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Jacobs Journal of Food and Nutrition

Research Article

Male and Female College Students' Attitudes Towards Eating Disorders in Males

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Received: 06-17-2015

Accepted: 07-29-2015

Published: 08-01-2015

Abstract

The objective of this study was to determine if male and female college students differ in their attitudes towards eating disorders in males. Male and female undergraduate students (n=778) enrolled in an undergraduate nutrition course at a Midwestern university completed a brief, anonymous, questionnaire to collect demographic information and to assess attitudes towards eating disorders in males in March of 2013. Sex differences in demographic variables and in eating disorder attitudes were assessed using t-tests or the Chi-square test at $P<0.05$. Women were more likely to positively endorse the following items: "The media places pressure on males to have a 'perfect' body", "Eating disorders impact males *psychologically* to the same degree as females"; and, "Athletes use eating disorder behavior to control their weight". More women strongly disagreed with the following items: "Males with eating disorders openly talk about their struggles"; and, "Coaches are aware of male eating disorders". Results of this study suggest that, compared with their female peers, male students are lacking mental health literacy regarding eating disorders and hold beliefs that might contribute to stigmatization of males with eating disorders.

Keywords: Eating Disorders; Males; College Students; Mental Health Literacy; Stigma

Abbreviations

BMI: Body Mass Index (kg/m^2)

Introduction

In the United States, 20 million women and 10 million men suffer from a clinically significant eating disorder at some time in their lifetime [1]. Because the median age of eating disorder onset is 18-21 years [2] and due to psychosocial factors associated with adolescence/young adulthood, eating disorders are prevalent among college students [3]. Approximately 33% of female and 25% of male college students were diagnosed with an eating disorder with most students receiving a diagnosis of eating disorder not otherwise specified [3], and the prevalence of eating disorders in undergraduates has increased significantly in the past 20 years [3]. In addition, the high frequency of positive eating disorder screens and the use of weight-control- and compensatory-behaviors among college students suggest that a significant proportion of the undergraduate student population suffers from disordered eating. For example, Eisenberg reported that 13.5% of female and 3.6% of male college students had positive screens for eating disorder symptoms [4]. Significant numbers of male and female students reported exercising to lose weight (43% of males, 60% of females) or

dieting to lose weight (28% of males and 44% of females), and while use of laxatives/vomiting or diet pills was less frequent, ~2% of males and ~5% of females reported engaging in these behaviors to lose weight within the past 30 days (American College Health Association, 2014a). Although clinical studies suggest only 10% of diagnosed eating disorders occur in males (American Psychiatric Association, 2013), population- or community-based samples indicate that the gender disparity is much smaller with ~25% of cases being male [5]. Data from the 2014 American College Health Association's National College Health Assessment also indicate that the gender difference in prevalence is approximately 1 male diagnosed with an eating disorder for every 3 females diagnosed (American College Health Association, 2014a, 2014b). Collegiate athletes are a subpopulation of college students at increased risk for eating disorders. Both male and female athletes are at greater risk for eating disorders and use of pathogenic weight-control behaviors [6,7] compared with non-athletes. In particular, the prevalence of disordered eating is greater among athletes who experience increased pressure to achieve a low body weight, i.e., athletes in weight-class sports, endurance athletes, aesthetic sport athletes [6]. Coaches may encourage, perhaps unintentionally, unhealthy eating or exercise behaviors [8] in part because they lack awareness of eating disorders [9].

