Published in final edited form as:
J Health Care Poor Underserved. 2013 ; 24(1): 289–310. doi:10.1353/hpu.2013.0027.

Classification and Correlates of Eating Disorders among Blacks: Findings from the National Survey of American Life

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Abstract

Objective—To assess classification adjustments and examine correlates of eating disorders among Blacks.

Method—The National Survey of American Life (NSAL) was conducted from 2001–2003 and consisted of adults (n= 5,191) and adolescents (n = 1,170). The World Mental Health Composite International Diagnostic Interview (WMH-CIDI-World Health Organization 2004-modified) and *DSM-IV-TR* eating disorder criteria were used.

Results—Sixty-six percent of African American and 59% Caribbean Black adults were overweight or obese, while 30% and 29% of adolescents were overweight or obese. Although lifetime rates of anorexia nervosa and bulimia nervosa were low, binge eating disorder was high for both ethnic groups among adults and adolescents. Eliminating certain classification criteria resulted in higher rates of eating disorders for all groups.

Conclusion—Culturally sensitive criteria should be incorporated into future versions of *Diagnostic Statistical Manual* (*DSM)* classifications for eating disorders that consider within group ethnic variations.

Keywords

Classification; correlates; eating disorders; Blacks; obesity

Eating disorders have been considered diseases of young, upper socioeconomic White women in the United States.[1,2] This paper provides data to expand the emerging knowledge base on African Americans and Caribbean Blacks and eating disorders. Both the approach to

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classification and potential correlates are important to understand ethnic variations in eating disorders. For example, specific risk factors (e.g., body image dissatisfaction, desire to be thin, use of compensatory behaviors) were found to predict eating disorders in Whites that may not be applicable to African Americans and Caribbean Blacks (the largest subgroup of Black immigrants).[3] Previous studies have found that Black women select larger body silhouettes than White women as the preferred body type.[4,5] Although Black women preferred the larger body types, they tended to select smaller than actual silhouettes when describing their body size, indicating a possible disturbance in body image.[4,5] Although a study by Fernandes *et al.* found that body dissatisfaction was greater in Blacks than in Whites, the sample size was small ($n = 32$ and $n = 1,648$ respectively) and the findings were not consistent with previous research.[6] The classification system for eating disorders based largely on the White population may not be appropriate for use with other cultural and ethnic groups in the United States.[7–10]

Blacks consistently have been found to have lower rates of anorexia nervosa (AN) and bulimia nervosa (BN), and equal to or higher rates of binge eating disorder (BED) than Whites.[11,12] Studies also have examined risk factors for correlates of eating disorders among Blacks. Most of these studies relied on small, regional samples, with little variation in types of correlates.[12,13] Prevalence rates for Blacks meeting the requirements for AN (0.15%) and BN (1.31%) were low and significantly different from Whites in a nationally representative study.[14] In the same study, BED was found to be more prevalent among Blacks than Whites. Although diagnosis of eating disorders was low among Blacks, they reported having greater functional impairment than their White counterparts, and used mental health services less frequently.[14] Using a nationally representative sample, researchers reported the prevalence of eating disorders in an ethnically diverse sample of Blacks, including African American and Caribbean Black adults and adolescents.[10] They found that AN (0.17%) was the rarest eating disorder and BED (1.66%) was the most prevalent among Blacks in the sample.[10] Results from that study were useful in validating findings from previous research in this area. However, correlates of eating disorders were not examined in that study.[10] The findings from these and other studies have helped shape the methods for the present study in determining culturally appropriate criteria for eating disorders.

Reporting the prevalence of eating disorders for ethnically diverse Blacks in a national sample using *Diagnostic and Statistical Manual of Mental Disorders, Volume 4, Text Revision* (*DSM- IV-TR)* criteria is a step in the right direction.[15] However, gaps remain in knowledge regarding correlates of eating disorders among ethnically diverse Black populations. In addition, criteria used in the diagnosis of eating disorders may not be as useful in identifying individuals who do not meet these criteria due to cultural differences. Blacks in a nationally representative study had high rates of both BED and obesity, as well as low rates of under-eating and compensatory behaviors.[10] Obesity is one of the health outcomes associated with BED. According to the Centers for Disease Control and Prevention, obesity is the number one preventable cause of death among Americans.[16] The co-morbidities associated with obesity are as life threatening as those associated with some eating disorders. Although obesity may be associated with BED, the proportion of people who are diagnosed as binge-eaters using *DSM-IV-TR* criteria is substantially less than the proportion of people who are obese.[16] Obesity is a multi-determined condition.[17] Research has shown with a diagnosis of obesity may not engage in binge eating.[18] Over-eating in the absence of purging may be diagnosed as BED. Because criteria in the *DSM-IV-TR* for eating disorders considers weight classes for AN (underweight) and BN (normal weight) along with behavioral factors, the link between BED and obesity (overweight) is not considered. These diagnostic criteria for eating disorders could eliminate a large number of people who are obese and exhibit behavioral characteristics that could benefit from treatment for BED. The link between BED and obesity might be an especially important

relationship to understand for Blacks because research noted that consuming large amounts of comfort foods was a socially acceptable stress-reduction technique for this population, especially when faced with chronic stress.[19]

Literature also supports the idea that Blacks are less likely to have body image disturbances and compensatory behaviors when compared with Whites in assessing eating disorders.[1,3] As previously noted, Blacks have been reported to prefer larger body sizes but to identify themselves as being thinner than they are.[4,5] As Blacks viewed themselves as thinner than their actual size, compensatory behaviors (e.g., binging and purging) might be practiced less frequently by Blacks than Whites. Thus, a need exists for culturally tailored criteria that better reflect life experiences of Blacks: such criteria would be changed from the existing eating disorder diagnosis criteria for the purpose of greater accuracy in diagnosing eating disorders in Blacks.

The race/ethnicity in focus here is that of Blacks in America, where that group includes African Americans and Caribbean or Caribbean-descent Blacks. Many other Blacks (e.g., Africans, South Americans) also live in the United States, but are not included in this study. Culture can be described in terms of language, country of origin, experiences, and other differences that shape individuals within a group.[19] While the terms *race*, *ethnicity*, and *culture* may appear to be interchangable in this paper, the authors clearly recognize that they have distinct meanings.

