



IMPACT OF BODY COMPOSITION ON GLOBAL ESTEEM IN COLLEGE AGE WOMEN

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ABSTRACT

Previous research has shown that women tend to score lower on surveys regarding their physical self-concept. There is much speculation regarding reasons for decline of physical self-concept with age. **Purpose:** To determine if the classification of BF% impacts global esteem in women. **Methods:** Forty-two traditional-aged (18-25y) women participated in this study. Anthropometric data were recorded and BF% was measured using an iDXA (GE Lunar iDXA, Waukesha, WI). Each participant completed the PSDQ survey. A multivariate analysis of variance (MANOVA) was used to determine whether a difference between groups existed in global esteem, a global component of physical self-concept. The women were divided into two categories based on BF% (Healthy $\leq 32\%$, $n=19$; Overfat $>32\%$, $n=23$). **Results:** There were no significant differences in the global esteem indicators based on body fat, Wilks' Lambda=.865, $F(5, 36)=1.120$, $p=.367$. **Discussion:** The lack of significant differences in the global esteem measures may be attributed to an outward appearance in line with societal norms associated with beauty, further strengthened by waist hip ratio and waist circumference data. Additional research is needed to further elucidate the mechanisms associated with physical self-concept in young women.

INTRODUCTION

- Body fat percentage is the total mass of fat divided by total body mass including essential body fat and storage body fat.
- Awareness of being overweight can be detrimental to a person's self-concept. (Dishman, Rod K., et al, 2006)
- Men and women consistently differ on self-esteem and body concept. (Pilafova, A., Angelone, D., & Bledsoe, K. 2007)
- Previous studies have indicated that females typically score lower on surveys regarding their physical self-concept compared to men. (Çaglar, E., 2009)

PURPOSE & HYPOTHESIS

- The purpose of this study was to determine if body fat percentage affects women's global self-esteem.
- We hypothesized that women in the overfat ($>32\%$) category would have a lower global esteem score.

METHODS

Participants

- 42 full-time (>12 hrs) traditional-aged college women (18-25y)
- All participants were from a small, rural commuter campus in South Carolina
- Pregnant women were excluded from this study

METHODS

Body Fat

- Body fat was measured using an iDXA (GE Lunar, iDXA, Waukesha, WI)
- Participants with body fat percentages $\leq 32\%$ were classified as healthy.
- Participants with body fat percentages $> 32\%$ were classified as overfat.



Global Esteem

- Each participant filled out a PSDQ survey which was used to measure their global self-esteem.
- Global esteem encompasses a multitude of things such as, but not limited to their ability to accomplish tasks, how they perceive themselves to be in comparison to others, and their overall success in life



Statistical Analysis

- Multivariate analysis of variance (MANOVA) was used to determine whether a difference between groups existed in global esteem.
- IBM SPSS Statistics (version 24) was used for the analysis.

Table 1. Physiological data

	Healthy Group n=19	Overfat Group n=23
Age (years)	19.42 \pm 1.22	19.335 \pm 1.3
Height (cm)	161.36 \pm 6.07	160.54 \pm 8.67
Weight (kg)	54.44 \pm 5.82	67.44 \pm 15.39
BMI (kg/m ²)	20.88 \pm 1.53	26.05 \pm 5.11
Waist Hip Ratio	.72 \pm .03	.74 \pm .05
Body Fat (%)	28.12 \pm 2.21	37.74 \pm 4.08

RESULTS

Table 2. Global Esteem Scores

	Healthy Group n=19	Overfat Group n=23
Q 19: Most things I do turn out well	4.37 \pm .60	3.9 \pm 1.20
Q 20: Overall I am no good	1.47 \pm .70	1.74 \pm 1.18
Q 21: Most things I do, I do well	4.42 \pm .96	4.52 \pm .845
Q 22: Overall, I have a lot to be proud of.	5.00 \pm 1.25	5.04 \pm 1.11
Q 23: Nothing I do ever turns out right	1.9 \pm .94	2.44 \pm 1.20

- No significant differences were found in the global esteem indicators based on body fat, Wilks' Lambda = .865, $F(5,36) = 1.120$, $p = .367$.

DISCUSSION

- Biological attractiveness is defined as having a waist hip ratio closer to .70 than .80. Both the healthy group and overfat groups are classified as biologically attractive. This may explain why no statistical significance was found in global esteem indicators based on body fat percentage.
- We hypothesize that volunteer bias may have affected the variability of the participants in regards to self-esteem scores.
- This study demonstrates that women's global self-esteem is not directly influenced by body fat percentage contradictory to previous research.
- Further research is suggested to more fully identify what mechanisms define physical self-concept in women.

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