



Gender inequalities in US adult health: The interplay of race and ethnicity

Jen'nan Ghazal Read^{a,*}, Bridget K. Gorman^b

^a*Department of Sociology, University of California-Irvine, 4201 Social Science Plaza B, Irvine, California 92697, USA*

^b*Department of Sociology, Rice University, 6100 Main Street, Houston, Texas 77005, USA*

Available online 24 August 2005

Abstract

Gender differences in adult health are well documented, but only recently has research begun to investigate how race and ethnicity condition gendered health disparities. This paper contributes to this line of inquiry by assessing gender differences in morbidity across five major US racial and ethnic populations. Using data from the 1997–2001 waves of the National Health Interview Survey, the analysis examines differences in men and women's self-rated health, functional limitations, and life-threatening medical conditions for whites, blacks, Mexicans, Puerto Ricans, and Cubans. For each health outcome, we investigate the utility of socioeconomic factors in accounting for observed disparities. Contrary to finding universal excess in female morbidity, the results show that the magnitude of gender difference varies considerably by racial/ethnic group, health outcome, and comparison category. The most striking findings are the consistently higher levels of functional limitations for all women compared to men in their same racial/ethnic group and the poorer health of black women relative to both white and black men for all health measures, after adjustment for socioeconomic and background factors. The gender gap for all other health measures is more variable, and for Mexican women a difference is only evident for functional limitations and only when compared to Mexican men. Our results underscore the need for more research on the role of race and ethnicity in shaping gendered health inequalities and the mechanisms that lead to such variable patterns of difference across and within US racial and ethnic populations.

© 2005 Elsevier Ltd. All rights reserved.

Keywords: USA; Gender; Morbidity; Racial/ethnic disparities; Socioeconomic status

Introduction

Racial and ethnic health disparities are well-documented (Hayward & Heron, 1999; Rogers, Hummer, & Nam, 2000; Williams, 2001), as are gender differences in health (Annandale & Hunt, 2000; Macintyre, Hunt, & Sweeting, 1996; Verbrugge, 1985), yet few studies pull together these strands of research to assess whether and

how racial and ethnic group membership shapes differences in men and women's well-being. In an exception to this general pattern, Cooper (2002) finds that minority ethnic men and women in the United Kingdom experience much higher rates of morbidity compared to white men. Socioeconomic disadvantage accounts for much of this disparity, but fails to explain gender differences within ethnic groups.

The implications of minority group membership for gender differences in US health are even more complex because some racial and ethnic populations have health profiles that surpass the majority white population,

*Corresponding author. Tel.: +1 949 824 8411;
fax: +1 949 824 4717.

E-mail address: jennan@uci.edu (J.G. Read).

despite their being socioeconomically disadvantaged. Mexican Americans, for example, have lower morbidity and mortality rates than non-Hispanic whites, even though they rank low on most socioeconomic indicators (Palloni & Arias, 2004). Black Americans, on the other hand, are disadvantaged both in terms of socioeconomic status and health outcomes (Hayward, Crimmins, Miles, & Yang, 2000). Whether and how these patterns vary by gender is less understood, and whether socioeconomic status differentials can account for gender differences in health—both within and across racial/ethnic groups—is also less known.

This paper examines these questions by assessing the significance of race and ethnicity for gender differences in US adult health. Using data from the 1997–2001 waves of the National Health Interview Survey, we investigate gender differences in self-rated health, disability, and life-threatening conditions across five US racial and ethnic groups: non-Hispanic whites (hereafter “white”), non-Hispanic blacks (hereafter “black”), Mexicans, Puerto Ricans, and Cubans. The analysis is guided by two questions. First, what is the magnitude of gender differences in health within racial and ethnic groups? This section of the analysis compares the health status of women to men in their same racial/ethnic group. Second, does the size of gender differences in health vary across racial and ethnic groups? This section of the analysis compares the health of women and men in each racial and ethnic group to that of white men, a group that occupies the most advantaged position in US society. In both cases, we examine the extent to which socioeconomic factors account for observed health inequalities.

Socioeconomic explanations for health disparities

A wealth of evidence shows that men and women experience differential health outcomes, particularly when mortality is the measure in question. In 2003, life expectancy at birth in the United States was six years longer for women than men—80 years versus 74 years, respectively (Population Reference Bureau, 2003). The relationship between gender and morbidity is more complex, with recent studies finding that the size of women's disadvantage relative to men may be smaller than previously assumed, varying by health status measure and age (Annandale & Hunt, 2000; Williams, 2003). Nevertheless, the picture of near-universal excess in female morbidity persists in the literature, and studies continue to document that women generally experience poorer health than men on a variety of outcomes, including self-rated health, life-threatening medical conditions, and disability (Macintyre et al., 1996, p. 623; Rieker & Bird, 2000).

Explanations for differences in men and women's health highlight socioeconomic inequality as a fundamental cause for variations in their well-being, particularly when self-rated health is the outcome in question (Lillard & Waite, 1995; Ross & Bird, 1994). In general, persons of lower socioeconomic status report worse health, in part because they are exposed to more hardship and stress and have limited access to resources that can be used to prevent and cure disease (Phelan, Link, Diez-Roux, Kawachi, & Levin, 2004; Ross & Bird, 1994; Walters, McDonough, & Strohschein, 2002). Women are more likely than men in US society to work part-time, participate in unwaged labor, and receive unequal wages, all of which contributes to their lower socioeconomic position and drives down their health. Once these inequalities are considered, the effect of gender on health is often substantially altered, and in some instances even reduced to non-significance.

Socioeconomic status affects women's health directly through access to resources and indirectly through psychosocial factors and social roles (Denton, Prus, & Walters, 2004; McDonough & Walters, 2001). Lower socioeconomic position is associated with lower levels of perceived control and self-esteem, both of which are associated with greater levels of depression and poorer self-rated health (Denton et al., 2004; Rieker & Bird, 2000). Depression contributes to poorer physical health through a decreased immune system and heightened blood pressure. Socioeconomic status also helps explain the well-established positive relationship between marital status and health, operating through increased social support for men and increased financial well-being for women (Lillard & Waite, 1995). Married women typically have greater economic resources than their unmarried peers, which translate into greater access to health care, lower levels of stress, and better overall health (Meyer & Pavalko, 1996).

Missing from much of the above literature, however, has been a systematic examination of the moderating influence of racial and ethnic group membership, itself a salient predictor of physical and mental health status. The relationship between race, ethnicity, and health status is well studied, with persistent and often large differentials in health status documented across groups (Hayward & Heron, 1999; Williams, 2002). Compared to all other US racial groups, black Americans have the highest rates of morbidity and mortality for almost all diseases, highest disability rates, shortest life expectancies, least access to health care, and startlingly low rates of the use of modern technology in their treatment (Hayward et al., 2000; Williams, 2001). In contrast, Hispanic and Asian Americans have health outcomes that are equal to or better than the majority white population, although recent studies indicate considerable subgroup variability within these large populations (e.g., Hummer, 2000). Further, the health gap between

black and white Americans has been widening over time rather than shrinking (Williams, 2001), arguing for the continued relevance of race and ethnicity in studies of health disparities, and its likely importance for understanding gender-based differences in health as well.

As is the case for gender disparities in health, socioeconomic status differentials across racial and ethnic groups have been shown to explain a substantial portion of observed racial/ethnic disparities in health (Hayward et al., 2000; Rogers et al., 2000). The pathways through which socioeconomic status affect minority health are numerous and operate at the institutional and individual levels (Williams, 2001). At the individual level, socioeconomic position determines the resources and knowledge that people possess to engage in health-enhancing behaviors, such as routine medical exams and regular exercise (Phelan et al., 2004). Racial residential segregation is a key institutional mechanism linking socioeconomic position to minority health because it limits access to medical care, reduces opportunities to engage in activities beneficial to health (e.g., exercise), increases likelihood of participating in health-damaging behaviors (e.g., smoking), and elevates exposure to risk factors such as stress (Williams & Collins, 2001; Williams, 2002).

There is also evidence that the social conditions associated with impoverishment do not uniformly impact the health of all US racial and ethnic populations. Whites clearly benefit from their advantaged social and economic standing, and the depressed socioeconomic status of blacks is an important culprit behind their across-the-board poorer health status (Hayward et al., 2000). Hispanics, on the other hand, have more favorable health outcomes than would be expected given their high-risk socioeconomic profile (Singh & Siahpush, 2002). Recent examinations of the “Hispanic paradox” find that the health advantage is mainly limited to foreign-born Mexicans and to a lesser extent US-born Mexicans (Palloni & Arias, 2004). Cubans and Puerto Ricans, in contrast, have health profiles commensurate with their socioeconomic statuses. Puerto Ricans have the lowest levels of educational attainment, highest rates of poverty, and most jeopardized health status of all Hispanic subgroups, and Cubans have the highest levels of educational attainment, lowest rates of poverty, and least jeopardized health status (Vega & Amaro, 1994).

Gendered health inequalities: bringing race and ethnicity in

The above literatures highlight the importance of socioeconomic status for both gender and racial/ethnic health inequalities. Currently, the degree to which gender, race/ethnicity, and socioeconomic status interact to stratify adult health remains less understood than

does the independent influence of these social status categories. Most studies on gender differences in health use small- and large-scale population health surveys that control for race, but these often contain too few members of minority groups to sustain a stratified analysis of their health outcomes (e.g., Lillard & Waite, 1995). Other studies highlight important racial/ethnic differences among women on such outcomes as health behaviors (e.g., Williams, 2002), access to health care (e.g., Meyer & Pavalko, 1996), risk of low birth weight (e.g., Geronimus, 1996), and adult mortality (e.g., Singh & Siahpush, 2002). However, none of these analyses allow for comparisons between men and women in the same racial/ethnic group or between non-white men and women and the majority white population.

There are some notable exceptions. In the US context, Hayward and Heron (1999) examined racial differences in mortality and morbidity by sex. They found marked racial differences in life expectancy and quality of years lived, with Asians being the most advantaged group and blacks being the least advantaged. Gender differences were invariant across groups—regardless of race, women lived longer than men and spent more years inactive (i.e., with a health impairment). Because the paper was primarily interested in assessing racial variations in the relationship between morbidity and mortality, less attention was directed toward understanding gender differences across and within groups.