African American and Caribbean Black adults and adolescents were included in the National Survey of American Life (NSAL). The NSAL studied psychiatric disorders, stressors, risk and resilience factors using a stratified, multi-stage probability sample of non-institutionalized African American and Caribbean Black adults and adolescents living in the 48 contiguous states. The goal of the NSAL was to gather data to shed light upon the physical, emotional, mental, structural, and economic conditions of Black Americans at the beginning of the 21st century. African Americans were used as the primary core sampling base for the NSAL, with Caribbean Blacks selected from two subsamples: (a) households in the African American segments, and (b) households in the five states and the District of Columbia where 80% of the Caribbean Blacks in the United States resided.[20]

Each household with an adult (18 years and older) was screened for an eligible adolescent. A random selection procedure was used to select the adolescents. If more than one adolescent was eligible for the study, two participants were selected. When possible, both a male and female adolescent was asked to participate. The NSAL adolescent sample was specifically weighted to be nationally represented; therefore, differences in the probabilities of selection for individuals within households and for nonresponse rates for both households and individuals were adjusted accordingly. The weighted data were post-stratified to approximate national population distributions for gender and age (13 to 17 year old) subgroups among Black youth.

In conducting nationally representative research, it is critical to obtain the person who was randomly selected to be in the study rather than a replacement to ensure the integrity of the sampling process. Therefore, our goal was to complete an interview with as many original youth selected for the study as possible. Therefore, 18% of the interviews were partially or completely conducted by telephone in additional to the face-to-face household interviews. The Survey Research Center (SRC) at the Institute for Social Research, an internationally known survey research data collection organization, collected the data for the NSAL-A as part of a larger multiple study effort for NIMH. This multiple method mode of interviewing is often used to complete interviews in national studies rather than lose data as missing data

or replace subjects, which would introduce different types of bias into the study often more difficult to correct.[20–22]

The majority of adolescents in the study (89%) were born in the U.S., while 9% were born outside the U.S. We could not determine the birthplace of the remaining 2% of the respondents. Among CB youth, 26% were born outside the U.S., and about half (n=47) came to the U.S. less than 10 years before the interview, while the other half (n=45) had been in the U.S. between 11–17 years. Among African American youth, 99% were born in the U.S. and 3 came to the U.S. less than 10 years ago, while only 1 had been in the U.S. between 11–17 years. Thus, the majority of youth in our sample lived in the U.S. most of their life. We did not identify any new immigrants in this sample. However, 72% of the CB adolescents had one or more parents (n=259) who were born outside the U.S.

Highly trained and supervised SRC interviewing staff helped to reduce bias because of the use of computer-assisted data collection for both the face-to-face and telephone interviews, which were prearranged. The same questionnaire was used for both modes of data collection. Face-to-face interviews were always the first option and decision rules were in place as to when the mode of interview would change. Systematic assessments of key demographic questions initially were made to determine if there was a pattern in which adolescents were completing telephone interviews. No differences were found between the two methods.

The 19 *DSM-IV-TR* mental disorders assessed in the NSAL included anxiety disorders (panic disorder, agoraphobia, social phobia, generalized anxiety disorder, post-traumatic stress disorder), mood disorders (major depressive disorder, dysthymia, irritable major depression, bipolar I and II), substance disorders (alcohol abuse, alcohol dependence, drug abuse, drug dependence), impulse-control disorders (oppositional-defiant disorder, conduct disorder, intermittent explosive disorder), and eating disorders (anorexia, bulimia, binge eating disorder). Lifetime, 12-month, and 3-day *DSM-IV-TR* diagnoses were made for each applicable disorder. Similar to the adult dataset, summary variables created for lifetime and 12-month *DSM-IV-TR* diagnoses indicated if a respondent met criteria for any anxiety, mood, substance, impulse, or eating disorders.

Differences in outcomes among African Americans and Caribbean Blacks may exist because of differences in their personal histories and opportunity structures in this country. Understanding ethnic variations in the classification and correlates of eating disorders within the Black population is important for determining risk factors, progression, and treatment approaches. To account for within group differences among Blacks, both African Americans and Caribbean Blacks are explored in this study. The research agenda of this study addresses the following questions:

1. How will the prevalence rates of eating disorders compare between standard *DSM-IV-TR* criteria and culturally altered criteria based on previous literature among two Black ethnic groups?
2. Are the sociodemographic correlates of eating disorders among African Americans and Caribbean Blacks the same?
3. What are the sociodemographic correlates of obesity, comorbidities, and other risk factors that could be associated with the development of eating disorders? See Table 1 for these criteria.

Methods

Participants

A total of 5,191 adults (African American [n= 3,570], and Caribbean Blacks [n= 1,621]) and 1,170 adolescents (African American [n= 810] and Caribbean Blacks [n= 360]) met the criteria for inclusion in the study. Participants self-identified as either African American or Caribbean Black. The Caribbean Blacks indicated the length of time they had been living in the United States. Among the Caribbean countries sampled, seven countries (Jamaica, Haiti, Trinidad and Tobago, Guyana, Belize, Puerto Rico, and Barbados) constituted the majority (67.5%) of the respondents. Gender distribution was similar among African Americans (44% male, 56% female) and Caribbean Blacks (51% male, 49% female).

Instruments and procedures

Data collection occurred between February 2001 to March 2003. A secondary analysis of data collected from the NSAL is being used in the present research. The response rate was 73% among adults and 81% among adolescents. Prior to beginning the interviews, informed consent was obtained from the adolescents' parents or guardian and assent was obtained from the adolescent. Informed consent also was obtained for the adults participating in the study. Face-to-face interviews were conducted with adults and adolescents in their homes. Approximately 18% of the interviews were conducted either entirely or partially by telephone for participants who were unable to schedule home interviews.

Instruments used in the study included the World Mental Health (WMH) Composite International Diagnostic Interview (WMH-CIDI-WHO Organization 2004 modified) and the *DSM-IV-TR* (2000) eating disorders criteria.[21] The eating disorder measures were not modified from those used in the National Comorbidity Survey-Revised (NCS-R) for the reporting of eating disorders among Blacks using current standard criteria.[15] In addition to using standard eating disorder criteria, the present study explored additional criteria to enhance diagnosis of eating disorders among Blacks. Because cultural differences existed in the development of eating disorders, standard criteria in the *DSM-IV-TR* that might not apply to Blacks (e.g., body image disturbance, minimum weight requirements for diagnosis, compensatory behaviors) have been eliminated. The prevalence of eating disorders among Blacks in the NSAL using standard and culturally altered criteria is presented in the present study. More details of the methodology used in the NSAL have been previously described.[22] A technical report explaining details of sample design, weighting, and variance estimation for NSAL can be found in published research.[20,23]

Sociodemographic correlates include race/ethnicity (African American or Caribbean Black), age (18–24, 25–34, 35–44, or 45 years or older for adults and 13–15, 16–17 for adolescents), gender, highest level of education attained (0–11, 12, 13–15, or 16 years or older), marital status (married or with partner, never married, or previously married), employment status (employed, unemployed, or not in labor force for adults, and employed *vs.* unemployed for adolescents), and poverty index defined as a ratio of respondent household income to 2001 U.S. Census Bureau Poverty Thresholds (0–1.25 poverty, 1.26–1.49 low-income, 1.50–2.99 low-average-income, 3.00 or greater high-average-income for adults, and 1.25 or less below poverty, 1.26 or greater above poverty for adolescents). Eating disorders were defined using the *DSM-IV-TR* criteria. The participants were coded as yes/no having met the criteria for the eating disorder or not. This information was then applied to the examination of the various correlates studied.

