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Comparing the Self-Rated Health Effects of Obesity on the Health of African Americans and Caribbean Blacks

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Abstract

The Black population is more likely to experience obesity and to be debilitated by associated illnesses. Much evidence exists linking obesity to many chronic diseases, but the relationship with self-reported health is not clear. The study aims were to examine the relationship between obesity and self-reported health across four race- and gender-specific groups of Black Americans and to assess whether health disparities are race or gender driven. Data were drawn from the National Survey of American Life (NSAL) to estimate separate multivariate logistic regression models for 5,191 persons. Using logistic regression analysis, odds of reporting reduced health in obese individuals were compared with those for healthier weight individuals, adjusting for known controls. Among African American men, African American women, and Caribbean Black women, there was a statistically significant association between obesity and self-rated health ($p < .001$). The proportion of persons reporting excellent health decreased with increasing level of obesity in all groups, but more pronounced among both racial groups of women. The results of this study provide evidence that obesity has a negative impact on self-rated health among Black Americans, excluding Caribbean Black men, even in the absence of a chronic disease such as diabetes. Health professionals should focus on preventive healthy weight strategies and interventions that are culturally specific and relevant in order to address the obesity health disparity in African American and Caribbean Black women.

Keywords

Race; health disparities; obesity; body mass index; self-reported health

Introduction

African Americans in the United States suffer disproportionately from many chronic health conditions, including heavier body weights and diabetes, that are associated with poorer health outcomes (Bruce, Sims, Miller, Elliott, & Ladipo, 2007; Centers for Disease Control and Prevention [CDC], 2017; Flegal, Kit, Orpana, & Graubard, 2013; Hales et al., 2018; Mokdad et al., 2003; Robert & Reither, 2004). The epidemiological and medical literature indicates that the prevalence of obesity has increased dramatically in the U.S. over the last

decade (Flegal et al., 2013; Mokdad et al., 2003; Ogden et al., 2006), and public health authorities have recognized increasing body weight as one of the most dangerous rising trends contributing to African American morbidity and mortality (American Obesity Association, 2005; Hales et al., 2018). Prevailing statistics suggest that African American adults are more likely to be overweight, obese and morbidly obese when compared to whites and even other racial groups (Bruce et al., 2007; Hales et al., 2018; Ogden et al., 2006; E. P. Williams, Mesidor, Winters, Dubbert, & Wyatt, 2015). An estimated 129.6 million Americans, or 64 percent, are overweight or obese; African Americans record obesity rates of 35.3 percent compared to 24.7 percent for Whites (CDC, 2007; CDC, 2017). African American women record obesity rates of 48.8 percent, compared to 30.7 percent for adult white women.

Reasons for racial disparities in obesity prevalence are not clear and few studies provide insight into the factors that impact obesity, especially among the U.S. Black population. To gain a better understanding of the determinants of racial disparities in body weight outcomes for the Black population, this study used data from the National Survey of American Life (NSAL), which includes large numbers of African Americans and Caribbean Blacks, to estimate and compare the relationship between obesity and self-reported health for race- and gender-specific models of obesity. Another aim was to assess the racial differences in diabetes prevalence rates within a context in which controlled variables related to race and gender would be limited by design. If racial differences are driven by gender, one would expect little to no racial differences between African American and Caribbean Black diabetics. A true health disparity would emerge in gender given the varying cultural norms regarding diet, appearance, and the research on SES.

The present study captures diversity in the African American population and fills an important knowledge gap. This diversity is due largely to the immigration of Blacks of Caribbean descent. In 1990, Blacks in the US totaled about 30 million; in 2000, the total increased to 36.2 million (US Census Bureau, 2005) and by 2016, Blacks represented about 43.2 million (U.S. Bureau of the Census, June 2017). The 2010 Census estimated that there were over 2,100,000 Americans of English-speaking Caribbean Black histories, making up 10% of all Blacks in the US (Ogunwole, Battle, & Cohen, 2017). Therefore, with the immigration of Caribbean Blacks, communities in which Black people live differ widely from each other and from what has been studied previously. Recorded in the NSAL, most of the Caribbean Black sample (70.1%) had roots in the English-speaking areas of the Caribbean, 18.6% from Haiti, and 11.3% from the Spanish-speaking Caribbean region. Foreign-born black women and men experience lower obesity levels than their U.S.-born counterparts. A healthier weight pattern among the foreign born is consistent with findings in other U.S. race/ethnic groups, including Hispanics (Bates, Acevedo-Garcia, Alegria, & Krieger, 2007) and Asians (Lauderdale & Rathouz, 2000). Cultural, contextual and demographic differences between African Americans and Caribbean Blacks may constitute important risk and protective factors for obesity. Few studies address African American diversity by assessing Caribbean Black background as a separate dimension. Therefore, one unique contribution this study makes is examining the association between health status and obesity among US Blacks of diverse backgrounds.

Literature Review

Investigators concerned with disentangling the increasing body weight health disparity between racial and ethnic groups have achieved some appreciable contributions to the literature. The research described below compares racial groups to one another rather than examine within group differences. By contrast, this study focuses on capturing the within-group effects of race- and gender-specific effects because often African Americans are represented by more than one factor that would lead to *racial differences* when compared to whites.