More recently, Cooper (2002) investigated the extent to which socioeconomic disadvantage accounted for gender and ethnic inequalities in the United Kingdom. She found substantial gender inequality in health among ethnic minority groups, with black Caribbean, Indian and Pakistani women more likely than men in these ethnic groups to report poor health. In contrast, there was little gender difference in self-assessed health among whites. Further, ethnic groups of both sexes reported higher rates of morbidity than did whites of either sex. While socioeconomic disadvantage accounted in large part for why minority men and women reported worse health than white men, it only partly explained gender differences in health within minority groups.

Aside from these studies, few others have explored how race and ethnicity condition gendered health disparities. The problem with this omission is that it tends to obscure important variations within racial/ethnic populations and leads to overgeneralizations about the association between gender and health outcomes. This paper contributes to this nascent area of research by examining gender differences in health by race/ethnicity using five waves of data from the National Health Interview Survey (1997–2001). By combining five years of data we are able to examine gender differences in self-rated health for whites, blacks, and selected

Hispanic subgroups.¹ Specifically, we disaggregate the Hispanic sample into the three most populous ethnic groups in the United States: Mexicans, Puerto Ricans, and Cubans. Since Hispanics are heterogeneous with respect to characteristics such as income, educational attainment, family structure, and location of residence (del Pinal & Singer, 1997), the relationship between gender and health will likely vary across Hispanic ethnic groups, and in comparison with black and white respondents.

Data and methods

Data

This research uses data from the 1997–2001 waves of the National Health Interview Survey (NHIS), an annual multi-purpose health survey conducted by the National Center for Health Statistics and the Centers for Disease Control and Prevention and administered by the US Census Bureau (National Center for Health Statistics, 2002). NHIS uses a multi-stage, stratified, cluster design, and includes an oversample of black and Hispanic populations. The US Census Bureau conducts face-to-face interviews, collecting information about health and other characteristics of each member of the household. When weighted, the data are nationally representative of the non-institutionalized civilian population in the United States.

For each family in the NHIS, one sample adult was randomly selected and included in the sample adult core.² Respondents included in the adult sample core are queried on a detailed set of questions regarding health status, health care services, and behavior. We merged the 1997–2001 waves of the sample adult files, and limited the sample to non-Hispanic white, non-Hispanic black, Mexican, Puerto Rican, and Cuban respondents who had valid information on included covariates (excluding dependent measures), yielding a sample size of 138,412.³

Dependent measures

We test three measures of health status, each tapping a distinct aspect of health. Our first measure is self-rated

health, which asked respondents to rate their health in general on a five-point scale (1 = excellent, 2 = very good, 3 = good, 4 = fair, and 5 = poor). This is a powerful measure of health, as studies have consistently found it to be an independent predictor of mortality (Idler & Benyamini, 1997). We recode this measure into two categories that contrasts bad health (1 = poor or fair self-rated health) against good health (0 = good, very good, or excellent health). We made this decision for two reasons. First, this measure is skewed towards health that is good (88.8% of respondents report their health as good, very good, or excellent; 8.4% report their health as fair, and only 2.8% report their health as poor). Second, focusing on the risks associated with poor-to-fair health allows us to examine the conditions which result in the most problematic outcome from a health standpoint—a perspective that is particularly relevant for understanding gender disparities, given that women report poorer health than men.

We also examine disability via self-reported functional limitations. Respondents were queried about the amount of difficulty they experienced performing 12 different tasks (walking a quarter of a mile, walking up ten steps without resting, standing for two hours, sitting for two hours, stooping/bending/kneeling, reaching up over their head, using fingers to grasp or handle small objects, carrying ten pounds, pushing or pulling large objects like a living room chair, going out shopping and to other events, participating in social activities, and relaxing at home for leisure). As the shared variation across these items is very high (Cronbach's alpha = .93), we combine responses to these items and contrast those who report any functional limitation (1) to those who report no functional limitations (0).

Additionally, we examine whether respondents have ever been diagnosed with a life-threatening medical condition. Respondents were asked whether they had ever been told by a doctor or another health professional that they had hypertension, heart disease (coronary heart disease, angina pectoris, or any other heart condition or disease), stroke, emphysema, diabetes, or cancer (excluding skin cancer). From answers to these six questions, we create a dichotomous measure that contrasts respondents who report any life-threatening medical condition (1) to those who report never having had a life-threatening medical condition (0).

Independent measures

Our main measure of interest combines race, ethnicity, and gender into a single categorical variable that allows us to contrast white, black, Mexican, Puerto Rican, and Cuban men and women against white males (the reference category). In addition to controlling for age at interview (range: 18–85+ years) and year of survey (reference: 1997), our baseline models will also

¹Due to small sample sizes, we were unable to include models for respondents of other racial and ethnic groups, such as Asians.

²Response rates for the sample adult core varied across year of survey: 1997 (80.4%), 1998 (73.9%), 1999 (69.6%), 2000 (72.1%), and 2001 (73.8%). The primary cause of non-response was refusal to interview and unacceptable partial interviews.

³Sample size limitations necessitated the removal of other Hispanic and racial/ethnic groups (e.g., Asians).

include controls for three demographic characteristics of respondents. First, we control for duration of residence in the United States (native born (reference), less than 5 years, 5–9 years, 10–14 years, and 15+ years) given that the relatively healthy status of immigrant populations is an important factor in explaining racial and ethnic differences in health (Singh & Siahpush, 2002). Second, we code marital status at interview as married (reference), cohabiting, widowed, divorced/separated, and never married. Research has consistently shown that men benefit more from marriage than women (Hu & Goldman, 1990), a finding attributed to the greater, and different, benefits that men gain from marriage (e.g., less risky behavior, improved social support) compared to women (e.g., higher income) (Lillard & Waite, 1995). Furthermore, marriage rates vary substantially by race, with blacks having substantially lower marriage rates than whites or Hispanics (Pollard & O'Hare, 1999). Finally, we include a continuous measure of family size (adults and children; range: 0–7+), as studies have documented a positive relationship between the number of close relatives and health (Berkman & Glass, 2000), and that women report higher levels of social support than men (e.g., Umberson et al., 1996). Evidence also exists that levels of family support and social network ties are greater among blacks and Hispanics compared to whites (for a discussion, see Plant & Sachs-Ericsson, 2004).

Since studies have consistently shown that group differences in socioeconomic status explain a substantial portion of both gender and racial/ethnic disparities in health, we follow our baseline model with a model that adds four distinct measures of socioeconomic status. The first is a continuous measure of the highest grade of school completed (range: 0 = never attended school, ..., 21 = doctoral degree). The second is a categorical measure of the family's income-to-poverty ratio, which represents each respondent's family income in the previous calendar year as a proportion of the income level that defined the federal poverty line that same year (National Center for Health Statistics, 2002). The resulting ratio is an ordered poverty gradient that we group into four categories: poor (<1.00; reference category), near poor (1.00–1.99), not poor (2.00 and higher), and missing (due to the high level of non-response (20%) for this measure). Third, we include a dichotomous measure of whether the respondent was working during the week prior to the interview (1 = employed, 0 = unemployed), given that prior studies have consistently noted the importance of the worker role for gender differences in health (e.g., Ross & Bird, 1994). Our fourth variable is a measure of whether the respondent reported any financial barriers to medical care during the last year (1 = yes, 0 = no). This was created from three questions that asked whether, during the last 12 months, the respondent had delayed medical

care, did not receive medical care, or did not receive prescribed medications because they could not afford it (Cronbach's $\alpha = .73$). We include this measure as a component of socioeconomic status since prior studies have demonstrated that financial difficulties are an important barrier preventing access to the medical care system (e.g., Flores, Abreu, Olivar, & Kastner, 1998).

Next, we control for four lifestyle and behavioral characteristics. The health risks incurred by smoking are well documented, and men are more likely to smoke than women, although the gender gap has been closing over time, and among adolescents is essentially non-existent (Ross & Bird, 1994; Wallace et al., 2003). Among racial/ethnic groups, smoking rates are lowest for Asians and increasingly higher for Hispanics, blacks, whites and native Americans (Barbeau, Krieger, & Soobader, 2004). We measure smoking status as a categorical measure, and compare those who have never smoked (reference) to those who are current and former cigarette smokers. Studies have also demonstrated the benefits of moderate drinking and the dangers of heavy drinking (Hayward & Gorman, 2004). Men drink more, and more often, than women and there is substantial racial and ethnic variation in drinking rates as well (Johnson, Gruenewald, Treno, & Taff, 1998; York, Welte, & Hirsch 2003). Our measure of drinking combines information asked about whether the respondents currently drink, and, if so, how much alcohol they consume per occasion: lifetime abstainers (reference), former drinkers, and current drinkers (grouped by amount consumed: 1–2 drinks, 3–4 drinks, and 5+ drinks). Third, prior studies find that regular exercise has a positive impact on health (Hu et al., 2000; Tanasescu et al., 2002), that whites exercise more than non-whites, and that men engage more frequently than women in physical activities such as walking and strenuous exercise (Ross & Bird, 1994; Trost, Owen, Bauman, Sallis, & Brown, 2002). Therefore, we include a measure of the frequency of muscle strengthening exercise: never (reference), less than once a week, 1–2 times, 3–4 times, and 5+ times per week. Fourth, being overweight or obese is hazardous to health, and obesity rates are higher among women than men (Calle, Rodriguez, Walker-Thurmond, & Thun, 2003). There is little racial or ethnic difference in obesity rates among men, but among women, obesity rates are higher for blacks and Mexicans relative to whites (National Center for Health Statistics, 2003). We follow CDC guidelines and group body mass index (BMI) into four categories: underweight (<18.5), normal weight (18.5–24.9; reference category), overweight (25.0–29.9), and obese (30.0 and higher) (Centers for Disease Control and Prevention, 2005).

Finally, we include a measure of depressive mood as previous research has demonstrated that women have higher rates of depressive disorders than men (Rieker &

Bird, 2000), and racial minorities have higher rates of depressive symptoms and major depression than whites (Plant & Sachs-Ericsson, 2004), which may influence their self-reported health status. Short-term depressive mood is gauged via the averaged response to six questions that asked, during the last 30 days, how often the respondent felt sad, hopeless, restless, nervous, worthless, and that everything was an effort (Cronbach's $\alpha = .86$). Responses ranged on a five-point scale, where 1 = none of the time, 2 = a little of the time, 3 = some of the time, 4 = most of the time, and 5 = all of the time. This index was constructed from questions drawn from Item Response Theory models, and was validated with a two-stage clinical reappraisal survey (for more information, see Kessler, 2002).