Obesity for both adults and adolescents was defined by six weight class categories using respondents' body mass index (BMI; See Table 1). Self-reported height and weight for each participant were used to calculate BMI. The concept of body image was obtained by asking

each respondent if they considered themselves very overweight, somewhat overweight, only a little overweight, just right, or underweight. The purpose of this question was not to measure body image as a psychosocial variable, but to compare with the participants' calculated BMI to determine body image disturbance.

Analysis

Analysis procedures were used to adjust standard errors, confidence intervals, and significance tests for the complex sample design of the NSAL. All analyses were weighted to be nationally representative of populations and subgroups of interests.[20,23] The weights adjusted for variations in probabilities of selection within households, and for the non-response of households and individuals. The weighted sample was post-stratified to national population distributions for gender and age subgroups among Blacks.

Crosstabulations were used to categorize the types of eating disorder cases by ethnicity. Bivariate logistic regression was used to investigate sociodemographic correlates of 12-month and lifetime histories of eating disorders. Multivariate Cox proportional hazards regression,[24,25] with time-varying covariates used to investigate increased risk for developing eating disorders associated with both sociodemographic characteristics and prior onset of other *DSM-IV-TR* disorders. Categorical predictors included ethnicity, gender, age cohort, region of residence, nativity (born in U.S. or not), marital status, education, and the presence/absence of *DSM-IV-TR* anxiety, mood disorders and substance disorders. Education was coded as time-varying by assuming a uniform, chronological education history for each respondent in which 12 years of education corresponded to being a student to age 18, 16 years of education corresponded to being a student to age 22, and other years of education were consistent with this coding scheme. The model coefficients and their 95% confidence intervals were exponentiated and were reported as odds ratios (ORs) for ease of interpretation.

The multivariate Cox proportional hazards model was estimated using R, an open-source statistical programming language and environment (R Development Core Team, 2006), using the survey package[26] to adjust properly standard errors and significance tests for the effects of the weighting, stratification, and clustering of the NSAL sample design. The categorical factors in the model were tested for overall statistical significance with Wald χ^2 tests using the complex design-adjusted variance-covariance matrix of the coefficients. All other analyses were conducted using survey procedures of the SAS Version 9.1.3 software package (SAS Institute, 2005). Both R and SAS use the Taylor-series linearization technique for calculating the complex-design based estimates of variance.

Results

Prevalence

Among the respondents in this sample, BED was the most prevalent eating disorder among both African American and Caribbean Black adults. BN was the second most prevalent eating disorder among adults in this sample followed by AN (Table 2). Among adolescents, BED was the most prevalent eating disorder for both African American (AA) and Caribbean Blacks (CB) followed by BN and AN respectively (Table 2).

Anorexia nervosa (AN) and alteration of classification criteria

In addition to the prevalence rates for AN, BN, and BED based on *DSM-IV-TR* standard criteria, Table 2 also presents the prevalence rates based on altered criteria. The lifetime prevalence and standard error (*SE*) for AN using the *DSM-IV-TR* standard criteria (See Table 1) was 0.14% (.07) with a rate of 0.15% (0.07) for African Americans and 0% for

Caribbean Blacks. Lifetime prevalence for African American adolescents was 0.21% (0.15) and 0% for Caribbean Black youth with a 0.19% (0.15) overall prevalence rate for adolescents. Six African American adults, or a prevalence rate of 0.18% (0.09), and two African American adolescents, or a prevalence rate of 0.21% (0.16), met the **A, B, D** criteria for diagnosing AN – i.e., they met the criteria if body image disturbance (**C**) were excluded. No Caribbean Black adults or adolescents met the **A, B, D** criteria for AN. Using only criteria **A** and **B** to determine disorder history resulted in an increase in the prevalence rate for adults to 0.36% (0.10) with a rate of 0.37% (0.11) for African Americans and 0.13% (0.08) for Caribbean Blacks. Similarly, the overall prevalence rate for adolescents increased to 0.50% (0.26), with a rate of 0.53% (0.28) for African Americans and 0.09% (0.09) for Caribbean Blacks. Removing minimum weight requirements (Criteria **A**) for a diagnosis of AN yielded the greatest disorder rates among all adults (59.7%, 4.2), African Americans (61.1%, 4.4), Caribbean Blacks (32.9%, 9.2) and all adolescents (52.2%, 9.8), African Americans (51.8%, 9.9), Caribbean Blacks (69.8%, 14.9). See Table 2.

Bulimia Nervosa (BN) and Alteration of Classification Criteria

Examination of lifetime prevalence and *SE* for BN using the entire *DSM-IV-TR* criteria (See Table 1) resulted in a lifetime prevalence of 1.44% (0.20) with a rate of 1.40% (0.23) for African American adults and 1.98% (0.79) for Caribbean Blacks. For adolescents, the prevalence rate was 0.52% (0.24), with the Caribbean Black youth prevalence rate of 0.71% (0.34) slightly higher than the rate of 0.50% (0.26) for African Americans. Using criteria **A**, **B**, **C**, and **E**, resulted in a prevalence rate of 1.60 (0.19) for the total sample, 1.57 (0.20) for African American adults, and 1.91% (0.90) for Caribbean Blacks. (In this case, criterion **D** self-evaluation is unduly influenced by body shape and weight – is eliminated.) For adolescents, African Americans had a prevalence rate of 0.60% (0.28), with the prevalence rate for Caribbean Blacks 0.71% (0.30). See Table 2.

We conducted analyses to assess the extent of body image disturbance in African Americans and Caribbean Blacks. Body image disturbance was determined by comparing self-reported feelings about weight and actual body mass index (BMI) among respondents with a reported case of BN at any time in their life. If respondents answered that they were overweight and their BMI indicated that they were normal weight, then the self-evaluation was considered to be body image disturbance. Among participants who met the standard *DSM-IV-TR* criteria for BN, minus Criterion **D**, 11.91% (5.63) of adults including 11.7% (6.0) African Americans and 14.1% (15.3) Caribbean Blacks appeared to have body image disturbance. These same analyses could not be completed adequately in the adolescent sample due to the small number of adolescents who met the criteria for lifetime BN.