Gender and Obesity Research

Gender represents an important factor in understanding the relationship between race and obesity because African American women, as group, have a higher prevalence of obesity and a greater risk for poorer health outcomes than all other race- and gender-specific populations (Bruce et al., 2007; Flegal et al., 2013; Ogden et al., 2006; Zhang & Wang, 2004). The body mass index (BMI) literature suggests that the link between gender and high BMI scores (30) might be attributed to culture, behavior, genetics, and environment. Existing research tends to estimate statistical models in which race and gender are represented by dichotomous variables (African Americans compared to whites; women compared to men), making it difficult to assess whether factors associated with obesity vary in race- and or gender-specific ways (Bruce et al., 2007; Flegal et al., 2013; Ogden et al., 2006; Robert & Reither, 2004; D. R. Williams, 2005). Consequently, very little is known about relevant factors influencing weight outcomes among the Black population, both men and women (Airhihenbuwa & Liburd, 2006).

Self-Reported Health Status and Obesity

Self-reported health represents a complex process of individual awareness that takes into account disease experience, knowledge, causes, and consequences. Self-reported health represents a broad summary measure of different health domains that include an individual's life history. As such, self-rated health has been identified as an important indication of health that is associated with a wide range of outcomes, from well-being to health service utilization (Burroughs et al., 2008; Okosun, Choi, Matamoros, & Dever, 2001). Thus, self-rated health is a global measure of health that encompasses physical, mental, and social well-being that is used in studies to present an overall picture of individual health. Despite cultural and gender differences in ways health and obesity are conceptualized and perceived (Kumanyika et al., 2005), very little national data exist to date concerning the relationship between obesity and self-rated health in the US Black population alone. The literature does indicate, however, that African Americans have greater body satisfaction and least overestimation of weight (Gilliard, Lackland, Mountford, & Egan, 2007; Hastings & Snowden, 2009) though greater acceptance of body image has not been related to self-reported health status. Gender differences regarding body image, weight concerns, and health exist, but findings are based on small community samples.

Because of the high prevalence of obesity in the African American community, it is critical to examine factors potentially contributing to wide racial disparities. This study is able to

provide insight on the relationship between self-reported health and obesity and examine diabetes, a chronic illness highly prevalent among African Americans, to assess whether disparities exist across gender and known demographic characteristics.

Methods

Data and Sample

The National Survey of American Life (NSAL) was part of the National Institutes of Mental Health Collaborative Psychiatric Epidemiology Surveys initiative that included three nationally representative surveys: the NSAL, the National Comorbidity Survey Replication (NCS-R), and the National Latino and Asian American Study (NLAAS). The data for NSAL were collected through face-to-face interviews in English using a computer-assisted personal interview system after participants provided written informed consent. Interviews lasted an average of 2 hours and 20 minutes. The NSAL included a household probability sample of 3,570 African Americans, 1,621 blacks of Caribbean descent (hereafter referred to as Caribbean Blacks), and 891 non-Hispanic whites aged 18 years and older. Since the purpose of the study was to understand body weight differences within Black Americans, the sample of white respondents was eliminated. This study utilized only the African American and Caribbean Black sample to represent the Black American population, leaving the total study sample size with 5,191 persons. African Americans were persons who self-identified as black but did not report Caribbean ancestry. Caribbean blacks were persons who self-identified as black and answered affirmatively to any of these inclusion criteria: (1) they were of West Indian or Caribbean descent, (2) they were from a Caribbean-area country, or (3) they had parents or grandparents who were born in a Caribbean-area country. The Caribbean black sample was selected from residential areas that were sampled to reflect the distribution of the black population and from additional metropolitan areas where Caribbean blacks composed more than 10% of the population. Data were collected between February 2001 and June 2003. The overall response rate was 72.3% for whites, 70.7% for African Americans, and 77.7% for Caribbean blacks. The publicly available NSAL data set removed all personalized identifiers. The University Office for the Protection of Human Subjects granted approval for this study in August 2017.

Variables

Dependent Variable.—Obesity was measured by calculating the body mass index (BMI) from height and weight (weight [kg]/height [m²]) measurements, which respondents self-reported and was recorded on a continuum. For study analysis, the continuous BMI score was categorized in two ways based on criteria from the National Heart, Lung, and Blood Institute (National Heart Lung and Blood Institute, 1998). First, the six-category BMI definitions: Underweight (< 18.5), Healthy Weight (18.5 – 24.9), Overweight (25.0 – 29.9), Obese Class 1 (30.0 – 34.9), Obese Class 2 (35.0 – 39.9), Obese Class 3 (40+), were used for bivariate analyses. Secondly, BMI was dichotomized as “Obese” (30.0 and above) versus all participants in the “healthy weight” 18.5–24.9 and “overweight” (BMI 25.0 – 29.9).

Independent Variable.—Current health status was self-reported on a 5-point Likert scale and categorized as “Excellent”, “Very Good”, “Good”, “Fair”, and “Poor.”

Controls. Several demographic characteristics identified in previous studies as influencing body weight were included as control variables: age, education, annual household income, chronic illness, household size, diabetes, marital status, current self-reported physical health, employment status, health insurance, region, and nativity.

Age was measured as the number of years attained by the date of the interview; education was measured as the number of school years finished; household income was measured as total monetary resources (dollar amount) from all sources; Annual household income was measured as total monetary resources (dollar amount) from all sources. Chronic illnesses were enumerated as the number reported based on: arthritis or rheumatism, ulcers, cancer, hypertension or “high blood pressure”, a liver problem, a kidney problem, stroke, asthma, sickle cell disease, heart trouble, and HIV/AIDS, for example. Household size was measured as the number of people living in the household at time of interview. Diabetes was measured as a self-reported diagnosis. Marital status categories were represented as a series of dummy-coded variables: never married (1) versus all other marital statuses (0); partnered (1) versus all other marital statuses (0) and separated, divorced, and widowed (1) versus all other marital statuses coded as (0). Employment status categories were defined as current full-time work (1), part-time work (2), and unemployed (0). Health insurance was measured dichotomously (Yes/No) in response to, “Are you covered by any federal government health insurance or health insurance through your employer, or former employer or union, such as Blue Cross-Blue Shield or an HMO?” Region was recorded as the location in the country where the interview was conducted: Northeast, Midwest, South, and West. Immigration status was defined as *nativity* and coded as US-born (1) and Foreign-born (0).