Appendix A presents weighted means and percentages for each independent predictor described above for the full sample, as well as by gender. Appendix A indicates that men and women differ significantly across many dimensions known to influence health status. The average age of women in our sample is 1.5 years older than men (45.9 years versus 44.4 years); this difference is expected, given the longer life expectancy of women. In terms of socioeconomic and demographic characteristics, women are disadvantaged relative to men in several respects. Women report significantly more poverty than men, lower education and employment than men, and a higher proportion of women report experiencing financial barriers to medical care in the last year. More women than men are widowed, divorced or separated, and fewer women than men are currently married (56.3% versus 62.3%, respectively).

However, women tend to report significantly less behavior that can be damaging to health. The majority (58.3%) of women have never smoked compared to less than half (46.3%) of men. While women report slightly higher rates of moderate drinking (1–2 drinks per occasion) than men, they report much lower rates of binge drinking (5 or more drinks per occasion: 3.0% for

women versus 10.8% for men). Obesity rates for men and women are nearly identical (and not significantly different), although women are much less likely than men to be overweight (27.8% and 44.0%, respectively). The majority of men and women report never engaging in muscle strengthening exercise, but of those who exercise, men exercise more (and more often) than women.

Analysis

Due to the complex sampling strategy employed to collect the NHIS data, models are estimated using the Huber or White estimator of variance in STATA. Rather than assuming that observations are independent, STATA corrects for the intracluster correlation that occurs because of the complex sample design, producing standard errors that are more accurate and reducing the chance of false-positive significance tests. In addition, weights are also used in all analyses due to the fact that two ethnic groups, blacks and Hispanics, were oversampled.

Results

Descriptive analyses

Table 1 presents mean scores for our three measures of health status by race/ethnicity and gender. Looking across the table, what is immediately apparent is the consistency of the disadvantage of women relative to men in the same racial/ethnic group. This is most apparent in the second row, which shows that in all racial and ethnic groups, significantly more women than men report having a functional limitation, with the size of the gender gap largest for Cubans (29.0% of women report that they have a functional limitation compared to 17.0% of men).

Table 1

Weighted percentages for self-rated health, functional limitations, and life-threatening medical conditions: full sample and by race/ethnicity and gender

	Full sample		NH white		NH black		Mexican		Puerto Rican		Cuban	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Poor or fair SRH (N)	12.1 (78,242)	10.5* (60,089)	10.9 (55,649)	9.7* (44,934)	18.1 (12,782)	15.4* (7627)	13.3 (7387)	10.6* (5893)	19.5 (1580)	17.0 (981)	20.3 (844)	13.8* (654)
Any functional limitations (N)	37.1 (78,137)	27.6* (60,041)	38.2 (55,575)	29.0* (44,899)	35.4 (12,760)	24.0* (7619)	25.3 (7378)	16.2* (5888)	35.2 (1580)	26.6* (981)	29.1 (844)	16.9* (654)
Any LT medical conditions (N)	34.6 (78,232)	31.5* (60,081)	34.7 (55,641)	32.5* (44,929)	39.0 (12,780)	32.4* (7624)	23.9 (7387)	18.1* (5893)	30.6 (1580)	30.1 (981)	36.2 (844)	26.2* (654)

Significance tests indicate whether percentage scores for women differ significantly from men in the same racial/ethnic group (two-tailed *t*-test, * $p < .05$).

There is more variability in the gender gap for life-threatening conditions. Again, the gap is largest for Cubans: 26.2% of men and 36.2% of women report that they have a life-threatening medical condition. Rates for white and black women are also high (34.7% and 39.0%, respectively), but while significant, the difference between these women and white and black men are smaller (32.4% and 32.5% for white and black men, respectively). For Puerto Ricans, there is no significant difference in the percentage reporting a life-threatening medical condition (30.6% for women and 30.1% for men). In terms of reporting fair or poor self-rated health, the gender difference for most groups is quite small, and in each instance women report worse health than men. As is the case for both functional limitations and life-threatening medical conditions, the size of the gender gap is largest for Cuban respondents: 20.3% of Cuban women report poor or fair self-rated health, compared to only 13.8% of men.

Looking at gender differences within racial/ethnic groups provides a partial picture of the consequences of the complicated interplay of racial/ethnic and gender stratification. While women may consistently fare worse

relative to men in their same racial/ethnic group, both men and women in some racial/ethnic groups enjoy advantaged health outcomes compared to others. For example, white men and women (9.7% and 10.9%) and Mexican men and women (10.6% and 13.3%) have the lowest rates of reporting fair-to-poor self-rated health compared to all other racial/ethnic-by-gender groups. Mexican men and women are also less likely than any other group to report having life-threatening conditions (18.1% and 23.9%, respectively). At the other end of the race-by-gender hierarchy, black women have the highest rates of life-threatening conditions (39%) and are nearly twice as likely as white men and women to rate their health as fair-to-poor (18.1% compared to 10.9% and 9.7%, respectively).

Multivariate analyses

This section uses logistic regression analyses to examine whether and how the gender differences described above vary across (Tables 2–4) and within (Tables 5–7) racial/ethnic groups once we control for socioeconomic status, demographic, psychosocial, and

Table 2
Odds ratios for fair-to-poor self-rated health regressed on demographic, socioeconomic, and health characteristics

	Model 1: demographic		Model 2: socioeconomic		Model 3: health	
	Odds ratio	95% CI	Odds ratio	95% CI	Odds ratio	95% CI
Gender × race/ethnicity						
Non-Hispanic white males (reference)	—	—	—	—	—	—
Non-Hispanic white women	1.01	.98, 1.04	.80***	.79, .82	.69***	.66, .71
Non-Hispanic black men	1.99***	1.94, 2.04	1.42***	1.38, 1.46	1.72***	1.57, 1.89
Non-Hispanic black women	2.20***	2.16, 2.23	1.40***	1.39, 1.40	1.16***	1.11, 1.21
Mexican men	1.71***	1.64, 1.79	1.00	.93, 1.08	1.51***	1.48, 1.55
Mexican women	2.00***	1.96, 2.04	.74***	.72, .76	.83***	.82, .83
Puerto Rican men	2.52***	2.43, 2.62	1.58***	1.55, 1.62	1.41***	1.22, 1.64
Puerto Rican women	2.86***	2.43, 3.37	1.43***	1.23, 1.66	1.06	.90, 1.24
Cuban men	1.58**	1.19, 2.10	1.37	.98, 1.92	1.81***	1.56, 2.12
Cuban women	1.95***	1.62, 2.36	1.40***	1.16, 1.69	1.59***	1.57, 1.61
Duration of residence						
Native born (reference)	—	—	—	—	—	—
Less than 5 years	1.09	.92, 1.28	.73	.49, 1.08	1.10	.76, 1.58
5–9 years	.78**	.65, .94	.55***	.40, .74	.82	.56, 1.19
10–14 years	.79***	.74, .84	.57***	.53, .61	.84	.63, 1.10
15 years or more	.89***	.87, .90	.76***	.76, .77	.99*	.98, .99
Marital status						
Married (reference)	—	—	—	—	—	—
Cohabiting	1.72***	1.67, 1.76	1.33***	1.20, 1.48	1.26***	1.17, 1.35
Divorced or separated	1.71***	1.69, 1.72	1.27***	1.19, 1.34	1.10*	1.01, 1.19
Widowed	1.32***	1.27, 1.38	.92***	.91, .93	.82***	.81, .83
Never married	1.36***	1.21, 1.53	.98	.89, 1.09	1.04	.92, 1.17
Family size	1.04***	1.02, 1.06	.99*	.98, .99	.99**	.98, .99
Highest grade of school completed			.89***	.88, .89	.93***	.92, .93

Table 2 (continued)

	Model 1: demographic		Model 2: socioeconomic		Model 3: health	
	Odds ratio	95% CI	Odds ratio	95% CI	Odds ratio	95% CI
Income-to-poverty ratio						
< 1.00 (reference)			—	—	—	—
1.00–1.99			.82***	.79, .85	.86***	.83, .90
2.00 and over			.49***	.46, .51	.60***	.59, .61
Missing			.59***	.54, .64	.80***	.73, .88
Employed			.26***	.25, .28	.42***	.40, .44
Any financial barriers to medical care			3.15***	3.14, 3.16	1.81***	1.79, 1.83
Smoking status						
Never smoked (reference)					—	—
Current smoker					1.42***	1.38, 1.47
Former smoker					1.20***	1.17, 1.23
Drinking status						
Lifetime abstainer (reference)					—	—
Former drinker, none last year					.98	.95, 1.01
Current, 1–2 per occasion					.58***	.56, .59
Current, 3–4 per occasion					.55***	.49, .61
Current, 5+ per occasion					.56***	.54, .58
Muscle strengthening exercise						
Never (reference)					—	—
Less than once a week					.69	.46, 1.04
1–2 times per week					.53***	.44, .63
3–4 times per week					.50***	.47, .52
5+ times per week					.67***	.66, .67
Body mass index						
Normal (reference)					—	—
Underweight					1.54***	1.52, 1.56
Overweight					.94	.87, 1.01
Obese					1.25***	1.15, 1.35
Depressive mood					1.82***	1.81, 1.83
Health conditions						
Any life-threatening conditions					2.65***	2.56, 2.75
Any functional limitations					3.83***	3.66, 4.00
Age group						
18–29 years (reference)	—	—	—	—	—	—
30–44 years	2.02***	1.82, 2.25	2.53***	2.30, 2.78	1.64***	1.46, 1.83
45–59 years	4.87***	4.35, 5.46	5.60***	5.21, 6.02	2.38***	2.19, 2.58
60–74 years	9.12***	7.69, 10.83	5.02***	4.57, 5.51	1.97***	1.79, 2.17
75 years and older	13.53***	11.86, 15.45	5.76***	5.43, 6.10	2.00***	1.92, 2.08
Year of survey						
1997 (reference)	—	—	—	—	—	—
1998	.98	.95, 1.01	1.04***	1.02, 1.06	1.07*	1.01, 1.14
1999	.94	.88, 1.00	1.02	.95, 1.10	1.19***	1.09, 1.31
2000	.99	.91, 1.08	1.08*	1.00, 1.17	1.20*	1.04, 1.38
2001	.99	.89, 1.11	1.11	.99, 1.23	1.08	.94, 1.24
Pseudo R^2	.10		.21		.34	

Unweighted $N = 138,160$. * $p < .05$; ** $p < .01$; *** $p < .001$.