Binge eating (BED) and alteration of classification criteria

Current *DSM-IV-TR* criteria (see Table 1) for lifetime BED resulted in a prevalence rate of 5.08% (0.33) for all adults in the sample, while the rate for African Americans was 5.02% (0.34) and 5.78% (1.47) for Caribbean Blacks. Among adolescents, the overall rate was 2.44% (0.54). The African American adolescent prevalence rate was 2.22% (0.52) with a prevalence rate of 5.62% (3.22) for Caribbean Black adolescents. When examining BED using only criteria **A**, the prevalence rates for the overall adult sample increased to 5.52% (0.36), including African American adults (5.43%; 0.36) and Caribbean Black adults (6.72%; 1.90). The adolescent total sample increased to 3.31% (0.64), with African American adolescents with 3.10% (0.63) and Caribbean Black adolescents with 5.90% (3.60). See Table 2.

Sociodemographic correlates of eating disorders (AN, BN, and BED)

Results indicated that among African American adults, the unemployed were 2.01 times more likely than the employed to have a lifetime history of an eating disorder (Table 3), while those with low or high average incomes were approximately half as likely as those living in poverty to have a lifetime history of an eating disorder. Among Caribbean Black adults, none of the sociodemographic factors were significantly associated with lifetime history of eating disorder (Table 3).

African Americans had significantly greater odds of being classified with an eating disorder in the past 12-months when they had never been married in comparison to being married or having a partner (*OR* = 1.93). They also had greater odds of being classified with an eating disorder if they were unemployed than if they were employed (*OR* = 2.85; Table 4). Those who had high average or above incomes had significantly lower odds of having an eating disorder in the last 12 months compared with those living in poverty (*OR* = 0.46). Among Caribbean Blacks, women were more likely than men (*OR* = 2.64) and those age 45 or older were much less likely than those age 18 to 24 (*OR* = 0.12) to have an eating disorder in the 12 months preceding the study (Table 4).

Obesity

Both African American and Caribbean Black adults and adolescents had a greater prevalence of being overweight or obese than being classified with AN, BN, or BED. The prevalence of overweight among adolescents was 19.8% (African Americans) and 12.1% (Caribbean Blacks), with obesity prevalence of 21.8% (African Americans) and 7.9% (Caribbean Blacks). Sixty-six percent of African American and 59% Caribbean Black adults in this sample were classified as overweight or obese. A greater number of African American adults than of Caribbean Black adults were found to be significantly ($p < .05$) overweight or obese. Thirty percent of African American and 29% of Caribbean Black adolescents were classified as overweight or obese, but no significant differences were found between African American and Caribbean Black adolescents in terms of overweight and obesity.

Sociodemographic correlates of being overweight were examined for both adults and adolescents (Table 5). For both African Americans and Caribbean Blacks, respondents in one of the three older age groups were at least two times more likely than respondents ages 18 to 24 years to be overweight. African Americans and Caribbean Blacks participants who never married were approximately half as likely to be overweight than those who were married or living with a partner. Among African Americans, the unemployed (*OR* = 0.69) were less likely than the employed, and those with a college degree (*OR* = 0.75) were less likely than those without a high school diploma to be overweight (Table 5). For Caribbean Blacks, respondents with a college degree or more years of education (*OR* = 1.51) were more likely than those with less than a high school diploma to be overweight, while those with low incomes (*OR* = 0.36) were less likely than those living in poverty to be overweight (Table 5). No statistically significant differences were found for sociodemographic correlates of being overweight between African American and Caribbean Black adolescents.

Risk factors and comorbidities associated with developing any eating disorder

All factors investigated, except marital status, were significantly related to developing eating disorders. Although no significant main effects were found for ethnicity or gender, a statistically significant interaction was found between the two variables. Specifically, Caribbean Black women were 5.78 times more likely to develop any eating disorder than Caribbean Black men, controlling for all other variables (Table 6). The youngest cohort was more at risk for developing an eating disorder than the oldest (*OR* = 2.63; Table 6).

Respondents living in the Midwest (*OR* = 2.12) and West (*OR* = 2.24) regions were more likely to develop eating disorders than respondents who were living in either the Northeast or the South. Those born in the U.S. were 2.28 times more likely to develop an eating disorder than those who were those born in another country. Having achieved 12 years of education was found to be a risk factor for developing an eating disorder (*OR* = 3.42). Finally, prior onset of anxiety, mood, and substance disorders were all significant risk factors for developing an eating disorder, with the prior onset of anxiety disorders displaying the most pronounced effect on eating disorders (Table 6).

Discussion

Prevalence

This exploratory study assessed altered classification criteria for eating disorders based on cultural considerations and examined associated sociodemographic correlates and risk factors. A greater number of people in this sample were identified with problematic eating patterns and concerns with being overweight than those who met the minimum weight criteria to be classified as AN (see Table 2). When only criteria **A** (See Table 1) in the *DSM-IV-TR* was used to assess for AN among this population, the prevalence increased substantially for both African American and Caribbean Black adults and adolescents.[15]

BN was more prevalent than AN. Eliminating *DSM IV-TR* criteria **C**, **D**, and **E** (see Table 1) increased the number of people who would be classified as bulimic.[15] Research by O'Neill concluded that African Americans have less body image dissatisfaction and desire to be thin than Whites.[3] O'Neil also indicated that risk factors for eating disorders among White women were not predictive of disordered eating in African American women.[3] Six (11.91%) cases with body image disturbance were found among those with at least one episode (an instance associated with binge eating, depression, and purging) of BN during their lifetime. Therefore, requirements of body image disturbance (desiring to be thin) and compensatory behaviors within a given time period as well as a lack of association with AN may not be applicable to Blacks when assessing for BN.

Binge eating disorder among Blacks of Caribbean origin may be explained by the abundance, variety, and availability of foods in the United States. Fast food restaurants are not as readily available in the Caribbean Islands as they are in the United States. With this new found availability to fatty and fried foods that are perceived as staples of the American teenage diet, Caribbean Black teens may yield to pressures to over consume in order to fit in with their peers. Behaviors associated with binge eating can become habitual, leading to other co-morbidities, such as: obesity, hypertension, depression, as well as other physical and emotional disorders. Further study of this topic is needed before conclusions can be drawn regarding BEDs among Caribbean Black adolescents in the United States.

Changing criteria also increased the number of people classified with BED. The use of criteria **A** only (See Table 1) yielded a greater number of adults and adolescents who could be classified as having BED.[15] Feelings of distress, use of compensatory behaviors, and time limitations on the disordered eating tended to exclude Blacks from classification rather than provide diagnostic assistance. The findings were consistent with the eliminated classification criteria regarding compensatory behaviors for BN.