Socioeconomic Status was calculated by dividing house-hold income by the 2001 federal poverty thresh-old recorded in the Census 2001, the official federal poverty line, which created a trichotomous variable. Low SES (1) was defined as persons in households at or below the poverty line (incomes less than or equal to 100% of the federal poverty line), Mid SES (2) described persons with incomes greater than 100% and up to 300% of the poverty line), and High SES (3) defined persons whose incomes were equal to at least 300% of the poverty line (3). Participants categorized as “High SES” served as the comparison group.

Statistical Analysis

Included in the cross-sectional analyses were participants who identified themselves as either African American or Caribbean Black ($n = 5,191$). There were 358 participants excluded because they were missing self-reported information on health status and data for calculating BMI scores, leaving 4,833 participants for the logistic regression analysis.

Cross-sectional analyses identified relationships between racial background and gender for all study variables. The following factors were selected a priori as controls: BMI, age, education, annual household income, number of chronic illnesses, household size, diabetes, current health status, marital status, employment status, health insurance, marital status region, and nativity. Two bivariate analyses were conducted. The first established prevalence rates of BMI. The second analysis assessed the race- and gender-specific differences among all diabetic for health status, health insurance, and BMI using six categories.

Multivariate logistic regression analyses estimated measures of association (odds ratios [ORs] and 95% confidence intervals [CIs]). The logistic regression models estimated the relationship between obesity and self-reported health for four race- and gender-specific groups – African American men, Caribbean Black men, African American women, and Caribbean Black women. Additional variables were evaluated as potential controls, but they were found not to alter the main results by more than 5% and were not included in the final model. These variables were chronic illness, household size, and employment status.

The SVY LOGISTIC procedure of Stata 14 (StataCorp., 2016) estimated all models. All analyses were weighted. Statistical significance was evaluated with 2-sided design-based tests at the .05 level of significance.

Results

Descriptive Statistics

Each analyses technique utilized statistical weights to adjust for differential probabilities of selection and non-response and post-stratified to represent the black population accordingly. The means and standard deviations for key variables of interest are presented in Table 1.

Participants' mean age was 42.2 years (SE =0.49). In our sample, women held a slight majority across groups, with the female-male ratio being slightly higher among African Americans than the other groups. Caribbean Black men and women reported higher annual household incomes (\$52,800 and \$41,100, respectively) compared to African American men and women (\$42,500 and \$32,300, respectively). All participants averaged about three people in their households and recorded about 12 years of schooling. Caribbean Blacks completed slightly more years of schooling than African Americans. Although respondents in this sample were likely to be married, the highest percentage of never married persons was found among African American and Caribbean Black women (32.5% and 32.1%, respectively). At the time of interview, all participants were overweight, African American women and men averaged the highest BMI scores. On the basis of reported diagnosis, African American women were more likely to suffer from diabetes (12.4%) and named 1.4 chronic illnesses. A higher percentage of women reported fair health; African American (18.3%) and Caribbean Black (14.7%). Even though no health insurance enrollment was most likely among Caribbean Black men (21.4%), the majority of the unemployed were African American women (36.8%). The majority of participants were located in the Northeast and South. Most African Americans were US-born whereas two-thirds of the Caribbean Blacks were born outside the US.

BMI Prevalence by Gender and Race

Table 2 shows that one third of African Americans and Caribbean Blacks, regardless of gender, are of healthy weight. However, the majority of the obese were women. African American women recorded the highest prevalence of Obesity Class 1 (22 %) compared to Caribbean Black women and both groups of men. Differences in the reported prevalence of BMI categories between the genders were modest, but statistically significant ($\chi^2 = 8.4$; $p = 0.00$). Thus, before entering sociodemographic controls, African Americans and Caribbean

Blacks were found to differ in prevalence of body weight. Obesity, where the majority of participants record BMI levels, indicate a physically unhealthy condition, which signals risk for serious illnesses and potentially, death.

Diabetes Prevalence by Gender and Race

Diabetes prevalence rates in relation to factors previously shown to have significant associations with the disease (health status, health insurance, and BMI) are reported in Table 3. Most diabetics assessed their health as “good”. However, the prevalence of diabetes slightly decreased as self-assessments of health reached “fair”. Health insurance serves as an indicator of access to health care. African American women with diabetes were most likely to record no health insurance (12.5%) compared to lower prevalence rates of Caribbean Black women (6.6%), African American men (8.6%) and Caribbean Black men (5.5%)., diabetes prevalence rose 18 percentage points among African American men from a low of 13.8 % whose BMI was between 18.5 and 24.9 kg/m² to 31.1% with a BMI between 25 and 29.9 kg/m². Among participants who had ever been obese (Class 1), the prevalence of diabetes varied according to race and gender (26.6% among African American men, 10% among Caribbean Black men, 25.9% among African American women, and 17.2% among Caribbean Black women). BMI’s exceeding 40 kg/m² were most likely to occur among African American men (15.7%). Obesity class 3 denotes extremely high risk of weight-related disease and can lead to sudden, premature death.

