



Gender, Core Self-Evaluations and Fear of Fatness among University Students in Ogun State, Nigeria

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Authors' contributions

This work was carried out in collaboration among all authors. Authors GEA and JAA designed the study and wrote the protocol. All authors coordinated data collection and analysis. Author GEA wrote the first draft of the manuscript. All authors read and approved the final manuscript.

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ABSTRACT

Aim: Empirical evidence suggests the existence of individual differences in people's susceptibility to fear of fatness, usually occasioned by the increasingly pervasive norms in many parts of the world in which slimness is associated with health, beauty, intelligence and self-discipline; while fatness is associated with ugliness, lack of self-control, social irresponsibility, and laziness. This line of research, however, has not received adequate attention in Nigeria, thus limiting the prospects for better understanding of the problem as well as prevention and amelioration. This study investigated fear of fatness among randomly selected undergraduate students of a Nigerian university and the influence of personality (core self-evaluations), gender, age, and level of study on fear of fatness.

Methods: A multi-stage sampling technique was used to select 790 undergraduate students of Olabisi Onabanjo University, Ago-Iwoye, Nigeria. Participants were personally interviewed, using a standardized and psychometrically-robust questionnaire. Participants' mean age was 22.10 (SD = 5.19). Out of the 790 participants, 490 (62.02%) were females and 300 (37.97%) were males.

Results: The mean score for males on the fear of fatness was 19.10 (SD = 7.22) while

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the mean score for females was 35.17 (SD = 8.32). Results of the 2x2 ANOVA indicated that persons with high CSEs had significantly lower fear of fatness scores than low CSEs persons {F (1,785) = 15.55; p. <.001}. Females scored significantly higher on fear of fatness than males {F (1,785) = 20.77; p. <.001}.

Conclusions/Recommendation: Fear of fatness is very high among university students in Nigeria, with CSEs, gender, age and level of study playing important roles. It is recommended that CSEs should be factored into relevant intervention programmes, such as counselling and psycho-education, for university students with a view to educating students on self-acceptance and CSEs to help them develop more realistic perceptions of themselves and their social worlds.

Keywords: Fear; fatness; personality; gender; students; Nigeria.

1. INTRODUCTION

Ample scientific findings in health research and clinical evidence, perhaps orchestrated by the Western culture and the mass media, have consistently encouraged people to maintain ideal weights and for overweight people to take action aimed at reducing weight with a view to promoting health and general well-being. The unflattering portrayals of obese persons pervade popular culture, while multiple studies document that children, adults, and even health care professionals who work with obese patients hold negative attitudes toward overweight and obese persons [1,2]. Given the current societal and cultural ideals of slimness and dieting, which predominate in modern society, many people, especially young persons have unreasonable fears of fatness. Thus, attempts to combat the single issue of obesity have unveiled numerous other problems to be dealt with (such as fear of fatness), most of which pose their own health hazards.

Fear of fatness can be viewed as the degree to which an individual is concerned about becoming overweight or gaining weight. Many young people simply have come to dislike their bodies. They may feel fat and unattractive even if their reflection in the mirror shows otherwise. Many people even of normal weight experience discontent with their weight and shape, a tendency which can seriously affect their psychological and physical health [3]. Girls, relative to boys, often think they are fat even when they are not, while boys may fear they are not muscular enough [4]. Consequences of fear of fatness may include stunted growth, crash dieting or bingeing, smoking and consumption of laxatives and reduced psychological well-being [5,6]. Given the increasingly pervasive norms in many parts of the world in which slimness is associated with health, beauty, intelligence and self-discipline; while fatness is associated with ugliness, sexlessness, lack of self-control, social irresponsibility, ineptitude, and laziness, normal weight persons with fear of fatness as well as objectively heavier persons may feel unworthy and may develop low self-esteem [6,7,8]. Even individuals at no risk of obesity might find themselves in a mindset where they feel they have to be thin [9]. Furthermore, the various anti-obesity campaigns, while in the public's best interests, does little to prevent bullying in schools; those deemed as fat may be potential targets as fatness is perceived as an imperfection.

