

Obesity Status and Body Satisfaction: Are There Differences Between African American College Females at Black and White Universities?

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Abstract

The goals of this project were to 1) assess obesity status and body satisfaction among African American college students, and 2) to compare differences in these variables between students at a predominantly white university (PWU) and a historically black college and university (HBCU). Four hundred and two undergraduate females completed a self-administered survey (199 HBCU and 203 PWU). The mean BMI for all respondents was 25.24 ± 5.56 . There was no significant difference between schools (HBCU = 25.62 ± 6.0 ; PWU = 24.89 ± 5.10) on BMI. Thirty-seven percent were satisfied/very satisfied with their weight, 36% were somewhat satisfied, and 27% were dissatisfied/very dissatisfied with their weight. There was no significant difference between schools. Fifty-one percent reported weight gain in college. Students at the HBCU who reported weight gain had higher BMI (27.22 ± 0.56) than students at the PWU (25.53 ± 0.52) who reported weight gain ($p < .01$). Fifty-one percent of respondents said they thought about their weight everyday/ almost everyday. There was no significant difference by school ($p > .05$). BMI varied by housing status; students living at home or alone off-campus had significantly higher BMI than those living on campus or off-campus with roommates ($p = .0003$). This study found few significant differences in weight status and body satisfaction between African American college females attending a HBCU and a PWU. Differences were due mainly to the demographic characteristics of the samples, particularly housing arrangement. Implications for college wellness programs are discussed.

Obesity is a major public health problem in the United States (Surgeon General, 2001). Data from the third National Health and Nutrition Examination Survey (NHANES III) show the age-adjusted prevalence of obesity increased from 22.9% (1988-1994) to 30.5% (1999-2000). The prevalence of

overweight increased during this period from 55.9% to 64.5%. Extreme obesity also increased significantly in the population, from 2.9% to 4.7%. Increased prevalence of overweight and obesity was found among all age, gender and racial/ethnic groups (Flegal, Carroll, Ogden, & Johnson, 2002). Body mass index (BMI) is a clinical measure of adiposity and is measured in kilograms of body weight divided by height in meters squared. Healthful weights have been defined as those associated with BMI of 18.5 to 25, the range of lowest statistical health risk. A BMI ≥ 25 indicates increased risks for several chronic diseases. Specifically, overweight is defined as a BMI of 25-29.9, obesity is defined as a BMI ≥ 30 , and extreme obesity as BMI ≥ 40 (Surgeon General, 2001; US Department of Health and Human Services (DHHS), 1998; DHHS, 2000; Food and Nutrition Board, 2002). These definitions apply to persons eighteen years and older (Surgeon General, 2001).

Overweight and obesity increase the risk for chronic diseases such as hypertension, high blood cholesterol, Type 2 diabetes, respiratory problems, cardiovascular disease, stroke, gallstones, gout, osteoarthritis, sleep apnea, and pregnancy complications (DHHS, 1998; DHHS, 2000). In addition, an estimated three hundred thousand deaths per year are caused by obesity making it the second highest single cause of premature and preventable deaths behind smoking (DHHS, 2000). Data from the Behavioral Risk Factor Surveillance System, found the greatest increase in obesity (7.1% to 12.1%) was found in young adults ages 18-29 years (Mokdad, et al., 1999). This age group contains the typical age for college attendance. The 1995 College Health Risk Behavior Survey (CHRBS) found that one in five college students was overweight (CDC, 1997). It should be noted that at the time of the CHRBS, overweight was defined as BMI greater than or equal to 27.8 in men and 27.3 in women (Kuczmarski & Flegal, 2000; National Institute of Diabetes and Digestive and Kidney Diseases, n.d.; Douglas, Collins, Warren, Kann, Gold, Clayton, et al., 1997). This definition of overweight was based the gender-specific 85th percentile values of BMI for 20 to 29 year olds. NHANES II Also defined "severe overweight" (based on 95th percentile values) as BMI ≥ 31.1 for men and BMI ≥ 32.2 for women. Currently, overweight is determined by a lower BMI (BMI 25-29.9) (Surgeon General, 2001). Thus, the prevalence of overweight in college students would be higher based on the current definition.