Table 3

Odds ratios for any functional limitations regressed on demographic, socioeconomic, and health characteristics

	Model 1: demographic		Model 2: socioeconomic		Model 3: health	
	Odds ratio	95% CI	Odds ratio	95% CI	Odds ratio	95% CI
Gender × race/ethnicity						
Non-Hispanic white males (reference)	—	—	—	—	—	—
Non-Hispanic white women	1.44***	1.43, 1.45	1.29***	1.27, 1.32	1.38***	1.32, 1.44
Non-Hispanic black men	.90	.80, 1.02	.74***	.65, .86	.77**	.66, .89
Non-Hispanic black women	1.52***	1.47, 1.57	1.23***	1.17, 1.30	1.16***	1.09, 1.23
Mexican men	.80***	.77, .84	.62***	.57, .67	.68***	.62, .74
Mexican women	1.34***	1.29, 1.38	.85***	.82, .87	.91***	.90, .91
Puerto Rican men	1.29***	1.27, 1.29	1.00	.98, 1.02	.89***	.87, .92
Puerto Rican women	1.97***	1.88, 2.07	1.42***	1.35, 1.49	1.27**	1.06, 1.52
Cuban men	.58***	.51, .67	.53***	.48, .59	.55***	.49, .62
Cuban women	.97	.72, 1.29	.79	.57, 1.07	.84	.61, 1.52
Duration of residence						
Native born (reference)	—	—	—	—	—	—
Less than 5 years	.54***	.48, .61	.44***	.35, .54	.54***	.44, .65
5–9 years	.53***	.48, .59	.45***	.39, .52	.58***	.47, .70
10–14 years	.58***	.46, .72	.49***	.40, .60	.60***	.49, .72
15 years or more	.71***	.67, .76	.67***	.63, .72	.73***	.68, .78
Marital status						
Married (reference)	—	—	—	—	—	—
Cohabiting	1.40***	1.31, 1.50	1.21***	1.17, 1.25	1.14**	1.06, 1.23
Divorced or separated	1.33***	1.26, 1.41	1.11***	1.08, 1.15	.97***	.97, .98
Widowed	1.38***	1.26, 1.50	1.16***	1.08, 1.24	1.10*	1.01, 1.20
Never married	1.07***	1.06, 1.07	.93***	.92, .94	.93***	.92, .94
Family size	.99	.98, 1.00	.97***	.96, .98	.97***	.96, .97
Highest grade of school completed			.95***	.94, .95	.97***	.97, .98
Income-to-poverty ratio						
< 1.00 (reference)			—	—	—	—
1.00–1.99			.93***	.91, .96	.99	.97, 1.02
2.00 and over			.78***	.77, .78	.91***	.89, .93
Missing			.55***	.53, .57	.68***	.66, .70
Employed			.48***	.48, .48	.57***	.55, .58
Any financial barriers to medical care			2.67***	2.51, 2.84	1.77***	1.63, 1.91
Smoking status						
Never smoked (reference)					—	—
Current smoker					1.24***	1.23, 1.25
Former smoker					1.20***	1.17, 1.22
Drinking status						
Lifetime abstainer (reference)					—	—
Former drinker, none last year					1.45***	1.37, 1.54
Current, 1–2 per occasion					1.09	.99, 1.19
Current, 3–4 per occasion					1.01	.99, 1.02
Current, 5+ per occasion					1.08	.97, 1.21
Muscle strengthening exercise						
Never (reference)					—	—
Less than once a week					1.06	.86, 1.30
1–2 times per week					.97	.92, 1.03
3–4 times per week					.85***	.82, .89
5+ times per week					1.02**	1.01, 1.03

Table 3 (continued)

	Model 1: demographic		Model 2: socioeconomic		Model 3: health	
	Odds ratio	95% CI	Odds ratio	95% CI	Odds ratio	95% CI
Body mass index						
Normal (reference)	—	—	—	—	—	—
Underweight					1.35***	1.34, 1.35
Overweight					1.28***	1.21, 1.36
Obese					2.18***	2.09, 2.27
Depressive mood					2.83***	2.78, 2.88
Health conditions						
Any life-threatening conditions					1.81***	1.78, 1.85
Any functional limitations						
Age Group						
18–29 years (reference)	—	—	—	—	—	—
30–44 years	1.69***	1.66, 1.72	1.92***	1.87, 1.97	1.68***	1.62, 1.74
45–59 years	3.29***	3.13, 3.45	3.73***	3.48, 4.00	2.92***	2.71, 3.15
60–74 years	6.38***	6.23, 6.54	5.09***	4.84, 5.34	4.39***	4.11, 4.68
75 years and older	13.26***	12.35, 14.24	9.17***	8.45, 9.94	8.92***	8.03, 9.91
Year of survey						
1997 (reference)	—	—	—	—	—	—
1998	.85***	.79, .91	.87***	.81, .95	.87**	.79, .95
1999	.67***	.66, .68	.69***	.68, .70	.69***	.68, .71
2000	.75***	.71, .79	.78***	.73, .83	.78***	.75, .81
2001	.89***	.88, .90	.95***	.92, .96	.87***	.84, .90
Pseudo R^2	.12		.16		.24	

Unweighted $N = 138,160$. * $p < .05$; ** $p < .01$; *** $p < .001$.

Table 4

Odds ratios for any life-threatening medical conditions regressed on demographic, socioeconomic, and health characteristics

	Model 1: demographic		Model 2: socioeconomic		Model 3: health	
	Odds ratio	95% CI	Odds ratio	95% CI	Odds ratio	95% CI
Gender × race/ethnicity						
Non-Hispanic white males (reference)	—	—	—	—	—	—
Non-Hispanic white women	.99	.97, 1.02	.92***	.90, .94	1.01	.99, 1.01
Non-Hispanic black men	1.36***	1.31, 1.40	1.24***	1.21, 1.27	1.30***	1.25, 1.34
Non-Hispanic black women	1.79***	1.72, 1.86	1.58***	1.49, 1.68	1.50***	1.41, 1.60
Mexican men	.81***	.74, .88	.69***	.62, .77	.70***	.62, .79
Mexican women	1.08***	1.05, 1.11	.81***	.80, .83	.82***	.81, .82
Puerto Rican men	1.35***	1.27, 1.45	1.17***	1.09, 1.26	1.10*	1.01, 1.19
Puerto Rican women	1.39**	1.12, 1.71	1.11	.90, 1.39	1.04	.90, 1.18
Cuban men	.81	.51, 1.28	.78	.50, 1.22	.81	.52, 1.26
Cuban women	.97	.82, 1.15	.86	.72, 1.01	.92	.75, 1.12
Duration of residence						
Native born (reference)	—	—	—	—	—	—
Less than 5 years	.65***	.55, .76	.58***	.47, .71	.69***	.57, .84
5–9 years	.56***	.48, .65	.51***	.44, .60	.61***	.52, .71
10–14 years	.64***	.59, .70	.60***	.55, .64	.69***	.64, .74
15 years or more	.81***	.79, .82	.79***	.77, .80	.85***	.85, .85
Marital status						
Married	—	—	—	—	—	—
Cohabiting	1.04***	1.04, 1.04	.94***	.93, .96	.95***	.94, .96

Table 4 (continued)

	Model 1: demographic		Model 2: socioeconomic		Model 3: health	
	Odds ratio	95% CI	Odds ratio	95% CI	Odds ratio	95% CI
Divorced or separated	1.08*	1.02, 1.16	.98	.92, 1.04	.95	.89, 1.01
Widowed	1.19***	1.17, 1.20	1.07***	1.06, 1.08	1.06***	1.03, 1.08
Never married	.84***	.78, .90	.77***	.71, .82	.78***	.71, .85
Family size	.97***	.97, .98	.96***	.96, .97	.95***	.94, .96
Highest grade of school completed			.97***	.96, .97	.99***	.99, .99
Income-to-poverty ratio						
< 1.00 (reference)			—	—	—	—
1.00–1.99			.99	.99, 1.00	1.03***	1.03, 1.03
2.00 and over			.89***	.84, .94	.98	.93, 1.03
Missing			.76***	.75, .77	.86***	.86, .87
Employed			.64***	.64, .64	.70***	.68, .71
Any financial barriers to medical care			1.75***	1.74, 1.76	1.41***	1.40, 1.41
Smoking status						
Never smoked (reference)					—	—
Current smoker					1.06*	1.01, 1.11
Former smoker					1.28***	1.19, 1.38
Drinking status						
Lifetime abstainer (reference)					—	—
Former drinker, none last year					1.22***	1.17, 1.27
Current, 1–2 per occasion					.95	.89, 1.01
Current, 3–4 per occasion					.93	.84, 1.04
Current, 5+ per occasion					.99	.89, 1.11
Muscle strengthening exercise						
Never (reference)					—	—
Less than once a week					.85	.68, 1.07
1–2 times per week					.87***	.83, .91
3–4 times per week					.82***	.80, .84
5+ times per week					.92**	.87, .97
Body mass index						
Normal (reference)					—	—
Underweight					1.12*	1.02, 1.23
Overweight					1.49***	1.48, 1.49
Obese					2.78***	2.68, 2.87
Depressive mood					1.54***	1.51, 1.56
Age group						
18–29 years (reference)	—	—	—	—	—	—
30–44 years	1.95***	1.85, 2.04	2.08***	1.99, 2.16	1.83***	1.77, 1.89
45–59 years	5.27***	4.96, 5.60	5.56***	5.33, 5.81	4.61***	4.48, 4.76
60–74 years	13.91***	12.09, 15.99	11.75***	10.33, 13.35	10.81***	9.70, 12.05
75 years and older	22.14***	21.07, 23.28	16.89***	16.06, 17.78	17.81***	17.45, 18.17
Year of survey						
1997 (reference)	—	—	—	—	—	—
1998	.97***	.96, .99	.99	.98, 1.00	.98**	.97, .99
1999	.97	.91, 1.03	1.00	.94, 1.07	1.00	.94, 1.07
2000	.96	.92, 1.01	.99	.94, 1.05	.99	.94, 1.03
2001	1.03	.98, 1.07	1.07**	1.02, 1.11	1.00	.98, 1.04
Pseudo R^2	.17		.19		.22	

Unweighted $N = 138,313$. * $p < .05$; ** $p < .01$; *** $p < .001$.