Multivariate Logistic Regressions

Previous studies have reported that health status is consistently associated with obesity. To investigate possible differences with the sample, additional analysis for the obesity and health status relationship was performed.

Table 4 shows the strong association between obesity and health status estimated from four separate multivariate logistic regression models for race and gender – African American men, Caribbean Black men, African American women, and Caribbean Black women – after controlling for demographic characteristics. The strong trend for increasing risk across poor ratings of health was captured for all groups except Caribbean Black men. For African American men, the odds for obesity were greatest for “poor” health rating reports compared to “excellent” health rating reports (OR = 2.46; $p < .05$). African American women who rated their health as “fair” were 2.72 times more likely to experience obesity than African American women who rated their health as “excellent” (OR = 2.72; $p < .001$). The odds for obesity were greatest for Caribbean Black women who reported their health as “poor” compared to “excellent” health ratings (OR = 16.38; $p < .001$). Interestingly, diabetes was significantly more likely to occur among African American men who were obese (OR = 3.44; $p < .001$) than African American men who were not obese. Diabetes was not a significant factor in predicting the odds for obesity for any other racial group of men or women. Results for obesity and self-rated health association was significant only among Mid SES African American men (OR=2.33; $p=0.007$). Lastly, enrolling in health insurance did not significantly affect the odds of obesity.

Discussion

Race and gender represent key factors associated with health status and obesity outcomes acknowledged in the literature (Agyemang & Powell-Wiley, 2013; Bruce et al., 2007; Robert & Reither, 2004; Zhang & Wang, 2004). Using a national probability sample of African Americans and Caribbean Blacks, this study examined the relationship between obesity and health status. Self-rated health signifies an important indicator of general well-being, which takes into account both disease experiences and consequences (Okosun et al., 2001). The study results offer two main points. First, ratings of health status were associated with obesity, but that the health status-obesity association does not hold true for Caribbean Black men after controlling for demographic factors. Secondly, the disparities found among diabetics do not appear to be driven by gender. Similar prevalence rates were found among African Americans and Caribbean Blacks for health status ratings, health insurance, and BMI levels. The NSAL represents the best available data with sampling procedures representative of US Black Americans.

Unhealthy BMI scores disproportionally affect African Americans and based on this study's findings, Caribbean Black women. The findings presented here are consistent with other research on African Americans (Agyemang & Powell-Wiley, 2013; Mendez-Luck, Yu, Meng, Jhavar, & Wallace, 2005) and to some extent, support the "healthy immigrant effect," where immigrants experience fewer deleterious health problems than do U. S.-born populations when duration of US residence is less than 5 years living in the US (Escobar, Hoyos-Nervi, & Gara, 2000; Horlyck-Romanovsky et al., 2019; Kent, 2007). Perhaps Caribbean Blacks "good health" indicates a connection with previous research suggesting that cultural factors most likely influence dietary and exercise behaviors and are reported to play a major role in being healthier (Clark & King, 2008; Horlyck-Romanovsky et al., 2019; Kent, 2007). The data presented here allude to this conclusion. Cultural factors related to dietary choices and acceptance of excess weight among African Americans also appear to play a role in higher BMI scores and, by extension, play a critical role in more positive self-assessments of physical health.

Health insurance was not related to obesity in this study. The finding calls for additional research attention because it counters findings reported in two previous studies (Harris, 1999; Harris, Cowie, & Eastman, 1994) where people with diabetes were found to have some type of health insurance for disease management and weight loss treatment. Perhaps, our findings do not agree with the research because obesity, in any class, serves as a precursor to diabetes not recognized due to lack of access to health care. Bivariate findings indicate that diabetic African American men and women were most likely to be uninsured and may lack access to consistent care that is not related to emergency room visits. Being uninsured with a major health condition signifies a population that social workers need to find resources to assist in disease management. Although many NSAL respondents were only marginally wealthier than "near poor", their greater personal resources may have been sufficient to shield them from obesity when they perceived their health as socially acceptable.

This study makes several contributions. First this study builds on a growing research need to link health status to a commonly cited racial disparity in body mass index research (Bruce et al., 2007; Burroughs et al., 2008; Robert & Reither, 2004; Zhang & Wang, 2004). Moreover, the study results provide support for continuing and expanding public health social work activities in improving access to health care even though health insurance was not a significant factor in the health status and obesity relationship. The results do show that high BMI scores, especially among the obese, disproportionately impact African Americans, both men and women and Caribbean Black women. Access to health care initiatives should continue to be targeted to poor African Americans and Caribbean Blacks, especially among those who are unemployed and whose incidence of obesity was shown to be significantly associated with poor health. The implications for social work practice are straightforward: focus on ways to improve access to consistent, and reliable health care. Health professionals could potentially serve as an integral mediator in reducing racial disparities in rates of obesity by creating interventions that improve BMI levels and supporting policies that expand health care coverage.

The findings of this investigation also need to be understood in light of limitations. First, this study offers only speculations on the causal relationships embedded in the associations observed. More research needs to be conducted to untangle other factors. Second, the Caribbean Black sample excludes individuals who do not speak English (i.e., persons who only speak Spanish, Haitian-French, or Creole dialects) and, as a consequence, the study findings are not generalizable to these groups of Caribbean Blacks. Third, we used self-reported height, weight, and employment status information, which may be subject to error without external validation. However, BMI calculated from self-reported heights and weight has been shown to be highly correlated with actual BMI levels (Kuczmarski, Kuczmarski, & Najjar, 2001; McAdams, Van Dam, & Hu, 2007). Though research on the role of health status in the etiology of obesity continues to garner research attention, relatively few study the influential factors of context with reference to the increasing diversity among Black people. A key question left unanswered is the extent to which community context affects weight gain for African Americans and Caribbean Blacks, regardless of gender, demographic characteristics, and cultural stressors.