African-Americans have a higher prevalence of obesity and weight-related diseases such as diabetes, heart disease,

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and hypertension than the general US population (DHHS, 2000). African American women are more likely to be overweight or obese (69%) than African American men (58%) (Surgeon General, 2001). African Americans also lag behind other Americans in modifying their diets and activity levels in line with national recommendations (DHHS, 2000; James, 1998). The 1995 CHRBS found that about 34% of African-American college students were overweight. African American female students (35.8%) were significantly more likely than white (18.5%) and Hispanic (16.8%) female students to be overweight. African American male students (30.0%) also were significantly more likely than white male students (20.7%) to be overweight (CDC, 1997).

College students are of particular interest for prevention of overweight and obesity since they had the greatest increase in prevalence of obesity in the last decade or so (George & Johnson, 2001). It has also been suggested that weight gain may occur with certain life events such as entering college, entering the workforce, marrying, and starting a family (Williamson, Kahn, Remington, & Anda, 1990). Body image and satisfaction may be instrumental in determining whether weight control is a major concern for an individual (Falconer & Neville, 2000). Few studies have examined the weight status and body dissatisfaction of African American college females. Of those, research shows that African American young women tend to have higher body satisfaction and more positive body images than white women (Falconer & Neville, 2000; Schooler, Ward, Merriwether, & Caruthers, 2004). However, a larger body mass is associated with less body satisfaction, less satisfaction with specific body areas, and less favorable evaluations of physical appearance among African American women (Falconer & Neville, 2000).

The goals of this project were to 1) assess obesity status and body satisfaction among African American college females and 2) to compare differences in these variables between African American students at a predominantly white university (PWU) and a historically black college and university (HBCU). The study is significant since the scientific literature is sparse on studies examining weight management issues of African American college students at HBCUs. In addition, most research on African American college women has been conducted at PWUs and none has examined or compared potential differences in obesity status and body satisfaction between African American college females at HBCUs and PWUs. The educational, social, and environment differences between these schools may have implications for student health services, particularly campus wellness and weight management programs.

Methodology

Participants/Procedures

Data were obtained from a convenient sample of 402 undergraduate women of African descent at two large public

universities in Florida. One school was a predominantly white university with a student body of 48,765 and a 7.4% enrollment of self-identified African American/Black students (University of Florida, 2004). The other school was one of 135 HBCUs in the nation. HBCUs are typically small undergraduate institutions that produce almost 40 percent of African American college graduates in the US (Hayes & Boone, 2001). The HBCU in this study had a student body of 13,067 and a 93.4% enrollment of self-identified African American/Black students (Florida A&M University, 2004). Special support services are provided by these institutions to encourage successful completion of academic programs (McQueen & Zimmerman, 2004). Both of the universities in the study have graduate and professional schools and confer doctorate degrees.

Participants were recruited from sororities, campus organizations, and various places frequented by students including libraries and student unions. Recruitment was done from different places to increase sample size and obtain participants from various backgrounds. Data were collected over the space of two semesters. All potential participants were asked if they were willing to participate in the study and to complete the survey onsite. Those who agreed were given the survey, pencil, and a clipboard to complete the survey. Students signed informed consent to participate. Participants were provided with a cup that had the study logo. Very few respondents refused to participate, primarily due to time constraints. The acceptance rate to participate was approximately 98%. The study was approved by the Institutional Review Boards (IRB) at both institutions.

Instrument

Participants completed a self-administered survey. The instrument was developed by the lead researcher based on a review of the literature and a previously validated instrument (James, 2004a; James 2004b) and updated for use with a college population. The survey consisted of 122 items that measured demographic data, campus infrastructure, dietary habits, weight status and body satisfaction, medical history, knowledge, attitudes, beliefs, physical activity, and lifestyle data. Response formats included fill in the blanks, dichotomous (e.g., True/False), and choose as many as apply. It was pilot tested with 25 students similar to the target group. These surveys were not included in the study. Minor revisions were made in the ordering of the questions. Overall internal consistency of the instrument using Chronbach's Alpha Coefficient was $\pm = .78$. The instrument took approximately 20 minutes to complete.