Eating disorders are chronic conditions with serious physical, psychological and social consequences for both males and females [4,10]. Negative physical health effects of eating disorders include endocrine abnormalities, osteoporosis, cardiovascular problems, erosion of tooth enamel, constipation, impaired central nervous system function, and anemia [11]. Depression, anxiety disorders, substance abuse, social isolation, and impaired role function (e.g., occupation) are common psychosocial consequences of eating disorders [10,11]. Early diagnosis and treatment are consistently associated with shortened illness duration and more positive long-term prognosis [12]. However, most eating-disordered individuals do not receive treatment specific to their eating disorder [5]. Among community cases, Hart [13] reported that only 23% of individuals with an eating disorder sought eating disorder-specific treatment [13]. Despite being a population at high-risk for eating disorders, rates of eating-disorder-specific treatment are low among college students, and reflect a bias towards exclusion of males. In a study of undergraduates, Eisenberg reported that among those with positive eating disorder screens, 53% of females and 32% of males thought that they needed help for a mental or emotional difficulty, and though 87% of females and 72% of males were seen by a health professional, only 22% of females and 16% of males received any treatment (medication or therapy/counseling) [4]. Reasons for low rates of eating-disorder-specific treatment include: low rates of treatment-seeking, missed or inappropriate diagnosis, availability of and access to treatment.

The low rates of treatment-seeking in community and collegiate populations [4,13] suggest that failure of eating-disordered individuals to seek help specifically for their eating disorder is a significant contributor to these very low treatment rates. Barriers to treatment seeking include low mental health literacy regarding eating disorders and stigmatization by others, including health professionals and one's social network, as well as self-stigmatization [14-17]. Mental health literacy is defined as knowledge and beliefs about mental health disorders, which aid their recognition, management or prevention. An individual who is lacking mental health literacy will lack the ability to recognize specific disorders and to seek mental health information, knowledge of risk factors and causes, knowledge of self-treatment, awareness of professional help available and attitudes that promote recognition and appropriate help seeking. Stigma towards psychological disorders is common and individuals with a stigmatized disorder experience discrimination, blame, rejection, and social isolation. Eating disorders are stigmatized to a greater extent than other mental illnesses [15,17] and males stigmatize eating disorders to a greater extent than females [18]. For individuals with eating disorders, stigma is associated with worse symptoms, longer illness duration, lower self-esteem and greater self-stigma towards getting psychological help [18].

While poor mental health literacy and stigmatization are significant barriers to treatment-seeking for females with eating disorders, these barriers are even greater for males [19,20], which might explain the lower rates of treatment-seeking among males with eating disorders compared with females [4,13]. The knowledge, beliefs and attitudes towards male eating disorders held by the general public, medical doctors, mental health professionals and by eating disordered patients and members of their social network contribute to poor mental health literacy and stigmatization of males with eating disorders [8,21-23]. In particular, the misconceptions that eating disorders are "women's problems," that eating disorders are not serious conditions, that recovery is easy, that the afflicted individual is personally responsible and to blame for their eating disorder are evidence of lack of mental health literacy and exacerbate the stigmatization of eating disorders [24,25]. From the perspective of a male seeking treatment for an eating disorder, barriers to treatment will be greater when his own perceptions and those of men in his social network are that eating disorders in men are non-normative and are disparaging towards the treatment-seeking process [26]. There is very little information on mental health literacy and stigmatizing attitudes regarding male eating disorders in male college students. Therefore, the purpose of the present study was to investigate the attitudes college students have towards eating disorders in males and to determine if male and female students differed in their attitudes. It was hypothesized that female respondents would have significantly different attitudes about eating disorders in males than male respondents.

Methods

Research Design and Participants

This was a cross-sectional observational study of college students enrolled in an undergraduate nutrition course at a Midwestern university during March of 2013. Male and female college students who were enrolled in an undergraduate nutrition course (n= 1209) open to nutrition majors and non-majors were eligible to participate in the study. Of the 1209 students enrolled in the course, 23 were nutrition majors and 1186 were non-majors. Those who were present in class when the survey was distributed were invited to participate in the study; 778 students completed the survey. The response rate relative to total course enrollment was 64.4%.