Table 5

Odds ratios for fair-to-poor self-rated health, by race/ethnicity

	Model 1: demographic		Model 2: socioeconomic		Model 3: health	
	Odds ratio	95% CI	Odds ratio	95% CI	Odds ratio	95% CI
<i>Panel A: Non-Hispanic white (N = 100,461)</i>						
Female	1.01	.98, 1.05	.80***	.78, .82	.68***	.66, .70
Highest grade of school completed			.87***	.87, .88	.92***	.92, .92
Income-to-poverty ratio						
< 1.00 (reference)			—	—	—	—
1.00–1.99			.75***	.73, .77	.81***	.78, .84
2.00 and over			.45***	.43, .46	.58***	.57, .59
Missing			.53***	.49, .57	.75***	.68, .83
Employed			.26***	.24, .27	.41***	.40, .43
Any financial barriers to medical care			3.21***	3.18, 3.26	1.82***	1.80, 1.84
Pseudo R ²	.08		.21		.34	
<i>Panel B: Non-Hispanic black (N = 20,374)</i>						
Female	1.07	1.04, 1.10	.99	.96, 1.02	.71***	.67, .75
Highest grade of school completed			.91***	.88, .93	.92***	.89, .96
Income-to-poverty ratio						
< 1.00 (reference)			—	—	—	—
1.00–1.99			.85***	.84, .88	.86***	.80, .92
2.00 and over			.49***	.47, .51	.55***	.51, .59
Missing			.68***	.62, .74	.85***	.79, .91
Employed			.25***	.24, .26	.39***	.39, .40
Any financial barriers to medical care			2.85***	2.85, 2.86	1.75***	1.73, 1.77
Pseudo R ²	.11		.24		.34	
<i>Panel C: Mexican (N = 13,266)</i>						
Female	1.18***	1.16, 1.20	.87*	.78, .97	.67***	.63, .71
Highest grade of school completed			.94***	.92, .96	.94***	.92, .96
Income-to-poverty ratio						
< 1.00 (reference)			—	—	—	—
1.00–1.99			.94	.82, 1.09	1.03	.94, 1.13
2.00 and over			.61*	.38, .98	.69*	.49, .98
Missing			.81	.58, 1.14	.98	.78, 1.22
Employed			.43***	.34, .53	.62***	.48, .80
Any financial barriers to medical care			3.06***	2.84, 3.28	1.81***	1.74, 1.89
Pseudo R ²	.11		.18		.29	
<i>Panel D: Puerto Rican (N = 2561)</i>						
Female	1.08	.88, 1.33	.85**	.75, .95	.64***	.62, .66
Highest grade of school completed			.91***	.90, .91	.93***	.93, .94
Income-to-poverty ratio						
< 1.00 (reference)			—	—	—	—
1.00–1.99			.81	.42, 1.57	.98	.49, 1.96
2.00 and over			.77***	.74, .80	1.17	.75, 1.85
Missing			.71***	.68, .75	.84	.60, 1.19
Employed			.18***	.16, .21	.31***	.29, .33

Table 5 (continued)

	Model 1: demographic		Model 2: socioeconomic		Model 3: health	
	Odds ratio	95% CI	Odds ratio	95% CI	Odds ratio	95% CI
Any financial barriers to medical care			2.55**	1.37, 4.75	1.68*	1.07, 2.64
Pseudo R^2	.12		.25		.38	
<i>Panel E: Cuban (N = 1498)</i>						
Female	1.15	.95, 1.39	.93**	.89, .97	.85	.51, 1.43
Highest grade of school completed			.96***	.95, .98	.97**	.95, .99
Income-to-poverty ratio						
< 1.00 (reference)			—	—	—	—
1.00–1.99			1.02	.32, 3.18	1.23	.53, 2.82
2.00 and over			.56***	.53, .59	.77	.55, 1.08
Missing			.51	.10, 2.78	.72	.09, 5.89
Employed			.26***	.25, .27	.46***	.38, .57
Any financial barriers to medical care			2.66***	1.89, 3.76	1.34***	1.14, 1.59
Pseudo R^2	.17		.24		.40	

All models control for year of survey, age, and demographic characteristics. Model 3 controls for all measures listed in Appendix A, as well as functional limitations and life-threatening medical conditions.

* $p < .05$; ** $p < .01$; *** $p < .001$.

Table 6

Odds ratios for any functional limitations, by race/ethnicity

	Model 1: demographic		Model 2: socioeconomic		Model 3: health	
	Odds ratio	95% CI	Odds ratio	95% CI	Odds ratio	95% CI
<i>Panel A: Non-Hispanic white (N = 100,461)</i>						
Female	1.44***	1.42, 1.44	1.30***	1.28, 1.32	1.39***	1.33, 1.44
Highest grade of school completed			.94***	.93, .95	.97***	.96, .98
Income-to-poverty ratio						
< 1.00 (reference)			—	—	—	—
1.00–1.99			.93***	.90, .96	1.00	.98, 1.03
2.00 and over			.75***	.72, .79	.90**	.83, .97
Missing			.52***	.52, .52	.66***	.66, .68
Employed			.51***	.50, .51	.59***	.56, .63
Any financial barriers to medical care			2.62***	2.43, 2.83	1.72***	1.57, 1.88
Pseudo R^2	.11		.15		.23	
<i>Panel B: Non-Hispanic black (N = 20,374)</i>						
Female	1.68***	1.52, 1.86	1.66***	1.51, 1.82	1.53***	1.44, 1.62
Highest grade of school completed			.96***	.95, .97	.98***	.98, .98
Income-to-poverty ratio						
< 1.00 (reference)			—	—	—	—
1.00–1.99			.98	.89, 1.09	1.02	.93, 1.13
2.00 and over			.87***	.81, .93	.99	.89, 1.10
Missing			.63***	.60, .65	.74***	.71, .77
Employed			.37***	.36, .38	.43***	.38, .48

Table 6 (continued)

	Model 1: demographic		Model 2: socioeconomic		Model 3: health	
	Odds ratio	95% CI	Odds ratio	95% CI	Odds ratio	95% CI
Any financial barriers to medical care			2.89***	2.86, 2.91	1.99***	1.94, 2.04
Pseudo R^2	.13		.20		.28	
<i>Panel C: Mexican (N = 13,266)</i>						
Female	1.71***	1.64, 1.78	1.41***	1.28, 1.56	1.44***	1.44, 1.45
Highest grade of school completed			.99**	.98, .99	1.00	.99, 1.00
Income-to-poverty ratio						
< 1.00 (reference)			—	—	—	—
1.00–1.99			.81**	.70, .94	.83	.68, 1.02
2.00 and over			.82	.60, 1.15	.90	.65, 1.23
Missing			.67*	.48, .94	.77	.56, 1.08
Employed			.50***	.45, .56	.58***	.51, .66
Any financial barriers to medical care			2.77***	2.61, 2.94	1.79***	1.71, 1.89
Pseudo R^2	.13		.17		.26	
<i>Panel D: Puerto Rican (N = 2561)</i>						
Female	1.46***	1.39, 1.53	1.30***	1.27, 1.34	1.41**	1.11, 1.79
Highest grade of school completed			.95**	.93, .98	.98***	.98, .99
Income-to-poverty ratio						
< 1.00 (reference)			—	—	—	—
1.00–1.99			.64***	.64, .65	.69***	.69, .69
2.00 and over			.58**	.41, .81	.70***	.64, .76
Missing			.56***	.46, .68	.59***	.57, .63
Employed			.37***	.32, .42	.48***	.43, .54
Any financial barriers to medical care			2.63***	2.38, 2.91	1.98***	1.81, 2.18
Pseudo R^2	.11		.19		.29	
<i>Panel E: Cuban (N = 1498)</i>						
Female	1.70***	1.49, 1.94	1.43**	1.14, 1.79	1.81*	1.11, 2.93
Highest grade of school completed			.99	.90, 1.09	.99	.91, 1.10
Income-to-poverty ratio						
< 1.00 (reference)			—	—	—	—
1.00–1.99			.86	.74, 1.01	.87	.68, 1.11
2.00 and over			.58***	.53, .64	.66***	.61, .73
Missing			.42**	.24, .72	.50**	.34, .75
Employed			.44**	.27, .70	.55	.23, 1.32
Any financial barriers to medical care			2.95***	2.62, 3.32	1.76	.95, 3.25
Pseudo R^2	.16		.21		.30	

All models control for year of survey, age, and demographic characteristics. Model 3 controls for all measures listed in Appendix A, as well as functional limitations and life-threatening medical conditions.

* $p < .05$; ** $p < .01$; *** $p < .001$.

lifestyle factors. Tables 2–4 present odds ratios and 95% confidence intervals for each of our indicators of health status: poor/fair self-rated health (Table 2), any functional limitations (Table 3), and any life-threatening

medical conditions (Table 4). For each of these outcomes, we first test whether the effect of gender on health varies by race and ethnicity relative to white men, after adjustment for demographic characteristics.