Data Analysis

Statistical analyses were performed by the Statistical Analysis System (SAS) (release 9, 2004 SAS Institute, Cary, NC). Data analyses included univariate analysis, Chi-square (X^2), Student's *t*-test, and ANOVA. Significant ANOVA was

Table 1

Demographic Characteristics

	PWU (n = 203)		HBCU (n = 199)	
	n	%	n	%
Classification				
Freshman	19	9%	9	4.5%**
Sophomore	70	35%	35	18%**
Junior	71	35%	71	36%
Senior	43	21%	84	42%**
Housing				
At home	4	2%	21	11%
Dorm, campus apartments	79	39%	25	12%
Apartment, alone	20	10%	31	15%
Apartment, roommates	99	49%	122	62%
Age	19.94 ± 1.55		20.92 ± 2.56**	
GPA	3.14 ± 0.43		2.99 ± 0.47*	
Hours worked	16.18 ± 8.33		24.90 ± 9.77*	
Organizations	2.82 ± 1.92		1.89 ± 1.92**	

* $p < .05$. ** $p < .0001$.

followed up with multiple post-hoc comparisons done with Tukey-Kramer HSD test. Significance was established at the $p < .05$ level.

Results

Demographics

Surveys were completed by 402 African American college females (HBCU = 199, PWU = 203). The mean age was 20.42 ± 2.17 , with students at the HBCU (20.92 ± 2.56) slightly older than those at the PWU (19.94 ± 1.55) ($p < .0001$). Thirty-one percent were seniors, 35% were juniors, 26% were sophomores, and 7% were freshmen. College classification varied by school, with significantly more seniors at the HBCU and significantly more freshmen and sophomores at the PWU ($p < .0001$). The average GPA for all students was 3.07 ± 0.46 . The GPA was significantly higher for students at the PWU (3.14 ± 0.43) than those at the HBCU (2.99 ± 0.47) ($p < .05$). See Table 1.

The majority (55%) lived in off-campus apartments with roommates; 26% lived in the dorms; 13% lived alone in off-campus apartments; and 6% lived at home with relatives. Students at the HBCU were significantly more likely to live at home with relatives, live alone off-campus, and live with

roommates off-campus, while students at the PWU were significantly more likely to live in the dorms ($p < .0001$). Ninety-five percent were full-time students. Sixty-one percent of students were employed and worked an average of 20.6 ± 10.1 hours per week. Students at the HBCU worked significantly more hours/week (24.9 ± 9.7) than students at the PWU (16.2 ± 8.3), $p < .0001$. Students were active in an average of 2.3 campus and community organizations. Students at the PWU participated in campus and community organizations significantly more (2.82 ± 1.92) than those at the HBCU (1.89 ± 1.92) ($p < .0001$). Seventeen students had children; 14 students were athletes.

Weight Status and Obesity

BMI's were calculated based on the participants' self-reported weight and height. The mean BMI for all respondents was 25.24 ± 5.56 . There was no significant difference between students at the HBCU (25.62 ± 6.00) and the PWU (24.89 ± 5.10) with respect to mean BMI ($p > .05$). Fifty-six percent of respondents had BMI within the 18.5-24.9 range (healthy); 25% had BMI within the 25-29.9 range (overweight); 17% had BMI ≥ 30 (obese); and 2% had BMI less than 18.5 (underweight). There were no significant

Table 2

BMI Categories Based on Self-Reported and Preferred Weight (n=374)

	BMI < 18.5		BMI 18.5-24.9		BMI 25-29.9		BMI ≥ 30		X ²	p
	n	%	n	%	n	%	n	%		
Actual BMI										
PWU	5	3%	109	56%	52	23%	37	14%	3.25	> .05
HBCU	2	1%	101	56%	42	27%	35	19%		
Preferred weight										
PWU	6	3%	152	79%	33	17%	2	1%	4.92	> .05
HBCU	4	2%	135	75%	37	20%	5	3%		

Note. Only 374 participants disclosed their actual and preferred weight and height.

differences by school in the BMI categories ($p > .05$). See Table 2.

Respondents were asked to indicate their “preferred” weight and a “preferred” BMI was then calculated based on this weight and their current height. The “preferred” weight was defined as the “weight you would choose if you could weigh whatever you wanted.” The mean “preferred” BMI for all respondents was 22.89 ± 2.84 . There was no significant difference between students at the HBCU (23.11 ± 2.90) and the PWU (22.67 ± 2.78) ($p > .05$). Based on the “preferred” weight, 77% had BMI within the 18.5-24.9 range (healthy); 19% had BMI within the 25-29.9 range (overweight); 2% had BMI ≥ 30 (obese; and less than 3% had BMI less than 18.5 (underweight). There were no significant differences by school in the BMI categories ($p > .05$).