Current classifications for BED are inadequate to assess and identify African Americans and Caribbean Blacks with this disorder. Obesity, which can be related to binge eating, is not classified in the *DSM-IV-TR* as an independent eating disorder.[27] Given the obesity rate among Blacks, we suggest that one way to provide better diagnosis and treatment for more people with BED would be to link the criteria to weight levels reflecting obesity as a

symptom. Our goal is not to classify obesity as an eating disorder, but as a symptom of BED. A suggestion of classifying overweight and obesity as a symptom of an eating disorder (BED) is warranted considering that 66% of African American and 59% Caribbean Black adults and 30% of African American and 29% of Caribbean Black adolescents in the study were classified as overweight or obese. Sociodemographic results regarding overweight and obesity in this study were consistent with other studies that found African American women had the highest rates of overweight and obesity than any other group in the United States.[28,29] Suggestions for adjusting minimum weight criteria is needed to normalize what would be most reflective for symptoms of eating disorders in Blacks, who tend to be heavier than Whites. These recommendations should consider the multifaceted nature of obesity, as well as cultural differences – two factors not addressed in the current *DSM-IV-TR*.[15]

African American and Caribbean Black adults who were older and married or living with a partner were more likely to be overweight. Caribbean Blacks with at least a college education were at greater risk for being overweight than those with less than a high school education. African Americans with the highest levels of education were at least risk for being overweight. These findings highlight potential differences in cultural contexts that could contribute to development of eating pathology within Black communities. Demographic characteristics of participants in the present study provide support that ethnic differences within the Black population need to be considered when diagnosing eating disorders. Discrepancies in educational levels between African Americans and Caribbean Blacks need to be examined further to determine why completion of a college education has an adverse effect in terms of eating disorders on Caribbean Blacks, but a positive effect on African Americans.

Characteristics of participants who were most at risk for developing eating disorders included: women; younger Blacks, those with 12 years of education, United States native; living in the Midwest or Western regions; and having a prior onset of anxiety, mood, or substance disorder. Many studies have supported the finding that women are more likely than men to develop eating disorders.[11,30] Additionally, some cultural differences between United States natives and immigrants should be considered. For instance, the possibility that eating disorders may be increasing in the Caribbean should be addressed, but as a result of assimilation and differences in cultural norms, Caribbean Blacks may be more resistant to eating disorders, binge eating, and obesity until they move to the United States.[31]

On a large scale, altering the criteria for eating disorders could benefit the welfare of a sizable percentage of the population. Assessing criteria that ignore negative eating habits and sociodemographic correlates associated with eating disorders among Blacks could expose a higher occurrence of these disorders (e.g., BED). Tailoring the criteria and then systematically cataloging cases of eating disorders that arise from this change is the first step towards addressing an understudied health problem among African Americans and Caribbean Blacks. It is also a step toward developing and implementing preventative strategies to minimize eating disorders in future generations. Alterations in the *DSM-IV-TR* could aid in identifying cases of eating disorders among both African Americans and Caribbean Blacks that otherwise might remain unnoticed.

Comorbidity

Eating disorders are considered uncommon among African Americans and Caribbean Blacks because they are frequently underreported, untreated, or associated with other comorbid conditions, such as obesity, anxiety, mood, and substance disorders. According to Cachelin *et al*. Black girls and women tend to be heavier than their White counterparts, but to be less dissatisfied with their weight, tend to diet and exercise less to reduce their weight,

and perceive themselves to be thinner than they are.[32] Sociocultural factors (e.g., racism, discrimination, and sexism) also may play a role in why some Blacks are affected by eating disorders, overeating, and mental disorders.[19] Addictions to substances, food, or certain behaviors may be important in explaining how eating disorders develop before, during, or after other mental illnesses. Screening for comorbid conditions in association with a diagnosis of eating disorders is important before outcomes of eating disorders and associated comorbidities become more deleterious to the health of African Americans and Caribbean Blacks.

Definitions of weight in future versions of *DSM* should consider the less stringent criteria of ideal body weight that Black women often hold when defining eating disorders. According to the *DSM-IV-TR*, all of the criteria must be met for a diagnosis of an eating disorder.[15] We suggest that more flexible criteria be incorporated into future versions of *DSM*, requiring only a certain number of criteria to be met based on the cultural norms of the patient. Additional work must be done to explore eating disorders among large populations of Blacks to reduce both physical and emotional health risks. Identifying individuals who meet these criteria and providing early prevention, treatment, and interventions could improve the diagnosis and treatment of Blacks with eating disorders.

Limitations

Several limitations must be noted. Data used for this study had been collected as part of a larger parent study. Therefore, the researcher of the present study lacked control over selection of study variables. The study was limited to African American and Caribbean Blacks. The use of subjective measures (i.e., self-report) may have introduced bias that could affect study outcomes. Self-reported height and weight were used to calculate BMI for this study. Participants in the study may have given responses that were socially acceptable instead of providing accurate accounts of the study variables. Despite these limitations, the approach employed in the present study with an adequate sample size illustrated the use of the study variables that helped construct a more complete picture of the complex nature of eating disorders among African Americans and Caribbean Blacks.

Summary

In summary, this paper provides information to expand the body of knowledge on eating disorders among Blacks. This study offers insight into eating disorders between two distinct subgroups of Blacks (African Americans and Caribbean Blacks) and how alterations in diagnostic criteria for eating disorders may be warranted for Blacks. Information to health care professionals regarding the prevalence of eating disorders among African Americans and Caribbean Blacks when the *DSM-IV-TR* criteria were relaxed based on cultural considerations is presented in this paper. As a beginning point, this paper provides suggestions for changes in future editions of the *DSM*.

Acknowledgments

The National Survey of American Life (NSAL) is supported by the National Institute of Mental Health (grant U01-MH57716) with supplemental support to this grant from the National Institutes of Health Office of Behavioral and Social Science Research; a National Institute on Aging (grant 5R01 AG02020282) with supplemental support from the National Institute on Drug Abuse, and the University of Michigan. Preparation of this article was also aided by grants from the National Institute of Mental Health (1P01 MH58565 and 1T32 MH67555). Additional support for this work was provided by a National Institutes of Health grant (1 KL2 RR024987-01).