It is important to consider individual differences in fear of fatness with a view to helping determine appropriate intervention. An important variable which, unfortunately has not received adequate attention in obesity research, is personality. Psychologists have demonstrated that certain personality factors help people to cope more effectively under various situations and make them less vulnerable to self-injurious behaviours [10]. Some of

the personality factors that have been implicated in this regard include perceived personal control [10,11], hardiness [12], emotional stability or neuroticism [13], self-esteem [14] and locus of control [15]. A more potent personality factor which has been shown to play crucial roles in many forms of health-related and social behaviour is the core self-evaluations (CSEs) personality traits [16]. The CSEs, comprising of some of psychology's most studied traits – neuroticism, self-esteem, locus of control and generalized self-efficacy – represents ability or skills across many domains. For example, people with high CSEs have been shown to demonstrate more effectiveness in overcoming obstacles by using better problem-solving strategies [17], having higher stress tolerance [15], and being better able to cope with frustrations and unpredictable situations [17].

Although we did not find a direct relationship between CSEs and fear of fatness, studies have demonstrated strong links between CSEs and life satisfaction, happiness, stress and strain [17]. It is plausible, therefore, to opine that individuals with high CSEs, relative to those with low CSEs, would show more resilience in the face of perceived or actual social scrutiny by reporting less fear of fatness.

Research addressing gender differences in fear of fatness generally suggests that females experience higher level of fear of fatness than males [18]. Women seem to be more concerned about obesity than men and are two to three times more likely to seek weight-loss treatments [19]. Research has found that women experience greater dissatisfaction with their weight and shape than men do, and this dissatisfaction increases with body mass index (BMI) [19]. Women also perceive greater stigmatization in relation to obesity and are under greater pressure to be slim compared to men [19,20]. Age is also likely to be an important factor in fear of fatness. Younger persons, especially younger women appear to be at an increased risk of both fear of fatness [21] and obesity [22]. Older people, however, may also be at risk of fear of fatness to the extent that they perceive obesity to be capable of precipitating or exacerbating health problems associated with aging [22].

While there is little literature on ethnic differences in fear of fatness and body dissatisfaction, research from the US has suggested that African-American girls appear to have lower fear of fatness than white girls, and are less vulnerable to low self esteem resulting from high BMI [23]. A study of East London adolescents found that in girls, obesity was associated with higher self-esteem among Black-African groups, but lower in Bangladeshi groups. However, among boys, overweight or obesity had a negative impact on self-esteem of boys from white and Bangladeshi groups [24]. This suggests that the influence of cultural valuation of weight and shape on self-perception and psychological distress may differ between ethnic groups. Further, recent research on British children aged 13-15 also suggests that Asian boys may be at particularly high risks of low body esteem [18].

Overall, it appears that a host of other factors (other than actual BMI) play important roles in peoples' fear of fatness or weight phobia. Despite the apparent significance of the fear of fatness construct in eating pathology and other problems, this line of research has not received adequate empirical attention in Nigeria. An understanding fear of fatness and its psychological and social underpinnings may help in stimulating more research into this grossly under-researched issue and also in determining appropriate intervention for people with this problem. The present study, therefore, represented an attempt to investigate fear of fatness among randomly selected undergraduate student of a Nigerian university, and to examine the extent to which CSEs, gender, age, and level of study would influence fear of fatness. We hypothesized that fear of fatness would be higher among students with low

CSEs, females, relatively younger persons and students that entered the university more recently.

2. MATERIALS AND METHODS

2.1 Setting/Participants

The setting of the study was the Main Campus of the Olabisi Onabanjo University (OOU), Ago-Iwoye. The university is owned by the Ogun State Government and was formerly known as Ogun State University. The university has five campuses located in Ago-Iwoye (main campus, hosting faculties of Arts, Sciences, Social and Management Sciences, and Education), Ayetoro (hosting the College of Agriculture), Ibogun (hosting the College of Engineering) and Sagamu (hosting the College of Health Sciences). The university has a population of over 10,000 undergraduate students, with over fifty percent of the students' population being in the main campus. Ago-Iwoye, the host community of the university, is a semi-urban community located in Ijebu North local Government area of Ogun State, Nigeria. Because OOU is a non-residential university, majority of the students reside in the Ago-Iwoye community with the local populace.

