

The effect of perceived adiposity level on BMI and body fat percentage

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ABSTRACT

Purpose: The purpose of this study was to determine if differences existed in body mass index (BMI) and body fat percentage between women who perceive that they have too much body fat and women who don't. **Methods:** Forty-three traditional-age, female college students participated in this study. Participants were asked to complete the PSDQ short form questionnaire. Height and weight were measured and BMI was calculated. Body fat percentage was measured using an iDXA (Lunar GE; Waukesha, Wisconsin). Participants were divided into two groups, those who perceived themselves to be over-fat (POF) and those who perceived themselves to be within an acceptable fat range (PAF) based on their response to the statement, "I have too much fat on my body." Independent sample t-tests were used to determine if differences existed between the two groups. **Results:** There were no significant differences in BMI (PAF=22.69 ± 3.94 kg/m² vs POF=25.25 ± 5.64 kg/m², p = .094) or body fat percentage (PAF= 32.44 ± 5.51% vs POF= 34.77 ± 6.41%, p = .210) between groups. **Discussion:** Although no statistical significance was found in either variable, a practical significance exists in BMI between groups. Women who perceived themselves as over-fat were categorized as Overweight by BMI standards, but the women who perceived themselves within an acceptable fat range were categorized as Normal weight. However, according to body fat percentage both groups would be classified as "over-fat".

PURPOSE

- Perceptions of body size are influenced by social and cultural factors.
- Previous research has shown that perception of how an individual views their body size is a more important than the clinical measurement of obesity in predicting psychological distress, behavior problems, self-esteem, and poor mental health.
- The purpose of this study was to determine if differences existed in body mass index (BMI) and body fat percentage between women who perceive that they have too much body fat and women who don't.

METHODS

Participants

- Forty-three full time (≥ 12 credit hours) traditional-age (18-25 years) female college students
- 23 women were categorized as being within an acceptable fat range (PAF) and 21 were categorized as considering themselves to be over-fat (POF).
- Student athletes and pregnant women were excluded from this study.

PSDQ Short Form Questionnaire

- Participants completed the Physical Self Description Questionnaire (PSDQ).
- This survey asks a series of questions to determine how people describe themselves physically and uses Likert-based responses.
- Participants were divided into two groups based on their answer to the following question: "I have too much fat on my body."
- Those who perceived themselves to be over-fat were classified into the POF group and those who perceived themselves to be within an acceptable fat range were classified into the PAF group.



DXA Scan

Body composition was measured by dual-energy x-ray absorptiometry (DXA) using a GE Lunar iDXA (Waukesha, Wisconsin).



RESULTS

Table 1. Subject Demographics

| | PAF group (n = 21) | POF group (n = 22) |
|--------------------------|---------------------|--------------------|
| Age (yr) | 19.29 ± .90 | 19.45 ± 1.50 |
| Weight (kg) | 58.31 ± 11.28 | 66.21 ± 16.20 |
| Height (cm) | 160.24 ± 8.36 | 161.62 ± 6.57 |
| BMI (kg/m ²) | 22.69 ± 3.94 | 25.25 ± 5.64 |
| DXA Total Body Fat (%) | 32.44 ± 5.51 | 34.77 ± 6.40 |

- There were no significant differences in BMI (PAF=22.69 ± 3.94 kg/m² vs POF=25.25 ± 5.64 kg/m², p = .094) or body fat percentage (PAF= 32.44 ± 5.51% vs POF= 34.77 ± 6.41%, p = .210) between groups.

DISCUSSION

- Self- image is very important to young women of all ages and ethnicities.
- The media has influenced our perception of attractiveness, making it more difficult to be viewed as beautiful by the rest of society. Weight control behaviors are often driven by self perceived weight status.
- Therefore, the women in this study who perceive themselves to be normal fat would be less likely to participate in weight control behaviors even though, medically, they would benefit from a reduction of body fat percentage.
- Although no statistical significance was found in either variable, a practical significance exists in BMI between groups.

REFERENCES

Cash, T. F., Green, G. K. (1986). Body Weight and Body Image Among College Women: Perception, Cognition, and Affect. *Journal of Personality Assessment*, 50 (2): 290-301.