Table 7
Odds ratios for any life-threatening medical condition, by race/ethnicity

	Model 1: demographic		Model 2: socioeconomic		Model 3: health	
	Odds ratio	95% CI	Odds ratio	95% CI	Odds ratio	95% CI
<i>Panel A: Non-Hispanic white (N = 100,370)</i>						
Female	.99	.97, 1.02	.92***	.91, .94	1.00	.99, 1.02
Highest grade of school completed			.96***	.96, .96	.99***	.98, .99
Income-to-poverty ratio						
<1.00 (reference)			—	—	—	—
1.00–1.99			.97	.91, 1.03	1.01	.94, 1.09
2.00 and over			.86***	.85, .87	.96***	.96, .96
Missing			.73***	.73, .73	.84***	.83, .85
Employed			.65***	.64, .66	.71***	.68, .74
Any financial barriers to medical care			1.71***	1.69, 1.74	1.37***	1.36, 1.38
Pseudo R^2	.17		.18		.21	
<i>Panel B: Non-Hispanic black (N = 20,404)</i>						
Female	1.30***	1.21, 1.39	1.26***	1.16, 1.37	1.15*	1.03, 1.30
Highest grade of school completed			.98***	.97, .98	.99***	.99, .99
Income-to-poverty ratio						
<1.00 (reference)			—	—	—	—
1.00–1.99			1.02	.91, 1.15	1.04	.91, 1.18
2.00 and over			.89*	.79, .99	.93	.80, 1.08
Missing			.81*	.68, .96	.87	.74, 1.02
Employed			.62***	.61, .63	.66***	.62, .69
Any financial barriers to medical care			1.77***	1.75, 1.78	1.49***	1.43, 1.54
Pseudo R^2	.19		.20		.24	
<i>Panel C: Mexican (N = 13,280)</i>						
Female	1.36***	1.22, 1.52	1.16*	1.01, 1.34	1.14	.94, 1.40
Highest grade of school completed			.98*	.97, .99	.99	.98, 1.00
Income-to-poverty ratio						
<1.00 (reference)			—	—	—	—
1.00–1.99			1.02	.86, 1.22	1.08	.90, 1.31
2.00 and over			1.03	.92, 1.16	1.14**	1.03, 1.25
Missing			.89	.78, 1.02	.99	.88, 1.12
Employed			.59***	.55, .63	.66***	.62, .70
Any financial barriers to medical care			2.09***	1.81, 2.42	1.62***	1.42, 1.85
Pseudo R^2	.18		.20		.23	
<i>Panel D: Puerto Rican (N = 2561)</i>						
Female	1.01	.80, 1.28	.93	.71, 1.21	.91	.78, 1.07
Highest grade of school completed			.96***	.94, .98	.97***	.97, .98
Income-to-poverty ratio						
<1.00 (reference)			—	—	—	—
1.00–1.99			.93	.85, 1.01	1.02	.91, 1.15
2.00 and over			.95	.69, 1.30	1.16	.90, 1.50
Missing			1.06	.77, 1.47	1.19	.98, 1.45
Employed			.51***	.49, .52	.59***	.55, .63

Table 7 (continued)

	Model 1: demographic		Model 2: socioeconomic		Model 3: health	
	Odds ratio	95% CI	Odds ratio	95% CI	Odds ratio	95% CI
Any financial barriers to medical care			1.67	.98, 2.83	1.41	.77, 2.58
Pseudo R^2	.18		.21		.24	
<i>Panel E: Cuban (N = 1495)</i>						
Female	1.20	.64, 2.24	1.05	.58, 1.88	1.12	.65, 1.93
Highest grade of school completed			1.02	.94, 1.11	1.03	.95, 1.13
Income-to-poverty ratio						
<1.00 (reference)			—	—	—	—
1.00–1.99			.90	.24, 3.33	.91	.20, 4.06
2.00 and over			.71	.27, 1.87	.84	.31, 2.30
Missing			.64	.22, 1.91	.79	.23, 2.07
Employed			.60	.21, 1.74	.69	.56, 3.63
Any financial barriers to medical care			1.85	.65, 5.27	1.42	1.06, 1.59
Pseudo R^2	.17		.19		.22	

All models control for year of survey, age, and demographic characteristics. Model 3 controls for all measures listed in Appendix A.
^{*} $p < .05$; ^{**} $p < .01$; ^{***} $p < .001$.

The baseline models (Model 1 in each table) indicate that the magnitude of the gender difference in health varies substantially across racial and ethnic groups. The most consistent race-by-gender pattern is for self-rated health, where all groups of minority men and women are more likely than white men to report fair-to-poor health. Puerto Rican women fare the worst (elevated odds of 2.86), followed closely by Puerto Rican men (2.52), and black men and women (1.99 and 2.20 higher odds of poor health). Cuban and Mexican men do somewhat better but remain disadvantaged relative to white men (1.58 and 1.71 higher odds of poor health, respectively). Similar to Cooper (2002), we find that white women do not differ from white men in their self-assessed health. For functional limitations, the pattern reverses for minority men, with all groups except Puerto Ricans reporting health that is better or no worse than white men. Women, on the other hand, have elevated odds of reporting a functional limitation relative to white men, irrespective of racial and ethnic group membership. The exception is Cuban women, who do not differ from white men (.97). Cuban men and women also look similar to white men on their rates of reporting life-threatening conditions (.81 and .97, respectively), as do white women (.99). Again, blacks and Puerto Ricans—men and women—are significantly more likely to report life-threatening conditions.

We next investigate the role of socioeconomic status in accounting for these observed gender-by-race differences (Model 2 in each table). Several patterns are apparent. First, socioeconomic status appears to have a

bigger impact on self-assessed health (see Table 2) than our other health measures (Tables 3 and 4), wherein the disadvantage seen for each group in Model 1 diminishes or disappears in Model 2. The inclusion of socioeconomic status also reduces some of the differences for functional limitations and life-threatening conditions, but its effect is less uniform across groups. For example, socioeconomic status lowers the odds of black women reporting poor health (drops from 2.20 to 1.40) but has smaller effects on functional limitations (from 1.52 to 1.23) and life-threatening medical conditions (from 1.79 to 1.58). A second important pattern is that adjustment for socioeconomic status flips the direction of the association on all three health measures for Mexican women, wherein they are significantly less likely than white men to report fair-to-poor self-rated health (.74), a functional limitation (.85), or a life-threatening medical condition (.81). Socioeconomic status also appears to explain Puerto Rican women's elevated odds of reporting a life-threatening medical condition (1.11) and Puerto Rican men's higher odds of functional limitations (1.00). However, there continue to be significant gender-by-race differences in health even after controlling for numerous socioeconomic factors, all of which operate in the expected direction. For example, the gap between black women and white men remains significant for all health measures, and the gap for black men remains for all but functional limitations (where there was no significant difference to explain).

Models 3 in Tables 2–4 next examine the extent to which lifestyle factors, depression, and other health

conditions contribute to gender-by-race differences in health. Again, self-rated health appears to be more sensitive to adjustment for these factors than the other health measures. As seen in Model 3 of Table 2, the self-rated health gap for black women and Puerto Ricans (men and women) is further diminished, and white women's advantage relative to white men increases (from .80 to .69). For other groups, such as black, Mexican, and Cuban men, the gap in self-rated health actually widens. Since these men report lower levels of functional limitations and life-threatening medical conditions than white men (see Table 1), and as a group have lower levels of depressive mood and greater levels of never smoking or drinking (results not shown), adjusting for these conditions and behaviors increases their odds of reporting fair-to-poor self-rated health, relative to white men. Turning to functional limitations and life-threatening medical conditions in Tables 3 and 4, only minor changes are observed when lifestyle and behavioral characteristics are introduced, suggesting that these factors are more strongly linked to subjective perceptions of health than to other measures of morbidity.

Tables 5–7 shift the analysis to contrast the health of women to men in their own racial/ethnic group. The baseline models (Model 1) in Table 5 demonstrate minimal gender differences in fair-to-poor self-rated health—only Mexican women have elevated odds (18% higher) of reporting fair-to-poor health relative to Mexican men, and for every other group there is no significant gender difference. Once we adjust for socioeconomic disparities (Model 2), Mexican, Puerto Rican, Cuban, and white women become significantly less likely to report fair-to-poor health compared to their male counterparts. By the full additive model (Model 3), we see that all women report better health than men in their same racial/ethnic group, with the exception of Cuban women who do not differ significantly from Cuban men.

The story changes substantially when we look at gender differences in functional limitations (Table 6). In each racial and ethnic group, women are significantly more likely than men to report a functional limitation, and in each case, adjustment for potential explanatory mechanisms does little to alter the gap. The gender effect for blacks, Mexicans, Puerto Ricans, and whites is reduced and that for Cubans is increased, but in each case the change is quite small. Further, the size of the gender difference is larger for functional limitations than for any other health outcome with a 39% elevated odds for white women, 53% for black women, 44% for Mexican women, 41% for Puerto Rican women, and an amazing 81% for Cuban women. The persistence of women's disadvantage across groups is striking and stands in stark contrast to the patterns found for self-rated health.

Gender differences in health are the smallest and least variant for life-threatening medical conditions (Table 7). White, Puerto Rican, and Cuban women do not significantly differ from men in the baseline or full models, and while controlling for socioeconomic factors improves white women's health relative to white men in Model 2, the difference disappears in the final additive model. Black and Mexican women are significantly more likely (30% and 36%, respectively) to report a life-threatening medical condition in Model 1, and adjustment for socioeconomic status reduces, but does not eliminate, their disadvantage (Model 2). In the full model, only black women continue to report poorer health than black men (15% greater odds).

Discussion

This paper examines whether and how racial and ethnic group membership shapes gender differences in US health, a perplexing question that has come to the fore in the social determinants of health literature (e.g., Williams, 2002). We also evaluate the extent to which socioeconomic status contributes to race-by-gender health patterns, given the prominence of socioeconomic explanations in both the gender and racial health disparities literatures. The results yield several interesting findings, many of which underscore the complexity of health determinants and highlight the need to consider race/ethnicity and gender in tandem to address adult health inequalities.

First, we find that the picture of women's health is more accurately described as a kaleidoscope that changes depending on racial and ethnic group membership, comparison category (white men vs. men in the same racial/ethnic group), and health status measure. Only for functional limitations do we find consistent excess in female morbidity, and the magnitude of the disparity is striking and somewhat insensitive to adjustment for controls. All women fare worse than men in their same racial/ethnic group, and all but Mexican and Cuban women fare worse than white men. The consistency of these findings with prior research on gender differences in disability (e.g., Arber & Cooper, 1999; Lubitz, Cai, Kramarow, & Lentzner, 2003) suggests that research and public policy must continue to address women's greater burden of poorer health on such a critical outcome that affects daily life.

The picture is less bleak with respect to life-threatening medical conditions and self-rated health. With the exception of black women, all groups of women are as likely or less likely to report a life-threatening medical condition, whether contrasted against white men or men within their own group. For self-rated health, the gender gap diminishes or disappears for all racial/ethnic groups once age and socioeconomic status are considered, a

finding that appears to mirror those of prior studies (Rieker & Bird, 2000). However, we find that this is only the case when women are compared to men in their same racial/ethnic category. Relative to the most privileged group in US society (white men), only Mexican and white women maintain their advantaged health status, with black and Cuban women reporting worse health and Puerto Rican women demonstrating no significant difference. These results underscore the importance of examining the gender–race–ethnicity nexus: some racial/ethnic groups (e.g., Mexican Americans) have better health profiles than the majority population, regardless of gender, while other groups (e.g., black women) are doubly disadvantaged by their gender and racial group membership.