Participants were seven hundred and ninety undergraduate students of OOU, randomly selected from four faculties and twenty departments of the university. Participants' mean age was 22.10 (SD = 5.19). Out of the 790 participants, 490 (62.02%) were females and 300 (37.97%) were males. Majority of participants (458 or 57.97%) were of Yoruba ethnicity, 225 (28.48%) were of Igbo ethnic origin while 107 (13.54%) were of other ethnic origins. In terms of marital status, 653 (82.66%) of participants were single while 137 (17.34%) were married (See Table 1).

2.2 Measures

A standardized questionnaire was used to collect relevant data in this study. Participants supplied their background information on age, gender, marital status, level of study in the University, and ethnic origin by checking the appropriate option or writing out the information. *Fear of fatness* was assessed with the Goldfarb's Fear of Fat Scale [25]. The instrument is a 10-item self-report measure which assesses an individual's fear of fatness on a 4-point Likert scale, with options ranging from "Very Untrue" (1), "Somewhat Untrue" (2), "Somewhat True" (3) to "Very True" (4). High scores on the scale generally indicate a greater tendency toward fear of fatness. The authors have reported a Cronbach's alpha coefficient of .85 (Goldfarb et al, 1985). In this study, a Cronbach alpha coefficient of .79 was obtained for the scale.

The 12-item *Core Self-evaluations Scale* (CSES) was used to assess CSEs. Developed by Judge and colleagues [26] as a direct and relatively brief measure of the CSEs traits (high self-esteem, high generalized self-efficacy, emotional stability and internal locus of control), the instrument is scored along a five-point Likert scale with options ranging from "Strongly Disagree" (1) to "Strongly Agree" (5), and with higher scores denoting high CSEs and vice-versa. Six items on the scale (items 2, 4, 6, 8, 10 and 12) are reverse scored while items 1, 3, 5, 7, 9, and 11 are direct scored. Robust psychometric properties have been reported for the scale [26-28] including an average reliability of .84, test re-test reliability of .81; item-total correlations ranging from .48 to .55 as well as high and positively correlated inter-item matrices (when the negatively worded items had been reverse scored). In the present study; a coefficient alpha of .86 was obtained.

Table 1. Participants' background information

Variable	(n = 790)
Gender	
Males	300 (37.97%)
Females	490 (62.02%)
Age: Mean (SD)	22.10 (5.19)
Ethnicity	
Yoruba	458 (57.97%)
Igbo	225 (28.48%)
Others	107 (13.54%)
Faculties	
Arts	200 (25.31%)
Education	195 (24.68%)
Sciences	197 (24.94%)
Social and Management Sciences (SMS)	198 (25.06%)
Levels of study	
100 level	200 (25.31%)
200 level	199 (25.19%)
300 level	196 (24.81%)
400 level	195 (24.68%)
Marital status	
Single	653 (82.66%)
Married	137 (17.34%)
Religious affiliation	
Christianity	415 (52.53%)
Islam	263 (33.29%)
Traditional	92 (11.65%)
Others	20 (2.53%)
Fear of fatness	
Males: Mean (SD)	19.10 (7.22)
Females: Mean (SD)	35.17 (8.32)

2.3 Statistical Analysis

Descriptive statistics were used to analyse the background variables such as gender, age, marital status, ethnicity, religious affiliation and level of study. A 2 x 2 analysis of variance (ANOVA) was used to test the independent and joint effect of gender and CSEs on fear of fatness. The influence of age on fear of fatness was examined using the t-test for independent samples. Finally, one-way ANOVA was used to test for the effect of level of study on fear of fatness.