References

1. Gilbert SC. Eating disorders in women of color. Clinical Psychology: Science and Practice. 2003; 10(4):444–55.

2. Striegel-Moore RH, Wilfley DE, Pike KM, et al. Recurrent binge eating in black american women. Arch Fam Med. 2000 Jan; 9(1):83–7. [PubMed: 10664648]
3. O'Neill SK. African american women and eating disturbances: A meta-analysis. Journal of Black Psychology. 2003; 29(1):3–16.
4. Gordon KH, Castro Y, Sitnikov L, et al. Cultural body shape ideals and eating disorder symptoms among white, latina, and black college women. Cultur Divers Ethnic Minor Psychol. 2010 Apr; 16(2):135–43. [PubMed: 20438151]
5. Kronenfeld LW, Reba-Harrelson L, Von Holle A, et al. Ethnic and racial differences in body size perception and satisfaction. Body Image. 2010 Mar; 7(2):131–6. [PubMed: 20096656]
6. Fernandes NH, Crow SJ, Thuras P, et al. Characteristics of black treatment seekers for eating disorders. Int J Eat Disord. 2010 Apr; 43(3):282–5. [PubMed: 19343798]
7. Alegria M, Woo M, Cao Z, et al. Prevalence and correlates of eating disorders in latinos in the united states. Int J Eat Disord. 2007 Nov; 40(Suppl):S15–21. [PubMed: 17584870]
8. Becker AE. Culture and eating disorders classification. Int J Eat Disord. 2007 Nov; 40(Suppl):S111–6. [PubMed: 17647276]
9. Franko DL. Race, ethnicity, and eating disorders: Considerations for DSM-V. Int J Eat Disord. 2007 Nov; 40(Suppl):S31–4. [PubMed: 17879288]
10. Taylor JY, Caldwell CH, Baser RE, et al. Prevalence of eating disorders among blacks in the national survey of american life. Int J Eat Disord. 2007 Nov; 40(Suppl):S10–4. [PubMed: 17879287]
11. Streigel-Moore R, Dohm FA, Kraemer HC, et al. Eating disorders in white and black women. The American Journal of Psychiatry. 2003:1326–31. [PubMed: 12832249]
12. Striegel-Moore RH, Dohm FA, Kraemer HC, et al. Risk factors for binge-eating disorders: An exploratory study. Int J Eat Disord. 2007 Sep; 40(6):481–7. [PubMed: 17573685]
13. Striegel-Moore RH, Bulik CM. Risk factors for eating disorders. American Psychologist. 2007; 62(3):181–98. [PubMed: 17469897]
14. Marques L, Alegria M, Becker AE, et al. Comparative prevalence, correlates of impairment, and service utilization for eating disorders across US ethnic groups: Implications for reducing ethnic disparities in health care access for eating disorders. Int J Eat Disord. 2011 Jul; 44(5):412–20. [PubMed: 20665700]
15. American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 4. Washington, D.C: American Psychiatric Association; 2000. (DSM-IV-TR)
16. Flegal KM, Carroll MD, Ogden CL, et al. Prevalence and trends in obesity among US adults, 1999–2008. JAMA. 2010 Jan 20; 303(3):235–41. [PubMed: 20071471]
17. Henderrson, KE.; Brownell, KD. Handbook of eating disorders and obesity the toxic environment and obesity: Contributions and cure. Thompson, JK., editor. New York, New York: Wiley and Sons; 2004.
18. Yanovski SZ. Binge eating disorder and obesity in 2003: Could treating an eating disorder have a positive effect on the obesity epidemic? Int J Eat Disord. 2003; 34 (Suppl):S117–20. [PubMed: 12900992]
19. Jackson JS, Knight KM, Rafferty JA. Race and unhealthy behaviors: Chronic stress, the HPA axis, and physical and mental health disparities over the life course. Am J Public Health. 2010 May; 100(5):933–9. [PubMed: 19846689]
20. Heeringa SG, Wagner J, Torres M, et al. Sample designs and sampling methods for the collaborative psychiatric epidemiology studies (CPES). Int J Methods Psychiatr Res. 2004; 13(4): 221–40. [PubMed: 15719530]
21. Kessler RC, Ustun TB. The world mental health (WMH) survey initiative version of the world health organization (WHO) composite international diagnostic interview (CIDI). Int J Methods Psychiatr Res. 2004; 13(2):93–121. [PubMed: 15297906]
22. Jackson JS, Torres M, Caldwell CH, et al. The national survey of american life: A study of racial, ethnic and cultural influences on mental disorders and mental health. Int J Methods Psychiatr Res. 2004; 13(4):196–207. [PubMed: 15719528]
23. Herringa SG, Torres M, Sweetman J, et al. Sample design, weighting, and variance estimation for the 2001–2001 national survey of american life (NSAL) adult sample. 2006

24. Cox DR. Regression models and life-tables. Journal of the Royal Statistical Society, Series B (Methodological). 1972; 34(2):187–220.
25. Hosmer, DW.; Lemeshow, S.; May, S. Applied survival analysis: Regression modeling of time toe vent data. 2. New York, New York: Wiley Interscience; 2008.
26. Lumley T. Analysis of complex survey samples. Journal of Statistical Software. 2004; 9(1):1–19.
27. Devlin M. Is there a place for obesity in DSM-V? International Journal of Eating Disorders. 2007; 40(S3):S83–8. [PubMed: 17683083]
28. Roger VL, Go AS, Lloyd-Jones DM, et al. Heart disease and stroke statistics--2011 update: A report from the american heart association. Circulation. 2011 Feb 1; 123(4):e18–e209. [PubMed: 21160056]
29. Roehrig M, Masheb RM, White MA, et al. The metabolic syndrome and behavioral correlates in obese patients with binge eating disorder. Obesity (Silver Spring). 2009 Mar; 17(3):481–6. [PubMed: 19219063]
30. Hudson JI, Hiripi E, Pope HG Jr, et al. The prevalence and correlates of eating disorders in the national comorbidity survey replication. Biol Psychiatry. 2007 Feb 1; 61(3):348–58. [PubMed: 16815322]
31. McArthur LH, Holbert D, Pena M. An exploration of the attitudinal and perceptual dimensions of body image among male and female adolescents from six latin american cities. Adolescence. 2005 Winter;40(160):801–16. [PubMed: 16468673]
32. Cachelin F, Veisel C, Barzegarnazari E, et al. Disordered eating, acculturation, and treatment-seeking in a community sample of hispanic, asian, black and white women. Psychology of Women Quarterly. 2000; 24(3):244–53.

