

# **Depression and Percent Body Fat Are Associated With Binge Eating In A Community Sample of African American and Hispanic Women**

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**BACKGROUND:** Overweight and obesity rates in non-Hispanic African American (AA) and Hispanic or Latina (HL) women are the highest of any ethnic and gender groups in the United States. Eighty two percent of AA women and 75% of HL women are overweight (BMI  $\geq 25$  kg/m<sup>2</sup>) or obese (BMI  $\geq 30$  kg/m<sup>2</sup>) compared to 58% of non-Hispanic white women. Binge Eating Disorder (BED) and binge eating may contribute to the difficulties in losing weight and maintaining weight loss. As BMI rises binge eating episodes become more severe. BED is the presence of binge eating episodes in the absence of compensatory behaviors. Some people who engage in binge eating but do not meet the criteria for BED are considered to have sub-clinical BED. Binge eating, as seen in those with BED and sub-clinical BED, is driven by factors other than physical hunger or metabolic need. A wealth of research demonstrates that those with BED experience more psychopathological symptoms such as depression, distress, perceived stress, anxiety and emotional problems compared to those without BED<sup>2</sup>. Studies on white, AA, and HL women have shown a consistently positive relationship among depressive symptoms and binge eating, and that depressive symptoms can predict binge eating. Women with eating disorders perceive their lives to be more stressful and to have a lower tolerance of stress than those without eating disorders. The correlations among eating disorder features have been shown to vary based on race/ethnicity<sup>3</sup>. Despite the alarming increases in overweight and obesity, the association of overweight/obesity with binge eating and BED, the differences in eating disorder features, and differences in psychological factors in AA and HL women when compared to samples of white women, relatively little is known about the relationships among these factors in minority women. In order to understand and address binge eating and BED, along with the associated overweight/obesity, in AA and HL women additional research is necessary.

**PURPOSE:** The purpose of the proposed study is to examine the relationships among depressive symptoms, stress and binge eating in a community dwelling sample of AA and HL women. We hypothesized that: 1) a positive correlation would exist among depressive symptoms and self-reported binge eating in AA and HL women, 2) a positive correlation would exist between stress and self-reported binge eating in AA and HL women, and 3) depressive symptoms and stress would be associated with binge eating scores using regression in AA and HL women.

**METHOD:** Data were a subset from the Health Is Power (HIP NIH 1R01CA109403) study. Data for the current study were gathered during the baseline health assessment and self-administered questionnaires provided during a two week "run-in phase." The run-in phase, designed to minimize attrition in the remainder of the study prior to randomization, included completion of a packet of questionnaires, health behavior monitoring logs, and attendance at a randomization meeting. During the baseline health

assessment, height was measured by trained staff, and weight, body fat, and BMI calculated using a Tanita Body Fat Analyzer scale. Questionnaires on SES, demographics, and binge eating were administered by interviewers who read the directions and questions directly from the questionnaires on computer screen. After the baseline health assessment, participants were provided a questionnaire packet to take home, complete, and return at the randomization meeting. The questionnaire packet included paper and pencil measures for depressive symptoms, stressful events and stress impact including the Center for Epidemiological Studies Depression Scale (CES-D), Weekly Stress Inventory (WSI), and Binge Eating Scale (BES).

**RESULTS:** A total of 154 women (AA  $N=114$ , HL  $N=40$ ) met study inclusionary criteria. Participants' ages ranged from 24.96 to 60.96 years with a mean of 44.57 years ( $M=44.57$ ,  $SD=9.15$ ). AA participants' ages ranged from 25.29 to 60.96 years ( $M=45.2$ ,  $SD=9.27$ ). HL participant's ages ranged from 24.96 to 57.99 years ( $M=42.78$ ,  $SD=8.71$ ). Using a cut-off score of 16 on the CES-D, 24.6% of the AA and 25% of the HL participants exhibited significant levels of depressive symptomatology. Using the criteria developed by Marcus, Wing, and Hopkins, 73.7% of the AA and 67.5% of the HL participants were categorized as non-binge eaters, 22.8% of the AA and 17.5% of the HL participants were categorized as moderate binge eaters, and 3.5% of the AA and 25% of the HL participants were categorized as severe binge eaters. The variables were entered into a regression model in order of highest to lowest correlation with BES. The first step of the analysis included CES-D and the second step included both CES-D and %BF. %BF was selected over BMI since %BF had a higher correlation ( $r=.306$ ,  $p=.01$ ) with BES than BMI ( $r=.242$ ,  $p=.01$ ). WSI-Impact and WSI-Event did not account for a significant amount of variance once CES-D and %BF were included in the model. The final model accounted for 21.3% of the variance in BES scores ( $F(1, 151)=15.287$ ,  $p=.001$ ). No other demographic or SES Variables accounted for significant amounts of variance in the regression analysis and, therefore, were excluded from the final model.

**CONCLUSION:** Given the fact that AA and HL women have the highest rates of overweight and obesity in the United States, researching methods to attenuate and decrease these rates is critical. The present study indicates that the rates of moderate and severe binge eating in AA and HL women may be higher than found in other studies. Therefore, BED and binge eating may be one reason for the high rates of overweight and obesity in these populations. The results relating to depressive symptoms, stress and binge eating strengthen the conclusion that there may be differences among AA, HL and white women. Applying findings from studies using white women as participants to interventions designed for AA and HL women may be inappropriate and ineffective. Additional research in AA and HL women is essential to understand the underlying psychosocial factors of BED, understand the prevalence of, and reduce binge eating in AA and HL women.