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References

- Agyemang P, & Powell-Wiley TM (2013). Obesity and black women: Special considerations related to genesis and therapeutic Approaches. *Current Cardiovascular Risk Reports*, 7(5), 378–386. [PubMed: 24159367]
- Airhihenbuwa CO, & Liburd L (2006). Eliminating Health Disparities in the African American Population: The Interface of Culture, Gender, and Power. *Health Education & Behavior*, 33(4), 488–501. [PubMed: 16769757]
- American Obesity Association. (2005). Obesity in America: Minority populations. Retrieved from http://www.obesity.org/subs/fastfacts/Obesity_Minority_Pop.shtml

- Bates LM, Acevedo-Garcia D, Alegria M, & Krieger N (2007). Immigration and generational trends in body mass index and obesity in the United States: Results of the National Latino and Asian American Survey, 2002–2003. *American Journal of Public Health*, 98(1), 70–77. doi:10.2105/AJPH.2006.102814 [PubMed: 18048787]
- Bruce MA, Sims M, Miller S, Elliott V, & Ladipo M (2007). One size fits all? Race, gender and body mass index among U.S. adults. *Journal of the National Medical Association*, 99(10), 1152–1158. [PubMed: 17987919]
- Burroughs VJ, Nonas C, Sweeney CT, Rohay JM, Harkins AM, Kyle TK, & Burton SL (2008). Self-reported Comorbidities Among Self-described Overweight African-American and Hispanic Adults in the United States: Results of a National Survey. *Obesity*, 16(6), 1400–1406. Retrieved from 10.1038/oby.2008.61 [PubMed: 18369344]
- Center for Disease Control. (2007). CDC Public Health Resource: Obesity. Retrieved from <http://www.cdc.gov/obesity/statistics>
- Centers for Disease Control and Prevention [CDC]. (2017). Health of Black or African American non-Hispanic Population. National Center on Health Statistics. Retrieved from <https://www.cdc.gov/nchs/fastats/black-health.htm>
- Clark RL, & King RB (2008). Social and Economic Aspects of Immigration *Annals of the New York Academy of Sciences*, 1136(Reducing the Impact of Poverty on Health and Human Development: Scientific Approaches), 289–297. Retrieved from 10.1196/annals.1425.021 [PubMed: 18579888]
- Escobar JI, Hoyos-Nervi C, & Gara MA (2000). Immigration and mental health: Mexican Americans in the United States. *Harvard Review of Psychiatry*, 8(2), 64–72. doi:10.1080/hrp_8.2.64 [PubMed: 10902095]
- Flegal KM, Kit BK, Orpana H, & Graubard BI (2013). Association of all-cause mortality with overweight and obesity using standard body mass index categories: A systematic review and meta-analysis. *Journal of the American Medical Association*, 309(1), 71–82. doi:10.1001/jama.2012.113905 [PubMed: 23280227]
- Gilliard TS, Lackland DT, Mountford WK, & Egan BM (2007). Concordance between self-reported heights and weights and current and ideal body images in young adult African American men and women. *Ethnicity and Disease*, 17(4), 617–623. [PubMed: 18072369]
- Hales CM, Fryar CD, Carroll MD, Freedman DS, Aoki Y, & Ogden CL (2018). Differences in obesity prevalence by demographic characteristics and urbanization level among adults in the United States, 2013–2016. *JAMA*, 319(23), 2419–2429. [PubMed: 29922829]
- Hastings JF, & Snowden LR (2009). Increasing body weight and the transition from welfare to work: Findings from the National Survey of American Life. *Ethnicity and Disease*, 19(1), 13–17. [PubMed: 19341157]
- Horlyck-Romanovsky MF, Fuster M, Echeverria SE, Wyka K, Leung MM, Sumner AE, & Huang TT-K (2019). Black immigrants from Africa and the Caribbean have similar rates of diabetes but Africans are less obese: The New York City Community health survey 2009–2013. *Journal of Racial and Ethnic Health Disparities*, epub ahead of print. doi:10.1007/s40615-019-00562-3
- Kent MM (2007). Immigration and America's Black Population. *Population Bulletin*, 62(4), 1–20.
- Kuczmarski MF, Kuczmarski RJ, & Najjar M (2001). Effects of age on validity of self-reported height, weight, and body mass index: findings from the Third National Health and Nutrition Examination Survey, 1988–1994. *Journal of the American Dietetic Association*, 101, 28–34.
- Kumanyika SK, Gary TL, Lancaster KJ, Samuel-Hodge CD, Banks-Wallace J, Beech BM, . . . Whitt-Glover MC (2005). Achieving healthy weight in African-American communities: Research perspectives and priorities. *Obesity Research*, 13(12), 2037 – 2047. doi:10.1038/oby.2005.251 [PubMed: 16421334]
- Lauderdale DS, & Rathouz PJ (2000). Body mass index in a US national sample of Asian Americans: effects of nativity, years since immigration and socioeconomic status. *International Journal of Obesity*, 24(9), 1188–1194. doi:10.1038/sj.ijo.0801365 [PubMed: 11033989]
- McAdams MA, Van Dam RM, & Hu FB (2007). Comparison of Self-reported and Measured BMI as Correlates of Disease Markers in U.S. Adults[ast]. *Obesity*, 15(1), 188–196. Retrieved from 10.1038/oby.2007.504 [PubMed: 17228047]