Table 1

Eating Disorders and Associated Diagnostic Criteria

Eating Disorder	*DSM-IV-TR* Diagnostic Criteria	Excluded Altered Criteria
Anorexia Nervosa (AN)	**A.** refusal to maintain body weight at or above minimally normal weight for age and height; **B.** intense fear of gaining weight or becoming fat; **C.** body image disturbance; and **D.** amenorrhea of at least 3 consecutive cycles	**B** intense fear of gaining weight or becoming fat; **C** body image disturbance; and **D** amenorrhea of at least 3 consecutive cycles
Bulimia Nervosa (BN)	**A.** recurrent episodes of binge eating characterized by one or both of the following **1.** eating in a discrete period of time, within any 2 hour period, an amount of food that is larger than most people would eat during a similar period **2.** lack of control over eating during the episode; **B.** recurrent inappropriate compensatory behavior in order to prevent weight gain; **C.** binge eating and compensatory behaviors both at least twice a week for 3 months; **D.** self-evaluation is unduly influenced by body shape and weight; **E.** disturbance does not occur exclusively during episodes of AN	**A.** recurrent episodes of binge eating characterized by one or both of the following **1.** eating in a discrete period of time, within any 2 hour period, an amount of food that is larger than most people would eat during a similar period **2.** lack of control over eating during the episode; **B.** recurrent inappropriate compensatory behavior in order to prevent weight gain;
Binge Eating Disorder (BED)	**A.** recurrent episodes of Binge Eating characterized by one or both of the following: **1.** eating in a discrete period of time, within any 2 hour period, an amount of food that is larger than most people would eat during a similar period, **2.** lack of control over eating during the episode; **B.** binge eating episodes associated with 3 or more of the following **1.** eating more rapidly than normal, **2.** eating until feeling uncomfortably full, **3.** eating large amounts of food when not feeling physically ill, **4.** eating alone because of being embarrassed by how much one is eating, **5.** feeling disgusted with oneself, depressed, or very guilty after overeating **C.** marked distress regarding binge eating is present; **D.** occurs on average at least 2 days per week for 6 months; **E.** not associated with inappropriate use of compensatory behaviors	**A.** recurrent episodes of Binge Eating characterized by one or both of the following: **1.** eating in a discrete period of time, within any 2 hour period, an amount of food that is larger than most people would eat during a similar period, **2.** lack of control over eating during the episode;
Obesity	Body mass index (BMI) is a measure of obesity that is calculated using the height and weight of the individuals. The results are divided into six classifications: **a.** Underweight 0–18.49,	

Eating Disorder	*DSM-IV-TR* Diagnostic Criteria	Excluded Altered Criteria
	b. Healthy Weight 18.50–24.99, **c.** Overweight 25.0–29.99, **d.** Obese Class I 30.0–34.99, **e.** Obese Class II 35.0–39.99, and **f.** Obese Class II = 40).	

Note: Information from Diagnostic and Statistical Manual of Mental Disorders, Volume 4, Text Revision (DSM- IV-TR) [15]

Table 2

Prevalence of DSM-IV-TR World Mental Health Version of the Composite International Diagnostic Interview Eating Disorder

	Total Sample	African American	Caribbean Black
	Adults		
Anorexia	**0.14 (0.07)**	**0.15 (0.07)**	**0.00 (0.00)**
ABD Criteria	0.17 (0.09)	0.18 (0.90)	0.00 (0.00)
AB Criteria	0.36 (0.10)	0.37 (0.11)	0.13 (0.08)
A Criterion	1.20 (0.21)	1.25 (0.22)	0.46 (0.16)
Bulimia	**1.44 (0.20)**	**1.40 (0.23)**	**1.98 (0.79)**
ABCE Criteria	1.60 (0.19)	1.57 (0.20)	1.91 (0.90)
ABC Criteria	1.64 (0.20)	1.62 (0.20)	1.91 (0.87)
AB Criteria	2.79 (0.27)	2.72 (0.28)	3.80 (1.18)
Binge Eating Disorder	**5.08 (0.33)**	**5.02 (0.34)**	**5.78 (1.47)**
A Criterion	5.52 (0.36)	5.43 (0.36)	6.72 (1.90)
	Adolescents		
Anorexia	**0.19(0.15)**	**0.21 (0.16)**	**0.00 (0.00)**
ABD Criteria	0.19 (0.15)	0.21 (0.16)	0.00 (0.00)
AB Criteria	0.50 (0.26)	0.53 (0.28)	0.09 (0.09)
A Criterion	1.08 (0.39)	1.13 (0.42)	0.37 (0.22)
Bulimia	**0.52 (0.24)**	**0.50 (0.26)**	**0.71 (0.30)**
ABCE Criteria	0.60 (0.26)	0.60 (0.28)	0.71 (0.30)
ABC Criteria	0.60 (0.26)	0.60 (0.28)	0.71 (0.30)
AB Criteria	0.92 (0.32)	0.93 (0.34)	0.71 (0.30)
Binge Eating Disorder	**2.44 (0.54)**	**2.22 (0.52)**	**5.62 (3.22)**
A Criterion	3.31 (0.64)	3.10 (0.63)	5.90 (3.60)

*Data are reported as percentages (standard error)

**The numbers in the table do not add up due to weighted sample

Table 3

Sociodemographic Correlates of Lifetime Disorders by Ethnicity

	African Americans		Caribbean Blacks	
Variable	**OR**	**95% CI**	**OR**	**95% CI**
Adults				
Age				
18 to 24	1.00**		11.00***	
25 to 34	0.66**	0.36–1.23	11.31***	0.25–106.77
35 to 44	0.74**	0.36–1.56	11.17***	0.31–104.49
45 or older	0.74**	0.38–1.47	10.44***	0.11–101.72
Gender				
Men	1.00**		11.00***	
Women	1.40**	0.91–2.16	12.01***	0.68–105.91
Marital Status				
Married – partner	1.00**		11.00***	
Never married	1.51**	0.86–2.64	11.45***	0.39–105.36
Previously married	1.45**	0.98–2.16	10.98***	0.59–101.63
Work Status				
Employed	1.00**		11.00***	
Unemployed	2.01**	1.17–3.44	10.32***	0.09–101.13
Not in labor force	1.28**	0.84–1.95	11.30***	0.35–104.90
Education				
0 to 11 years	1.00**		11.00***	
12 years	1.13**	0.73–1.74	12.23***	0.69–107.21
13 to 15 years	0.69**	0.39–1.20	10.93***	0.29–103.00
16 + Years	0.51**	0.25–1.02	12.10***	0.32–113.94
Poverty Index				
Poverty	1.00**		11.00***	
Low income	0.98**	0.58–1.67	10.23***	0.02–102.08
Low average	0.57**	0.34–0.95	10.68***	0.18–102.54
High average	0.50**	0.29–0.87	10.60***	0.16–102.27
Adolescents				
Age				
13 to 15	1.00**		11.00***	
16 to 17	0.73**	0.27–1.99	10.30***	0.03–102.85
Gender				
Men	1.00**		11.00***	
Women	1.51**	0.75–3.05	10.16***	0.02–101.30