The results of this study have several implications for research and public policy. First, they indicate the need to consider multiple health outcomes when examining gender and racial/ethnic health disparities. Self-rated health is a commonly used measure of morbidity, and while it may be highly predictive of mortality (Idler & Benyamini, 1997), it clearly does not capture all dimensions of illness. As we find, women are more likely to be disabled but are also more likely to report better self-rated health, after adjustment for controls. Arber and Cooper (1999, p. 75) label this pattern the “new paradox” and call for further explanation of the coexistence of higher levels of disability with a lack of gender difference in self-assessed health. Our analysis builds on theirs by incorporating several additional explanatory mechanisms (e.g., lifestyle and behavioral factors, and depression), yet we are still unable to account for the gender gap in disability. We were also able to control for marital status and family size, as proxy measures for the availability of familial support; however, these are crude measures, and the lack of direct measures of social support in the sample adult files (e.g., emotional support, instrumental aid from kin and friends) is an unfortunate omission.

The second implication of this study is the need for continued research on the mechanisms that lead to variant race-by-gender health differences. This study focuses on socioeconomic status as one potential mechanism because it is a key determinant of health status for all groups. While we find socioeconomic position useful for understanding gender differences in self-rated health, it is less useful for explaining the gender gap in life-threatening medical conditions and functional limitations. Further, socioeconomic status is more powerful in explaining health inequalities across racial/ethnic groups (i.e., relative to white men) than for understanding gender differences within racial/ethnic groups, a finding that is comparable to the results reported by Cooper (2002) for the United Kingdom. This pattern likely reflects the fact that there are greater socioeconomic disparities between racial/ethnic populations than among men and women in the same racial/ethnic group.

The results also provide further evidence that aggregating Hispanic subgroups into one category misses important variations within this large population. Similar to prior studies, we find that Mexicans have the best health profiles of all subgroups, followed by Cubans, with Puerto Ricans experiencing health outcomes that parallel those of black Americans (Hummer, 2000; Vega & Amaro, 1994). Others have shown that differences in migration circumstances, human and social capital, context of reception, and lifestyle characteristics help explain these patterns, and our models illustrate that important differences exist in the efficacy of explanatory mechanisms across Hispanic subgroups. For example, socioeconomic status is very important in helping to explain differences in each health outcome between white men and Mexicans and Puerto Ricans (both men and women) but is less central for understanding differences between Cubans and white men. A likely explanation for this finding is that Cubans immigrated largely as middle-class professionals and have income levels commensurate with non-Latino whites, while Puerto Ricans and Mexicans typically immigrate as working-class laborers who are substantially poorer (del Pinal & Singer, 1997). Cubans are also more likely to be considered white, whereas the darker phenotype of Mexicans and Puerto Ricans disadvantages them on numerous indicators of social and economic well-being (Massey & Denton, 1993).

This study is not without limitations. Even though we merged five years of data from the NHIS, we were unable to accumulate a large enough sample of Asian Americans to permit separate analysis for this group, an unfortunate omission given that we know little about the relationship between gender and health among this population. In addition, we were able to examine a global measure of life-threatening medical conditions and functional limitations, but the relatively small sample size of the Puerto Rican and Cuban samples did not permit us to analyze the relationship between gender and more discrete measures of health (e.g., diabetes). Finally, this paper has only examined social explanations for gender differences in physical health, but it is possible that biological factors (e.g., hormone and immune system differences) are also at work (Verbrugge, 1985). However, it does appear that biological differences between men and women may be more applicable for understanding gender differences in mortality risk (e.g., estrogen protects against damage from high blood pressure), rather than morbidity, which is more related to the social characteristics and behaviors of men and women (see discussion by Bird & Rieker, 1999). Given the substantial differences in morbidity risk observed across gender and racial/ethnic groups in this paper, future research that examines the interaction between gender–race–ethnicity and

health should consider ways of testing these possible explanations.

Appendix A. Means and percentages for independent measures

	Full sample	Female	Male
% Female	51.8	100.0	0.0
Age	45.2 (17.5)	45.9 (18.0)	44.4
(17.0)**			
% Race and ethnicity			
Non-Hispanic white	80.4	79.8	81.1**
Non-Hispanic black	11.8	12.7	10.9**
Mexican	5.9	5.6	6.2**
Puerto Rican	1.2	1.2	1.1
Cuban	0.7	0.7	0.7
% Duration of residence			
Native born	91.4	91.6	91.2
Less than 5 years	1.2	1.1	1.3**
5–9 years	1.2	1.2	1.2
10–14 years	1.1	1.0	1.2**
15 years or more	5.0	5.0	5.0
% Marital status			
Married	59.2	56.3	62.3**
Cohabiting	5.4	5.1	5.7**
Divorced or separated	10.4	11.9	8.8**
Widowed	6.9	10.8	2.7**
Never married	18.2	16.0	20.5**
Family size	2.8 (1.4)	2.8 (1.4)	2.8 (1.4)
Depressive mood	1.4 (0.6)	1.4 (0.7)	1.3 (0.6)**
Highest grade of school completed	14.3 (3.3)	14.2 (3.3)	14.4 (3.4)**
% Income-to-poverty ratio			
<1.00	8.4	9.9	6.8**
1.00–1.99	13.7	14.6	12.6**
2.00 and above	58.3	54.8	62.1**
Missing	19.6	20.7	18.5**
% Employed	65.8	58.7	73.5**
% Any financial barriers to medical care	11.8	13.4	10.1**
% Smoking status			
Never smoked	52.5	58.3	46.3**
Current smoker	24.0	22.1	26.0**
Former smoker	23.5	19.5	27.8**

% Drinking status			
Lifetime abstainer	20.8	27.1	14.1**
Former drinker, none last year	15.4	15.0	15.8**
Current, 1–2 per occasion	44.0	45.6	42.3**
Current, 3–4 per occasion	13.0	9.3	17.1**
Current, 5+ per occasion	6.7	3.0	10.8**
% Muscle strengthening exercise			
Never	76.1	80.1	71.8**
Less than once a week	1.7	1.2	2.1**
1–2 times per week	7.1	6.5	7.8**
3–4 times per week	9.0	7.4	10.8**
5+ times per week	6.1	4.8	7.4**
% Body mass index			
Underweight	2.1	3.2	0.9**
Normal	40.9	47.7	33.6**
Overweight	35.6	27.8	44.0**
Obese	21.4	21.3	21.5
% Year of survey			
1997	19.9	19.9	20.0
1998	20.0	19.9	20.1
1999	20.1	20.2	20.1
2000	19.9	20.0	19.8
2001	19.9	19.9	20.0

Unweighted N

138,412	78,290	60,122
---------	--------	--------

Means and percentages are weighted.

Standard deviations in parentheses.

Significance tests indicate whether women differ significantly from men (two-tailed *t*-test, ** *p* < .01).

References

- Annandale, E., & Hunt, K. (2000). Gender inequalities in health: Research at the crossroads. In E. Annandale, & K. Hunt (Eds.), *Gender inequalities in health* (pp. 1–35). Buckingham: Open University Press.
- Arber, S., & Cooper, H. (1999). Gender differences in health in later life: The new paradox? *Social Science and Medicine*, 48, 61–76.
- Barbeau, E. M., Krieger, N., & Soobader, M. (2004). Working class matters: Socioeconomic disadvantage, race/ethnicity, gender, and smoking in NHIS 2000. *American Journal of Public Health*, 94, 269–278.
- Berkman, L. F., & Glass, T. (2000). Social integration, social networks, social support, and health. In L. F. Berkman, & I. Kawachi (Eds.), *Social epidemiology* (pp. 137–173). Oxford: Oxford University Press.
- Bird, C. E., & Rieker, P. (1999). Gender matters: An integrated model for understanding men's and women's health. *Social Science & Medicine*, 48, 745–755.
- Calle, E. E., Rodriguez, C., Walker-Thurmond, K., & Thun, M. J. (2003). Overweight, obesity, and mortality from cancer in