- Mendez-Luck CA, Yu H, Meng Y-Y, Jhavar M, & Wallace SP (2005). Too many California Adults are Tipping the Scales at an Unhealthy Weight (PB2005-4). Retrieved from Los Angeles: <http://www.chis.ucla.edu>
- Mokdad AH, Ford ES, Bowman BA, Dietz WH, Vinicor F, Bales VS, & Marks JS (2003). Prevalence of Obesity, Diabetes, and Obesity-Related Health Risk Factors, 2001. *Jama*, 289(1), 76–79. [PubMed: 12503980]
- National Heart Lung and Blood Institute. (1998). Learn about BMI and Healthy Weight. Retrieved from <http://www.nhlbi.nih.gov/health/public/heart/obesity/wecan/learn-it/bmi-chart.htm>
- Ogden CL, Carroll MD, Curtin LR, McDowell MA, Tabak CJ, & Flegal KM (2006). Prevalence of overweight and obesity in the United States, 1999–2004. *Jama*, 295(13), 1549–1555. doi:10.1001/jama.295.13.1549 [PubMed: 16595758]
- Ogunwale SU, Battle KR, & Cohen DT (2017). Characteristics of Selected Sub-Saharan African and Caribbean Ancestry Groups in the United States: 2008–2012 (ACS-34). Retrieved from Washington, DC: <https://census.gov/content/dam/Census/library/publications/2017/acs/acs-34.pdf>
- Okosun IS, Choi S, Matamoros T, & Dever GEA (2001). Obesity Is Associated with Reduced Self-Rated General Health Status: Evidence from a Representative Sample of White, Black, and Hispanic Americans. *Preventive Medicine*, 32(5), 429–436. [PubMed: 11330993]
- Robert SA, & Reither EN (2004). A multilevel analysis of race, community disadvantage, and body mass index among adults in the US. *Social Science & Medicine*, 59(12), 2421–2434. [PubMed: 15474198]
- StataCorp. (2016). Stata Statistical software: Release 14.0. Retrieved from www.stata.com
- U.S. Bureau of the Census. (6 2017). Annual Estimates of the Resident Population by Sex, Race Alone or in Combination, and Hispanic Origin for the United States, States, and Counties: April 1, 2010 to July 1, 2016 Retrieved from <https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk>
- US Census Bureau. (2005). Census 2000 special report, we the people: Blacks in the United States. Retrieved from Washington, DC: www.census.gov
- Williams DR (2005). The health of U.S. racial and ethnic populations. *The Journals of Gerontology: Series B Psychological sciences and social sciences Health Inequalities Across the Life Course*, 60B, 53–62.
- Williams EP, Mesidor M, Winters K, Dubbert PM, & Wyatt SB (2015). Overweight and obesity: Prevalence, consequences, and causes of a growing public health problem. *Current Obesity Reports*, 4(3), 363–370. doi:10.1007/s13679-015-0169-4 [PubMed: 26627494]
- Zhang Q, & Wang Y (2004). Socioeconomic inequality of obesity in the United States: do gender, age, and ethnicity matter? *Social Science & Medicine*, 58(6), 1171–1180. Retrieved from <http://www.sciencedirect.com/science/article/B6VBF-490GXNX-1/2/5035d4c745e1d5427df53437cfffbd7d3> [PubMed: 14723911]

Table 1

BMI* and the Distribution of Risk Factors, by Gender and Race: NSAL

Characteristic	Men				Women			
	African American (n = 1,271)		Caribbean Black (n = 643)		African American (n = 2,299)		Caribbean Black (n = 978)	
	$\bar{X}$	SE	$\bar{X}$	SE	$\bar{X}$	SE	$\bar{X}$	SE
BMI	28.1	(0.2)	26.5	(0.4)	29.4	(0.1)	28.3	(0.5)
Age (mean years)	42.0	(0.7)	40.0	(1.6)	42.6	(0.6)	40.5	(1.2)
Education (years)	12.4	(0.1)	12.9	(0.1)	12.4	(0.1)	12.9	(0.1)
Annual Household Income (mean \$)	42,500	(2,158)	52,800	(5,371)	32,300	(1,271)	41,100	(3,697)
Chronic Illnesses	1.1	(0.04)	1.0	(0.2)	1.4	(0.03)	1.1	(0.8)
Household Size	2.7	(0.1)	2.8	(0.2)	3.0	(0.1)	3.1	(0.1)
	%	SE	%	SE	%	SE	%	SE
Diabetes								
Yes	9.7	(0.8)	5.1	(1.1)	12.4	(0.7)	11.4	(2.3)
Marital Status								
Married	40.1	(1.7)	46.3	(6.1)	27.3	(1.3)	28.5	(2.4)
Partner	9.4	(0.9)	13.6	(2.0)	8.2	(0.8)	11.6	(2.5)
Sep., Wid., Div.	20.1	(1.3)	10.4	(2.0)	32.0	(1.0)	27.8	(3.9)
Never Married	30.5	(1.6)	29.7	(4.1)	32.5	(1.5)	32.1	(1.8)
Current Health Status								
Excellent	18.4	(1.2)	28.2	(3.9)	14.4	(0.8)	22.4	(3.4)
Very Good	36.4	(2.0)	36.2	(3.3)	31.8	(1.1)	30.3	(3.2)
Good	27.7	(1.5)	21.7	(2.9)	31.4	(1.4)	27.3	(2.8)
Fair	14.1	(1.2)	9.8	(2.5)	18.3	(1.0)	14.7	(1.7)
Poor	3.5	(0.5)	4.0	(1.4)	4.1	(0.5)	5.2	(1.9)
Employment Status								
Full-Time Work	62.1	(1.5)	68.7	(3.8)	52.9	(1.2)	59.8	(3.2)
Part-Time Work	9.4	(0.8)	10.6	(3.9)	10.3	(0.9)	11.2	(1.4)
Unemployed	28.6	(1.5)	20.8	(2.4)	36.8	(1.4)	28.9	(3.1)
Health Insurance								
Yes	81.4	(1.0)	78.6	(1.5)	82.3	(1.3)	80.5	(2.9)
Region								
Northeast	15.5	(1.4)	47.9	(8.6)	15.8	(1.3)	63.8	(4.4)
Midwest	17.4	(1.8)	4.4	(3.0)	19.9	(2.2)	3.7	(2.1)
South	56.8	(2.7)	31.2	(9.4)	55.8	(2.3)	26.9	(5.5)
West	10.2	(1.1)	16.5	(7.9)	8.5	(1.1)	5.6	(2.7)
Nativity								
US-born	96.7	(0.6)	37.0	(6.7)	98.5	(0.3)	36.8	(3.0)
Foreign-born	3.3	(0.6)	63.0	(6.7)	1.5	(0.3)	63.2	(3.0)
Socioeconomic Status								
Low SES (<=100% FPL)	26.7	(1.9)	22.2	(3.9)	43.1	(1.6)	31.4	(2.7)