Factors Associated with BMI

BMI varied by academic classification ($F = 2.89$, $df = 3$, $p < .05$). Multiple post-hoc comparisons indicated that sophomores (24.19 ± 4.72) had significantly lower BMI than seniors (26.20 ± 6.70), $p < .05$. However, there were no significant differences in BMI between any other classifications—freshmen (26.03 ± 1.13), juniors (24.97 ± 4.63), $p > .05$.

Respondents were asked to report how their weight had changed from high school to college. Approximately 51% said they gained weight since going to college, 24% said they lost weight, and 26% said they stayed the same. A two-way ANOVA revealed there was no main effect by type of school ($p > .05$) but there was a main effect by weight change in college ($p < .0001$). Specifically, BMI was significantly

higher for those who gained weight (26.32 ± 5.74) and lost weight (25.69 ± 5.18) than those whose weight had stayed the same (22.51 ± 4.28). There also was a significant interaction between the variables ($p < .01$). Students at the HBCU who reported they had gained weight had higher BMI (27.22 ± 0.56) than students at the PWU (25.53 ± 0.52) who reported that they had gained weight.

BMI varied significantly by housing status ($p < .0001$). Specifically, students living at home with relatives (27.83 ± 8.20) and those living alone (27.71 ± 6.56) had significantly higher BMI than those living on campus (24.61 ± 4.96) and those living in apartments with roommates (24.62 ± 4.76) ($p = .0003$). In fact, those living at home and those living alone had BMI in the overweight category (25-29.9) while those who lived on campus and off-campus with roommates had BMI in the normal categories (18.5-24.9). There were no significant interactions between the variables ($p > .05$). See Table 3.

Weight Perception and Body Satisfaction

Respondents were asked to describe their weight based on five descriptors. Forty-five percent said they were “just right,” 38% said they were “slightly overweight,” 10% said they were “very overweight,” 2% said they were “extremely overweight,” and 5% said they were “underweight.” Weight perception did not vary by school ($p > .05$). However, ANOVA revealed that BMI varied significantly by weight perception ($p < .0001$). Those who said they were underweight had a mean BMI of 19.3 ± 1.5 and were in the lower end of the healthy BMI category (18.5-24.9); those who said they were “just right” had a mean BMI of 22.19 ± 2.75 and were also in

the healthy BMI category (19-24.9); those who said they were slightly overweight had a mean BMI of 26.73 ± 3.6 and were in the overweight category (25-29.9); those who said they were very overweight had a mean BMI of 34.83 ± 6.06 were in the obese category (≥ 30); those who said they were extremely overweight had a mean BMI of 38.92 ± 5.42 and were also in the obese category (≥ 30). See Table 3.

Respondents also were asked to rate their level of satisfaction with their weight. Thirty-seven percent said they were satisfied/very satisfied with their weight, 36% said they were somewhat satisfied, and 27% said they were dissatisfied/very dissatisfied with their weight. Weight satisfaction did not vary by school ($p > .05$). However, ANOVA revealed that BMI varied significantly by weight satisfaction ($p < .0001$). Those who said they were very satisfied and satisfied (21.89 ± 2.89 , 22.68 ± 3.32 , respectively) had mean BMI in the healthy category (18.5-24.9); those who said they were somewhat satisfied had a mean BMI of 25.00 ± 4.31 and were in the BMI overweight category (25-29.9); those who said they were dissatisfied had a mean BMI of 29.05 ± 6.73 and were in the upper range of the BMI overweight category (25-29.9); and those who said they were very dissatisfied had a mean BMI of 30.97 ± 7.13 and were in the obese category (≥ 30). Multiple post-hoc comparisons indicated that the mean BMI between those in the very satisfied and satisfied categories did not vary significantly from each other, and the mean BMI for those in the very dissatisfied and dissatisfied category did not differ from each other. Otherwise, the other groups differed significantly from each other. See Table 3.

Respondents were asked how often they thought about their weight. Thirteen percent said they thought about it a few times a day, 38% said they thought about their weight almost everyday, 27% said a few times a month, and 22% said they rarely/never think about their weight. There was no significant difference by school ($p > .05$). However, ANOVA revealed that BMI varied by thoughts about weight ($p < .0001$). Multiple post-hoc comparisons revealed higher BMI for students who thought about their weight "a few times a day" (27.94 ± 6.32) and "almost everyday" (26.95 ± 5.99) than those who thought about their weight "a few times a month" (23.87 ± 3.73) or "rarely/never" (22.18 ± 3.73). In fact, it showed that those who thought about their weight often were in the BMI overweight category and those who did not think about their weight very often were in the healthy BMI category.