	African Americans		Caribbean Blacks	
Variable	**OR**	**95% CI**	**OR**	**95% CI**
Work Status				
Unemployed	1.00 **		11.00 ***	
Employed	1.32 **	0.39–4.49	10.98 ***	0.17–105.53
Poverty Index				
Below poverty	1.00 **		11.00 ***	
Above poverty	0.68 **	0.23–1.95	18.26 ***	0.66–104.06

* $p \leq .05$;

** $p \leq .01$;

*** $p \leq .001$

Table 4

Sociodemographic Correlates of 12-Month Eating Disorders by Ethnicity – Adults

	African Americans		Caribbean Blacks	
Variable	**OR**	**95% CI**	**OR**	**95% CI**
Age				
18 to 24	1.00**		1.00**	
25 to 34	0.76**	0.40–1.46	0.52**	0.15–1.76
35 to 44	1.06**	0.53–2.11	0.44**	0.12–1.56
45 or older	0.93**	0.37–2.34	0.12**	0.04–0.41
Gender				
Men	1.00**		1.00**	
Women	1.31**	0.82–2.79	2.64**	1.30–5.40
Marital Status				
Married – partner	1.00**		1.00**	
Never married	1.93**	1.03–3.63	2.22**	0.87–5.65
Previously married	1.49**	0.77–2.85	1.28**	0.51–3.24
Work Status				
Employed	1.00**		1.00**	
Unemployed	2.85**	1.40–5.79	0.60**	0.13–2.73
Not in labor force	1.21**	0.66–2.22	1.78**	0.49–6.41
Education				
0 to 11 years	1.00**		1.00**	
12 years	0.88**	0.47–1.63	2.11**	0.68–6.47
13 to 15 years	0.48**	0.21–1.10	1.94**	0.47–7.98
16 + Years	0.56**	0.24–1.35	0.47**	0.16–1.45
Poverty Index				
Poverty	1.00**		1.00**	
Low income	0.80**	0.35–1.82	0.69**	0.09–5.46
Low average	0.48**	0.21–1.11	1.17**	0.37–3.71
High average	0.46**	0.21–0.98	0.38**	0.13–1.10

* $p \leq .05$;

** $p \leq .01$;

*** $p \leq .001$

Table 5

Sociodemographic Correlates of Being Overweight by Ethnicity

	African Americans		Caribbean Blacks	
Variable	**OR**	**95% CI**	**OR**	**95% CI**
Adults				
Age				
18 to 24	1.00***		1.00**	
25 to 34	2.00***	2.55–14.58	2.64**	1.26–5.54
35 to 44	2.49***	1.86–3.34	3.61**	1.78–7.31
45 or older	2.58***	1.92–3.47	2.61**	1.46–4.73
Gender				
Men	1.00***		1.00**	
Women	1.10***	0.94–1.29	106**	0.75–1.48
Marital Status				
Married – partner	1.00***		1.00**	
Never married	0.56***	0.43–0.72	0.49**	0.37–0.66
Previously married	0.93***	0.72–1.21	0.60**	0.33–1.09
Work Status				
Employed	1.00***		1.00**	
Unemployed	0.69***	0.43–0.72	0.49**	0.35–1.38
Not in labor force	0.98***	0.72–1.21	0.60**	0.33–1.09
Education				
0 to 11 years	1.00***		1.00**	
12 years	0.87***	0.73–1.43	0.83**	0.43–1.60
13 to 15 years	0.84***	0.67–1.05	0.92**	0.51–1.64
16 + Years	0.75***	0.60–0.95	1.51**	1.05–2.16
Poverty Index				
Poverty	1.00***		1.00**	
Low income	1.06***	0.79–1.43	0.36**	0.16–0.83
Low average	1.10***	0.88–1.37	0.69**	0.25–1.96
High average	1.25***	0.94–1.66	1.10**	0.53–2.28
Adolescents				
Age				
13 to 15	1.00***		1.00**	
16 to 17	1.05***	0.70–1.57	1.22**	0.37–4.03
Gender				
Men	1.00***		1.00**	
Women	1.24***	0.87–1.78	1.22**	0.88–1.42

	African Americans		Caribbean Blacks	
Variable	**OR**	**95% CI**	**OR**	**95% CI**
Work Status				
Unemployed	1.00		1.00 **	
Employed	0.76	0.42–1.37	1.24 **	0.36–4.20
Poverty Index				
Below poverty	1.00		1.00 **	
Above poverty	0.99	0.65–1.51	1.25 **	0.39–3.97

* $p \leq .05$;

** $p \leq .01$;

*** $p \leq .001$

Table 6

Multivariate Associations of Sociodemographic Predictors and of NSAL/DSM-IV-TR Disorders with Subsequent Onset of Eating Disorders

Sociodemographic Predictors	OR	95% CI
Ethnicity X Gender		
African American Women	2.41*	0.99–15.88
African American Men	1.75*	0.67–*4.55
Caribbean Black Women	5.78*	2.24–14.91
Caribbean Black Men	1.00*	
χ^2_3; p-value	χ^2_3;= 16.14, p < .001	
Age Cohort		
18 to 29	2.63*	1.39–*4.98
30 to 44	1.75*	0.99–*3.11
45 to 59	1.54*	0.85–*2.76
60 +	1.00*	
χ^2_3;p-value	χ^2_3;= 9.09, p = .03	
Region		
Northeast	1.00*	
Midwest	2.12*	1.23–*3.64
South	0.99*	0.55–*1.76
West	2.24*	1.12–*4.47
χ^2_3;p-value	χ^2_3;= 45.42, p < .01	
Marital Status		
Married	1.00*	
Previously Married	1.65*	0.68–*4.02
Never Married	1.57*	0.89–*2.76
χ^2_2;p-value	χ^2_2;= 2.77, p = 0.25	
Education		
Student	3.06*	0.97–*9.65
0 to 11 years	2.36*	0.83–*6.70
12 years	3.42*	1.24–*9.43
13 to 15 years	1.96*	0.62–*6.20
16+ years	1.00*	
χ^2_4;p-value	χ^2_4;= 6.92, p = 0.14	
Nativity		
U. S. Born	2.28*	1.10–*4.73
Foreign Born	1.00*	
χ^2_1;p-value	χ^2_1;= 4.94, p = 0.03	
Prior Onset of Anxiety Disorder		
No	1.00*	1.99–*4.65
Yes	3.04*	

Sociodemographic Predictors	OR	95% CI
χ^2_1;p-value	χ^2_1;= 26.49, p < 0.01	
Prior Onset of Mood Disorder		
No	1.00*	
Yes	1.92*	1.06–*3.47
χ^2_1;p-value	χ^2_1;= 4.60, p = 0.03	
Prior Onset of Substance Disorder		
No	1.00*	
Yes	2.39*	1.24–*4.61
χ^2_1;p-value	χ^2_1;= 6.81, p < 0.01	