2.4 Procedure

A multi-stage sampling technique was used to select participants from the four faculties and various departments domiciled in the Main Campus of OOU. The four faculties were Arts, Education, Sciences, and Social/Management Sciences. Using the balloting method, five (5) departments were randomly selected from each faculty, yielding twenty (20) departments. From each of the selected departments, forty (40) students were randomly selected (ten students per level of study, since there are 100, 200, 300 and 400 levels in each

department), using systematic sampling technique. Informed consent was obtained by participants' signing of the "Informed Consent" form attached to the questionnaire.

A total of eight hundred questionnaires were personally administered to participants in lecture rooms during lectures, with the cooperation of lecturers. Approximately, it took about 10 minutes to complete the questionnaire. The administration of the questionnaire cut across ages, genders, faculties, departments and levels of study. At the end of the four-week data collection exercise, 790 of the 800 questionnaires administered were returned with usable data, thus representing a 98.75% return rate.

3. RESULTS

Findings indicated that fear of fatness was very high among the respondents in the present study. The mean score of males on the fear of fatness scale in this study was 19.10 (SD = 7.22) compared to the 15.68 (SD = 4.32) obtained in Euro-American samples [29]. Similarly, the mean score obtained in this study for female respondents was 35.17 (SD = 8.32) compared to 22.41 (SD = 7.08) obtained for Euro-American samples [29].

Results shown in Table 2 indicated that CSEs had a significant main influence on fear of fatness { $F(1,785) = 15.55$; $p < .01$ }, with students low on CSEs reporting significantly higher fear of fatness (mean = 32.00) than those with high CSEs (mean = 21.19). Similarly, gender had a significant main influence on fear of fatness { $F(1,785) = 20.77$; $p < .01$ }, with females students scoring higher on fear of fatness (mean = 35.17) than their male counterparts (mean = 19.10). Results further showed a significant interaction effect of CSEs and gender on fear of fatness { $F(1,785) = 16.37$; $p > .01$ }. Further examinations of the direction of the interaction effect showed that males with high CSEs reported the lowest fear of fatness (20.15) relative to males with low CSEs (25.55), females with high CSEs (28.18) and females with low CSEs (33.56).

Table 2. Two-way (2x2) ANOVA showing the influence of CSEs and gender on fear of fatness

Source	SS	df	MS	F	p
CSEs	583.18	1	583.18	15.55	<.001
Gender	779.04	1	779.04	20.77	<.001
CSEs x Gender	614.00	1	614.00	16.37	<.001
Error	29444.54	785	37.51		
Total	831890.00	786			

Using a t-test for independent groups, we examined the extent to which age would influence fear of fatness. Age was dichotomized into: young (Under 22 years) and old (22 years and above). Results, as presented in Table 3, indicated that young students expressed more fear of fatness (mean = 29.31) than relatively older students (mean = 23.68), indicating a significant influence of age of student on fear of fatness ($t(2,788) = 5.89$; $p < .05$).

Influence of level of study on fear of fatness was explored, using a One-way (ANOVA), as presented in Table 4. Results indicated that there was significant influence of level of study on psychological wellbeing of students { $F(4,785) = 4.07$; $P > .05$ }. First-year (100 level) students reported the highest fear of fatness (33.41), followed by final-year (400 level)

students (28.31), second-year (200 level) students (27.36) and third-year (300 level) students (22.17).

Table 3. Independent t-test showing the difference between older and younger students on fear of fatness

Variable	Source	N	Mean	SD	df	t	p
Age	Old	385	23.68	3.32	788	5.89	.03
	Young	405	29.31	3.98			

Table 4. One-way ANOVA showing the influence of level of study on fear of fatness among students

Source	SS	df	MS	F	P
Between	4223.14	3	1407.71	4.07	.04
Within	82353.36	785	346.02		
Total	86576.50	789			