Discussion

This study demonstrated a strong relationship between the women's weight, preferred weight, and body satisfaction. Based on self-reported weights, the mean BMI for African American college students in the present study was 25.24 ± 5.56 , thus classifying them as being overweight. However, further analysis by BMI category showed the majority of them had BMI in the healthy range. In fact, only 25% of the respondent could be classified as overweight and 17% could be classified as obese. The "preferred" BMI for the

respondents in this study was significantly lower than their actual BMI. Based on the "preferred" weight, 77% of respondents had BMI within the healthy weight range compared to 58% based on their reported weight. Significant differences were noted in other BMI categories. For example, based on the "preferred" weight only 2% of respondents would be in the obese category (BMI ≥ 30) compared to 17% based on their actual weight. This suggests that the women have a realistic view of how much they should weight and their "preferred" weights were in line with the current national recommendations. Studies also suggest that most individuals desire a goal weight that is largely consistent with their preferred weight defined by clinicians (Miller & Eggert, 1992; Williamson, Serdula, Anda, Levy, & Byers, 1992).

However, the real challenge lies in how these individuals get to their "preferred weight." The dietary, physical activity, psychosocial, and environmental changes needed to reach the "preferred" weight may not be realistic, attainable, and maintainable for most of these individuals (James 2004a). African Americans lag behind other Americans in modifying their diets and activity levels in line with national recommendations (DHHS, 2000; James, 1998). Maintaining a healthful weight is reasonable for those who are already within the weight guidelines. However, the high prevalence of regaining weight among those who lose a significant amount of weight suggests that the national guidelines may be impossible for many overweight and obese individuals in the United States (ADA, 2002).

Ethnicity and race have been shown to be contributing factors affecting body image (Chandler & Abood, 1997; Altabe, 1998). Cultural ideals can influence one's body image experiences and the extent to which one exercises to meet that ideal standard. In the US, African-American females develop body image problems less often than Caucasian females (Rand & Kuldua, 1992; Striegel-Moore, McAvay, and Rodin, 1986). Half of the women in the study perceived themselves as being overweight (to varying degrees) and 45% perceived themselves as "just right." Their perception was accurate compared to their BMI, indicating realistic assessment and truthful acknowledgement of their weight. For example, those who were "just right" had BMI in the healthy range and those who said they were overweight had BMI in that category. Interestingly, those who perceived themselves as being very overweight or extremely overweight actually fell in the obese and very obese category, respectively. It should be noted that in the present study, the word "obese" was never used as a descriptor term for weight perception. Obesity is a clinical term and people do not generally use "obese" as a flattering term. In fact, it may be considered a derogatory term by many. The stigma of being obese appears to be as highly stigmatized as drug addiction, criminal behavior, AIDS, and homosexuality (Sobal, 1999).

Studies have shown that African-American women experience less body dissatisfaction than Caucasian women and do not strive for thinness to the same extent, despite a greater prevalence of obesity among African-American

Table 3

ANOVA of BMI by Housing, Weight Perception, and Weight Satisfaction

	n	%	BMI	F	p
Housing				6.49	.0003
At Home	26	6%	27.83 ± 8.20 ^a		
On campus	103	26%	24.61 ± 4.96 ^b		
Apartment (alone)	51	13%	27.71 ± 6.54 ^a		
Apartment (roommates)	222	55%	24.62 ± 4.75 ^b		
Perception				139.31	.0001
Underweight	19	5%	19.3 ± 1.52 ^d		
Just right	171	46%	22.19 ± 2.75 ^c		
Slightly overweight	141	38%	26.73 ± 3.61 ^b		
Very overweight	35	9%	34.83 ± 6.06 ^a		
Extremely overweight	9	2%	38.92 ± 5.42 ^a		
Levels not connected by the same letter are significantly different					
Satisfaction				33.79	.0001
Very satisfied	52	14%	21.89 ± 2.89 ^c		
Satisfied	89	24%	22.68 ± 3.32 ^c		
Somewhat satisfied	132	35%	25.00 ± 4.31 ^b		
Dissatisfied	73	20%	29.05 ± 6.73 ^a		
Very dissatisfied	26	7%	30.97 ± 7.13 ^a		

Note. Levels not connected by the same letter are significantly different.

