

## **Body Composition Estimation and Satisfaction in College Students**

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### ABSTRACT

College students are at an elevated risk for engaging in unhealthy lifestyle behaviors, including disordered eating and low levels of exercise. Evidence also suggests that college students inaccurately estimate their weight status (e.g., reporting they are overweight when they are at a normal weight) and report high levels of body dissatisfaction. Efforts to promote healthy behavior change and body satisfaction first require an accurate perception of the problem. The purpose of this study was to 1) determine the accuracy with which college students estimate their weight and body composition, and 2) better understand the relationship between body composition and body satisfaction. Methods: Forty-five college students (males = 21 and females = 24), between 18 and 30 years of age, completed a survey with items assessing demographic characteristics, weight status estimation, body composition estimation, and the Body Part Satisfaction Scale (BPSS). Body composition was assessed using Dual x-ray absorptiometry (DXA). Paired samples t-tests were used to compare means between participant's objective measurements and their estimated measurements. Bivariate analyses were used to determine relationships between body part dissatisfaction and body composition. Results: Males and females accurately estimated their weight ( $d = -.16$ ,  $SD = 2.56$ ,  $t(44) = -.414$ ,  $p = 0.68$ ), but significantly underestimated their body fat percentage ( $d = -4.37$ ,  $SD = 7.62$ ,  $t(44) = -3.85$ ,  $p = 0.001$ ). Greater body dissatisfaction was associated with a higher body fat percentage ( $r = .353$ ), but not body fat percentage estimation ( $r = .164$ ). In the trunk region, a higher body fat percentage in that region was significantly associated with greater dissatisfaction for abdomen size ( $r = .323$ ); higher body fat percentage in the arms and legs were mildly associated with greater dissatisfaction in the respective areas ( $r = .268$ ;  $r = .260$ ), though not statistically significant. Conclusions: Although college students accurately estimated their weight, they significantly underestimated their fat mass, indicating a misunderstanding regarding the proportion of their body weight composed of fat tissue. As expected, greater fat mass in specific body parts (e.g., arms, legs, and trunk) was related with greater dissatisfaction in those specific areas. Future research should continue to investigate these relationships and body composition estimation accuracy in more diverse samples. Health promotion initiatives should aim to educate students on body composition and continue to promote healthy behavior change along with body satisfaction.