be a serious need to instigate appropriate screening for mental health services at whatever points that people enter the health care system. Screening procedures should then be coordinated to the delivery of a comprehensive set of services, including mental health services, to address the needs of minorities. Any program of comprehensive health care must include the unmet mental health needs of minority populations. The delivery of care must also be sensitive and culturally appropriate.

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