women (Miller et al., 2000; Chandler & Abood, 1997). Twenty-seven percent of respondents in the present study said they were dissatisfied/very dissatisfied with their weight. Dissatisfaction was highly correlated with BMI. For example, those who were satisfied/very satisfied had BMI in the healthy range, while those who were dissatisfied/very dissatisfied had BMI in overweight or obese categories. Although, a larger body mass is associated with less body satisfaction among all women (Falconer & Neville, 2004), African Americans have the highest body satisfaction among all women and are more likely to accurately characterize their weight (Miller et al., 2000). One research team (Field et al., 2001) suggests that weight dissatisfaction could be the result of a realistic appraisal among overweight and obese individuals, especially women. These individuals may be able to accept their weight status, but still be dissatisfied with it.

Another possible reason for the high level of dissatisfaction in body weight among African Americans college students in this study could be due to dissatisfaction with muscle tone and body fat distribution, rather than just body weight, per se. African-American women tend to not view overweight as being unattractive or unhealthy, but are more concerned by their inability to wear certain types of clothing (Wagner, 1997). However, weight dissatisfaction should be addressed in counseling sessions since it may adversely affect self-esteem, self-efficacy, mood, and body

image. In addition, it may lead to setting unrealistic goals, using harmful weight loss practices, and eating disorders and disturbances (Field et al., 2001).

This study found few significant differences in weight status and body satisfaction between African American college females attending a HBCU and a PWU. Differences were due mainly to the demographic characteristics of the samples. Thus, these findings may have several implications for college wellness and weight management programs. First, college health and wellness programs may need to specifically target students who live off-campus. Most campus wellness programs are target to students living on campus. In addition, students living on campus have ready access to campus fitness centers and intramural sports. Students living off-campus are harder to reach with health education programs and messages. Health educators could team up with rental management companies to offer health and fitness programs at their facilities. Incentives to use on-campus fitness centers can also be developed.

Second, health and wellness programs also will need to consider the housing arrangements, i.e. whether the off-campus students live alone, at home with relatives, or with roommates. This study found that students at the HBCU were more likely than those at the PWU to live alone and to live with relatives. Understanding the motivators and deterrents to healthy eating and physical activity in this subpopulation can be useful for health education programs,

especially at HBCUs. These programs may want to incorporate a “buddy” system (or a sister-to-sister system) for moral support and motivation (James, 1998; James 2004b). Online weight management programs may also appeal to them.

Third, weight management programs should focus on maintaining a healthy weight throughout the entire college career, not just during the freshman year. Weight gain during the first year of college is very common (Racette, Deusinger, Strube, Highstein, & Deusinger, 2005), but the “freshman fifteen” is not as common as believed (Graham & Jones, 2002). In this study, seniors were just as likely to be heavy as freshmen. Seniors also are more likely to live off-campus than other classmen. The stress of graduation, internships, and job hunting may contribute to weight gain during the senior year.

Fourth, the built environment, campus infrastructure, and landscape also may have a positive impact on activity level but a negative dietary impact by providing ready access to fast food restaurants (Wagner, 1997; Bauman, Sallis, Dzewaltowski, & Owen, 2002). In this study, the PWU was a very large, beautifully landscaped campus with several fitness centers, some of which were opened 24 hours a day. It also had many national fast food chains in its many food courts. In contrast, the HBCU was a very compact campus and was not well landscaped to encourage more physical activity. Thus, campuses should examine how the landscape and built environment promote or deter physical activity—particularly biking and walking—among students and make adjustments accordingly (Frank, 2002).

Limitations

This study has several limitations. Body weight, height, and dietary intake were subjective and self-reported. It is possible that other assessment methods would have yielded different results. In addition, the use of BMI as the sole measure to classify participants as overweight or obese may have misclassified some individuals since BMI does not differentiate between muscle mass and body fat. In addition, obesity prevalence estimates based on self-reported data tend to be lower than those based on measured data.

The generalizability of the study also is limited by the sample size. Also, self-selection bias may have affected the results. It is possible that students who were very underweight or severely obese may have not volunteered for the study. A convenience sample was used and it cannot be assumed to be representative of all African-American college students in Florida or the general population. In compliance with IRB procedures, respondents are not required to answer questions with which they are not comfortable. This may have led to non-response error. The respondents in this study also were sufficiently healthy and motivated to complete the questionnaire. A larger sample may have found more significant findings between the two types of school. However, the results still have some practical

application to the general population of healthy, ambulatory, African-American college females.

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