Characteristic	Men				Women			
	African American (n = 1,271)		Caribbean Black (n = 643)		African American (n =2,299)		Caribbean Black (n = 978)	
	$\bar{X}$	SE	$\bar{X}$	SE	$\bar{X}$	SE	$\bar{X}$	SE
Mid SES ($\geq 100\%$ - 300% FPL)	35.2	(1.5)	29.3	(2.8)	32.6	(1.2)	35.2	(2.4)
High SES ($\geq 300\%$ FPL)	38.1	(1.8)	48.5	(4.1)	24.3	(1.6)	33.4	(3.7)

N = 5,191

* Body Mass Index (BMI): Underweight (<18.5); Normal (18.5 – 24.9); Overweight (25.0 – 29.9); Obese (> 30.0)

Table 2

Prevalence Rates of BMI by Gender and Race: NSAL

Characteristic	Men				Women			
	African American (n = 1,271)		Caribbean Black (n = 643)		African American (n = 2,299)		Caribbean Black (n = 978)	
	%	SE	%	SE	%	SE	%	SE
BMI								
Underweight (< 18.5)	0.9	(0.3)	1.1	(0.5)	2.3	(0.4)	1.4	(0.6)
Healthy Weight (18.5 – 24.9)	29.4	(1.6)	37.6	(4.4)	27.2	(0.9)	36.2	(3.0)
Overweight (25.0 – 29.9)	40.4	(1.3)	41.5	(4.4)	30.1	(1.1)	31.7	(2.4)
Obese Class 1 (30.0 – 34.9)	18.7	(1.1)	14.3	(4.2)	22.0	(1.0)	15.0	(1.9)
Obese Class 2 (35.0 – 39.9)	6.6	(0.7)	4.8	(1.7)	10.8	(0.8)	9.4	(2.8)
Obese Class 3 (40+)	4.0	(0.7)	0.6	(0.2)	7.7	(0.6)	6.4	(1.2)

N = 5,191

 $\chi^2 = 8.4$; p = 0.00

Table 3

Diabetes Prevalence Rates in relation to Current health, Health Insurance Status and BMI status: NSAL

Characteristic	Men				Women			
	African American (n = 122)		Caribbean Black (n = 48)		African American (n = 274)		Caribbean Black (n = 100)	
	%	SE	%	SE	%	SE	%	SE
Current Health Status								
Excellent	5.5	(1.6)	35.6	(14.0)	2.7	(0.7)	25.4	(2.1)
Very Good	22.6	(4.6)	13.5	(4.5)	22.3	(3.1)	33.3	(2.9)
Good	35.9	(5.0)	28.2	(8.0)	34.2	(3.4)	24.5	(1.5)
Fair	29.6	(4.8)	15.9	(5.2)	30.1	(3.4)	12.3	(1.3)
Poor	6.4	(2.3)	6.9	(4.1)	10.6	(1.7)	4.6	(1.1)
Health Insurance								
No	8.6	(3.1)	5.5	(2.4)	12.5	(2.2)	6.6	(3.0)
BMI								
Underweight (< 18.5)	0.5	(0.5)	---	---	1.6	(1.1)	0.9	(0.7)
Healthy Weight (18.5 – 24.9)	13.8	(3.5)	15.0	(5.3)	15.3	(2.8)	21.7	(7.8)
Overweight (25.0 – 29.9)	31.1	(3.7)	53.1	(13.3)	28.7	(3.8)	44.6	(10.2)
Obese Class 1 (30.0 – 34.9)	26.6	(3.1)	10.6	(9.7)	25.9	(3.2)	17.2	(4.7)
Obese Class 2 (35.0 – 39.9)	12.2	(3.2)	18.1	(14.5)	18.3	(2.8)	12.7	(4.3)
Obese Class 3 (40+)	15.7	(4.3)	3.3	(2.3)	10.2	(2.3)	2.9	(1.2)