4. DISCUSSION

Fear of fatness was high among respondents in the present study, relative to Euro-American samples [29]. The problem was particularly very pronounced among female respondents. Although we did not find any empirical study specifically conducted in Nigeria on this issue, findings from the United States and Europe suggests that Whites tend to entertain greater fear of fatness than Blacks [18,23,24]. The finding of this study to the effect that average scores for both males and females were higher than the reported Euro-American averages, therefore, appears to be inconsistent with the previous findings. A plausible reason could be that since the previous studies were done in the US and Europe, the realities in those Western countries are clearly different and there may be no valid basis for comparing the Afro-Americans, for instance, with Nigerians. Although the world has become a global village and the campaigns against obesity have permeated every part of the world, the peculiar psychological, social, cultural, economic and political realities pervading each country should be taken into account. Another reason for the elevated scores on fear of fatness could be the fact that the present study's participants were relatively young, university students. Given that this population is reputed for being idiosyncratically trendy and socially sensitive, it should be expected that many (especially females) would be desperate to maintain ideal weights and would be scared of adding weights.

On the influence of CSEs on fear of fatness, researchers have highlighted the important role of this relatively new but important personality construct across many life domains (26, 27). Although no previous study has directly investigated the role of CSEs on fear of fatness, the results of this study in this regard appear to support the existing empirical evidence which identified CSEs as a moderator of many outcome variables. The finding also lends credence to the importance of personality variables in the explanation of many forms of human reaction.

We also found that relatively older students reported significantly lower fear of fatness than their younger counterparts. This finding is consistent with the notion that younger persons are usually more preoccupied with body image than older persons [21,22]. However, concerns about weight increase may also constitute a major issue among older persons if

such perceived or actual weight increase is considered capable of precipitating or exacerbating a health problem associated with old age [22].

Finally, level of study was also found to play significant role in students' fear of fatness. As would be expected, first-year students in the university reported the highest fear of fatness, followed by final-year students while middle-level students appeared to be more moderate in fear of fatness. It is possible that the excitement, pressure to impress and to be socially accepted that typically accompany entrance into the university would make the first-year students want to maintain an ideal weight (and have high fear of fatness), compared to "stale students" that are more settled after the excitement of university admission. On the other hand, final-year university students (especially in Nigeria where most are cognizant of the uncertainties awaiting them after graduation) are usually under huge multi-faceted pressures – occupational, financial, marital, educational, etc. In such circumstances, being overweight would certainly not be an asset. Therefore, the fear of fatness among this class of students could be appreciated.

5. CONCLUSION AND IMPLICATIONS OF STUDY

Fear of fatness is high among students of OOU and, by extension, Nigerian university students (since this university typifies most of the other Nigerian universities in terms of students' social behaviour). The study concludes that the notion of globalization of slim-body ideals is valid. Like in the explanation of many behavioral, attitudinal and emotional phenomena, personality factors, especially the CSEs traits, are very important in understanding fear of fatness. Female students experience greater fear of fatness than male students, perhaps due to the African cultural practices that are generally more male-friendly and more sympathetic to observed shortcomings on the part of males than females. Younger students are more prone to fear of fatness than their relatively older counterparts. The conspicuous paucity of empirical studies on fear of fatness and its determinants, especially among researchers in Nigeria constitutes an issue that should be adequately addressed.

6. RECOMMENDATION

The high level of fear of fatness among participants in the present study implies that necessary preventive and ameliorative steps should be taken by the relevant stakeholders: parents, teachers, university management, and mass media. One way of mitigating the problem is to organize counseling and psycho-educational programmes for young people with a view to training them on self-acceptance, CSEs (self-esteem, generalized self-efficacy, internal locus of control and emotional stability) and other useful skills to help them develop more realistic perceptions and appreciation of themselves and their social worlds. Such interventions are particularly indicated for females, given the additional societal pressure on them. The extent to which fear of fatness is prevalent among students in other universities in Nigeria constitutes an issue that requires further investigation. Considering the deleterious physical, psychological and social consequences of fear of fatness, more research is needed to further illuminate the issue, especially in Nigeria where the problem is grossly under-researched.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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