- a prospectively studied cohort of U.S. adults. *The New England Journal of Medicine*, 48, 1625–1638.
- Centers for Disease Control and Prevention. (2005). Body mass index: BMI for adults. Retrieved February 12, 2005 (<http://www.cdc.gov/nccdphp/dnpa/bmi/bmi-adult.htm>).
- Cooper, H. (2002). Investigating socio-economic explanations for gender and ethnic inequalities in health. *Social Science & Medicine*, 54, 693–706.
- del Pinal, J., & Singer, A. (1997). Generations of diversity: Latinos in the United States. *Population Bulletin*, 52(3).
- Denton, M., Prus, S., & Walters, V. (2004). Gender differences in health: A Canadian study of the psychosocial, structural and behavioural determinants of health. *Social Science & Medicine*, 58, 2585–2600.
- Flores, G., Abreu, M., Olivar, M. A., & Kastner, B. (1998). Access barriers to health care for latino children. *Archives of Pediatrics & Adolescent Medicine*, 152(11), 1119–1125.
- Geronimus, A. T. (1996). Black/white differences in the relationship of maternal age to birthweight: A population-based test of the weathering hypothesis. *Social Science & Medicine*, 42, 589–597.
- Hayward, M. D., Crimmins, E. M., Miles, T. P., & Yang, Y. (2000). The significance of socioeconomic status in explaining the racial gap in chronic health conditions. *American Sociological Review*, 65, 910–930.
- Hayward, M. D., & Gorman, B. K. (2004). The long arm of childhood: The influence of early life social conditions on men's mortality. *Demography*, 41, 87–108.
- Hayward, M. D., & Heron, M. (1999). Racial inequality in active life among adult Americans. *Demography*, 36, 77–91.
- Hu, F. B., Stampfer, M. J., Colditz, G. A., Ascherio, A., Rexrode, K. M., Willett, W., et al. (2000). Physical activity and risk of stroke in women. *Journal of the American Medical Association*, 283, 2961–2967.
- Hu, Y., & Goldman, N. (1990). Mortality differentials by marital status: An international comparison. *Demography*, 27(2), 233–250.
- Hummer, R. A. (2000). Adult mortality differentials among Hispanic subgroups and non-Hispanic whites. *Social Science Quarterly*, 81, 459–476.
- Idler, E. L., & Benyamini, Y. (1997). Self-rated health and mortality: A review of twenty-seven community studies. *Journal of Health and Social Behavior*, 38, 21–37.
- Johnson, F. W., Gruenewald, P. J., Treno, A. J., & Taff, G. A. (1998). Drinking over the life course within gender and ethnic groups: A hyperparametric approach. *Journal of Studies on Alcohol*, 59, 568–581.
- Kessler, R. C. (2002). Short screening scales to monitor population prevalences and trends in non-specific psychological distress. *Psychological Medicine*, 32, 959–976.
- Lillard, L. A., & Waite, L. J. (1995). Til death do us part: Marital disruption and mortality. *American Journal of Sociology*, 100, 1131–1156.
- Lubitz, J., Cai, L., Kramarow, E., & Lentzner, H. (2003). Health, life expectancy, and health care spending among the elderly. *The New England Journal of Medicine*, 349(11), 1048–1055.
- Macintyre, S., Hunt, K., & Sweeting, H. (1996). Gender differences in health: Are things really as simple as they seem? *Social Science & Medicine*, 42, 617–624.
- Massey, D. S., & Denton, N. A. (1993). *American apartheid*. Cambridge: Harvard.
- McDonough, P., & Walters, V. (2001). Gender and health: Reassessing patterns and explanations. *Social Science & Medicine*, 52, 547–559.
- Meyer, M. H., & Pavalko, E. K. (1996). Family, work, and access to health insurance among mature women. *Journal of Health and Social Behavior*, 37, 311–325.
- National Center for Health Statistics. (2002). Data file documentation, National Health Interview Survey, 1997–2001 (machine readable data file and documentation). National Center for Health Statistics, Centers for Disease Control and Prevention, Hyattsville, MA.
- National Center for Health Statistics. (2003). Health, United States, 2003. Hyattsville, MA.
- Palloni, A., & Arias, E. (2004). Paradox lost: Explaining the Hispanic adult mortality advantage. *Demography*, 41, 385–415.
- Phelan, J. C., Link, B. G., Diez-Roux, A., Kawachi, I., & Levin, B. (2004). Fundamental causes of social inequalities in mortality: A test of the theory. *Journal of Health and Social Behavior*, 45, 265–285.
- Plant, E. A., & Sachs-Ericsson, N. (2004). Racial and ethnic differences in depression: The roles of social support and meeting basic needs. *Journal of Consulting and Clinical Psychology*, 72, 41–52.
- Pollard, K. M., & O'Hare, W. P. (1999). America's racial and ethnic minorities. *Population Bulletin*, 54(3).
- Population Reference Bureau. (2003). *World population data sheet*. Washington, DC.
- Rieker, P., & Bird, C. (2000). Sociological explanations of gender differences in mental and physical health. In C. Bird, P. Conrad, & A. Fremont (Eds.), *Handbook of medical sociology* (pp. 98–113). Upper Saddle River, NJ: Prentice-Hall.
- Rogers, R. G., Hummer, R. A., & Nam, C. B. (2000). *Living and dying in the USA: Behavioral, health, and social differentials of adult mortality*. San Diego: Academic Press.
- Ross, C., & Bird, C. (1994). Sex stratification and health lifestyle: Consequences for men's and women's perceived health. *Journal of Health and Social Behavior*, 35, 161–178.
- Singh, G., & Siahpush, M. (2002). Ethnic-immigrant differentials in health behaviors, morbidity, and cause-specific mortality in the United States: An analysis of two national data bases. *Human Biology*, 74, 83–109.
- Tanasescu, M., Leitzmann, M. F., Rimm, E. B., Willett, W. C., Stampfer, M. J., & Hu, F. B. (2002). Exercise type and intensity in relation to coronary heart disease in men. *Journal of the American Medical Association*, 288, 1994–2000.
- Trost, S. G., Owen, N., Bauman, A. E., Sallis, J. F., & Brown, W. (2002). Correlates of adults' participation in physical activity: Review and update. *Medicine & Science in Sports & Exercise*, 34, 1996–2001.
- Umberson, D., Chen, M. D., House, J. S., Hopkins, K., & Slaten, E. (1996). The effect of social relationships on psychological well-being: Are men and women really so different? *American Sociological Review*, 61, 837–857.

- Vega, W. A., & Amaro, H. (1994). Latino outlook: Good health, uncertain prognosis. *Annual Review of Public Health*, 15, 39–67.
- Verbrugge, L. (1985). Gender and health: An update on hypotheses and evidence. *Journal of Health and Social Behavior*, 26, 156–182.
- Wallace, J. M., Jr., Bachman, J. G., O'Malley, P. M., Schulenberg, J. E., Cooper, S. M., & Johnston, L. D. (2003). Gender and ethnic differences in smoking, drinking and illicit drug use among American 8th, 10th, and 12th, grade students, 1976–2000. *Addiction*, 98, 225–234.
- Walters, V., McDonough, P., & Strohschein, L. (2002). The influence of work, household structure, and social, personal and material resources on gender differences in health: An analysis of the 1994 Canadian national population health survey. *Social Science & Medicine*, 54, 677–692.
- Williams, D. R. (2001). Racial variations in adult health status: Patterns, paradoxes, and prospects. In N. J. Smelser, W. J. Wilson, & F. Mitchell (Eds.), *America becoming racial: Trends and their consequences*, vol. 2 (pp. 371–410). Washington, DC: National Academy Press.
- Williams, D. R. (2002). Racial/ethnic variations in women's health: The social embeddedness of health. *American Journal of Public Health*, 92, 588–597.
- Williams, D. R. (2003). The health of men: Structured inequalities and opportunities. *American Journal of Public Health*, 93, 724–731.
- Williams, D. R., & Collins, C. (2001). Racial residential segregation: A fundamental cause of racial disparities in health. *Public Health Reports*, 116, 404–416.
- York, J. L., Welte, J., & Hirsch, J. (2003). Gender comparison of alcohol exposure on drinking occasions. *Journal of Studies on Alcohol*, 64, 790–801.

Update

Social Science & Medicine

Volume 62, Issue 12, June 2006, Page 3197–3198

DOI: <https://doi.org/10.1016/j.socscimed.2006.02.002>

Erratum

Erratum to “Gender inequalities in US adult health:
The interplay of race and ethnicity”
[Social Science & Medicine 62 (2006) 1045–1065]

Jen’nan Ghazal Read^{a,*}, Bridget K. Gorman^b

^a*Department of Sociology, University of California-Irvine, 4201 Social Science Plaza B, Irvine, CA 92697, USA*

^b*Department of Sociology, Rice University, 6100 Main Street, Houston, TX 77005, USA*

Available online 23 March 2006

It has come to the publisher’s attention that errors were introduced in Appendix A (Table 8) of this article. The publisher apologises for this error and the correct version of Table 8 is reproduced below.

Appendix A. Means and percentages for independent measures

	Full sample	Female	Male
% Female	51.8	100.0	0.0
Age	45.2 (17.5)	45.9 (18.0)	44.4 (17.0)**
% Race and ethnicity			
Non-Hispanic white	80.4	79.8	81.1**
Non-Hispanic black	11.8	12.7	10.9**
Mexican	5.9	5.6	6.2**
Puerto Rican	1.2	1.2	1.1
Cuban	0.7	0.7	0.7
% Duration of residence			
Native born	91.4	91.6	91.2
Less than 5 years	1.2	1.1	1.3**
5–9 years	1.2	1.2	1.2
10–14 years	1.1	1.0	1.2**
15 years or more	5.0	5.0	5.0
% Marital status			
Married	59.2	56.3	62.3**
Cohabiting	5.4	5.1	5.7**
Divorced or separated	10.4	11.9	8.8**

DOI of original article: 10.1016/j.socscimed.2005.07.009

*Corresponding author. Tel.: +1 949 824 8411; fax: +1 949 824 4717.

E-mail address: jennan@uci.edu (J.G. Read).

Appendix A (*continued*)

	Full sample	Female	Male
Widowed	6.9	10.8	2.7**
Never married	18.2	16.0	20.5**
Family size	2.8 (1.4)	2.8 (1.4)	2.8 (1.4)
Depressive mood	1.4 (0.6)	1.4 (0.7)	1.3 (0.6)**
Highest grade of school completed	14.3 (3.3)	14.2 (3.3)	14.4 (3.4)**
% Income-to-poverty ratio			
< 1.00	8.4	9.9	6.8**
1.00–1.99	13.7	14.6	12.6**
2.00 and above	58.3	54.8	62.1**
Missing	19.6	20.7	18.5**
% Employed	65.8	58.7	73.5**
% Any financial barriers to medical care	11.8	13.4	10.1**
% Smoking status			
Never smoked	52.5	58.3	46.3**
Current smoker	24.0	22.1	26.0**
Former smoker	23.5	19.5	27.8**
% Drinking status			
Lifetime abstainer	20.8	27.1	14.1**
Former drinker, none last year	15.4	15.0	15.8**
Current, 1–2 per occasion	44.0	45.6	42.3**
Current, 3–4 per occasion	13.0	9.3	17.1**
Current, 5+ per occasion	6.7	3.0	10.8**
% Muscle strengthening exercise			
Never	76.1	80.1	71.8**
Less than once a week	1.7	1.2	2.1**
1–2 times per week	7.1	6.5	7.8**
3–4 times per week	9.0	7.4	10.8**
5+ times per week	6.1	4.8	7.4**
% Body Mass Index			
Underweight	2.1	3.2	0.9**
Normal	40.9	47.7	33.6**
Overweight	35.6	27.8	44.0**
Obese	21.4	21.3	21.5
% Year of survey			
1997	19.9	19.9	20.0
1998	20.0	19.9	20.1
1999	20.1	20.2	20.1
2000	19.9	20.0	19.8
2001	19.9	19.9	20.0
Unweighted <i>N</i>	138,412	78,290	60,122

Means and percentages are weighted.

Standard deviations in parentheses.

Significance tests indicate whether women differ significantly from men (two-tailed *t*-test, ***p* < .01).