N = 544

Table 4: Results of Logistic Regression analyses of Associations between Obesity and Health Status by gender: NSAL

Characteristic	Men				Women			
	African American (n = 1,197)		Caribbean Black (n = 624)		African American (n = 2,111)		Caribbean Black (n = 901)	
	OR (SE)	95% CI	OR (SE)	95% CI	OR (SE)	95% CI	OR (SE)	95% CI
Current Health Status								
Excellent								
Very Good	1.44 (0.32)	[0.92, 2.27]	1.40 (0.99)	[0.33, 5.97]	1.44 [*] (0.27)	[0.99, 2.10]	5.00 ^{***} (1.90)	[2.29, 10.9]
Good	2.33 ^{***} (0.41)	[1.63, 3.34]	2.20 (1.40)	[0.59, 8.14]	2.17 ^{**} (0.46)	[1.42, 3.33]	9.12 ^{***} (2.87)	[4.77, 17.4]
Fair	2.04 [*] (0.65)	[1.07, 3.89]	0.96 (0.78)	[0.18, 5.10]	2.72 ^{***} (0.57)	[1.77, 4.17]	7.08 ^{***} (2.40)	[3.52, 14.2]
Poor	2.46 [*] (0.83)	[1.24, 4.89]	0.83 (1.0)	[0.07, 9.82]	2.22 ^{**} (0.62)	[1.26, 3.92]	16.38 ^{***} (8.42)	[5.69, 47.15]
Diabetes	3.44 ^{***} (0.73)	[2.24, 5.30]	2.38 (1.93)	[0.45, 12.56]	1.47 (0.30)	[0.97, 2.23]	1.27 (0.41)	[0.66, 2.46]
Health Insurance	1.13 (0.25)	[0.71, 1.78]	1.61 (0.74)	[0.62, 4.16]	0.87 (0.12)	[0.65, 1.16]	0.94 (0.26)	[0.53, 1.67]
Age (mean)	0.98 ^{**} (0.01)	[0.97, 1.00]	1.0 (0.02)	[0.96, 1.04]	0.99 (0.01)	[0.98, 1.01]	0.99 (0.01)	[0.97, 1.00]
Education (years)	1.03 (0.03)	[0.97, 1.10]	1.14 [*] (0.06)	[1.03, 1.26]	0.95 [*] (0.02)	[0.90, 0.99]	0.98 (0.07)	[0.84, 1.14]
Annual Household Income (mean \$)	1.0 (0.00)	[0.99, 1.00]	1.0 (0.00)	[0.99, 1.00]	1.0 (0.00)	[0.99, 1.00]	1.0 (0.00)	[0.99, 1.00]
Marital Status								
Married								
Partner	0.59 (0.19)	[0.30, 1.15]	4.30 ^{**} (1.97)	[1.68, 11.05]	1.38 (0.27)	[0.93, 2.05]	1.45 (0.62)	[0.60, 3.47]
Separated, Widowed, Divorced	0.68 (0.17)	[0.41, 1.12]	1.33 (0.65)	[0.49, 3.64]	0.84 (0.12)	[0.63, 1.12]	0.45 (0.19)	[0.19, 1.06]
Never Married	0.48 ^{**} (0.10)	[0.31, 0.73]	0.83 (0.60)	[0.19, 3.70]	0.67 ^{**} (0.08)	[0.53, 0.86]	0.48 [*] (0.15)	[0.25, 0.90]
Region								

Characteristic	Men				Women			
	African American (n = 1,197)		Caribbean Black (n = 624)		African American (n = 2,111)		Caribbean Black (n = 901)	
	OR (SE)	95% CI	OR (SE)	95% CI	OR (SE)	95% CI	OR (SE)	95% CI
Northeast								
Midwest	0.74 (0.20)	[0.43, 1.27]	1.09 (1.08)	[0.14, 8.36]	1.32 [*] (0.15)	[1.05, 1.66]	0.21 [*] (0.13)	[0.05, 0.77]
South	0.72 (0.14)	[0.48, 1.08]	1.02 (0.33)	[0.53, 2.0]	1.11 (0.14)	[0.85, 1.45]	0.95 (0.21)	[0.60, 1.52]
West	0.44 (0.14)	[0.23, 0.86]	0.96 (0.62)	[0.26, 3.62]	0.72 [*] (0.09)	[0.65, 1.16]	2.44 (1.94)	[0.47, 12.51]
Nativity								
US-Born	2.85 (1.78)	[0.80, 10.13]	1.82 (0.70)	[0.82, 4.02]	4.30 ^{**} (2.28)	[1.46, 12.7]	2.62 ^{**} (0.68)	[1.53, 4.47]
Foreign-Born								
Socioeconomic Status								
Low SES (<=100% FPL)	1.51 (0.31)	[0.99, 2.30]	1.97 (1.16)	[0.59, 6.59]	0.91 (0.09)	[0.74, 1.12]	0.77 (0.20)	[0.45, 1.30]
Mid SES (>=100% - 300% FPL)	2.33 ^{**} (0.68)	[1.28, 4.23]	1.34 (0.95)	[0.31, 5.79]	0.87 (0.14)	[0.63, 1.23]	0.84 (0.35)	[0.36, 1.96]
High SES (>=300% FPL)								

Note: N = 4,833; OR = Odds Ratio; SE = Standard Errors; All calculations were weighted.

*
p < .05;

**
p < .01;

p < .000