Procedure

Students who were present in class the day the survey was distributed were invited to participate in a very brief, anonymous, written questionnaire (15 items) at the end of class. Students were verbally informed about the purpose of the study, that participation was voluntary, and that it would take ~5 minutes to complete the questionnaire. Additionally, participants were provided a written summary about the research study, including: (1) purpose of research; (2) time involved; (3) assessment of minimal risk; (4) statement regarding benefit to participants; (5) contact for questions about the research; and, (6) contact for questions about rights as a research participant. To insure anonymity of responses, there was no identifying information collected on the questionnaire; informed consent was implicit in students' completion of the questionnaire. No incentive was provided to students for participating. All study procedures were approved by the Institutional Review Board (IRB) at the University of Missouri-Columbia.

Data Collection

The questionnaire included seven demographic variables: (sex, age, college year status, ethnicity, race, height, and weight) and eight items developed to assess attitudes towards male eating disorders in a previous study (Table 1; [27]). Body mass index (BMI, kg/m^2) was calculated from self-reported height and weight. Participants were categorized as "underweight," "normal weight," "overweight," or "obese" based on BMI [28]. The eight items regarding attitudes towards male eating disorders were developed based on Family Ecology Theory, which focuses on how an individual's environment, including family and culture, affect development. In particular, the items were designed to assess knowledge and awareness of male eating disorders to test the hypothesis that men will lack knowledge and awareness of male eating disorders because society and the media portray eating disorders as female problems [27]. The responses to the eight questions were based on a 5-point Likert scale with potential responses of: 1 = strongly disagree (SD), 2 =disagree (D), 3 = undecided (U), 4 = agree (A), and 5 = strongly agree (SA). These items were selected for several reasons: 1) the items were developed for and previously pilot tested in male college students and were determined to be reliable based on Cronbach's alpha (0.64), which is a measure of internal consistency or how closely related a set of items are as a group; 2) the participant burden was minimized by the short questionnaire to improve response rate; 3) the items asked about key attitudes, which have been associated with stigmatization of male eating disorders (i.e., eating disorders are a female problem, eating disorders are not serious conditions, men do not seek help for mental health issues); and 4) there were two items related to eating disorders in male athletes—a group of male college students at increased risk for eating disorders. Specifically, one item asked about athletes' use of eating disorder behavior (e.g., fasting, dieting, vomiting) to control their weight.

Statistical Analysis

Descriptive statistics included mean (± SD) and frequencies. Differences between sexes were evaluated using t-tests and Chi-square tests for continuous and categorical variables, respectively. $P<0.05$ was considered to be statistically significant. SPSS (version 21) was used for all analyses.

Results

Demographic Data

The descriptive statistics for the participants are reported in Table 2. Average BMI for men and women was within the normal weight category (i.e., BMI: 18.5-24.9 kg/m^2). However, there were significant differences between men and women in distribution among BMI weight categories with a greater proportion of men being classified as "overweight" (i.e., BMI: 24.9-29.9 kg/m^2). Class status and race were not significantly different between the sexes, with the majority of participants being freshmen level students of White/Caucasian descent.

Attitudes Towards Eating Disorders in Males

Statistically significant differences between the sexes were identified for 5 of the 8 statements regarding attitudes towards eating disorders in males (Table 1 and Figure 1). There was no statistically significant difference seen between the sexes for the statement "Society believes males struggle with eating disorders", with 73% of men and 70% of women disagreeing or strongly disagreeing with the statement (p=0.059). Also, no statistically significant difference (p=0.503) was seen between the sexes for the statement "Eating disorders impact males physically to the same degree as females." Forty-seven percent of men and 48% of women disagreed or strongly disagreed

Table 1. Items on college students' attitudes towards eating disorders in males presented to participants on questionnaire.

ITEMS	Strongly Disagree		Disagree		Unsure		Agree		Strongly Agree	
	M	*F*	*M*	*F*	*M*	*F*	*M*	*F*	*M*	*F*
#1: Society believes males struggle with eating disorders.*	63 (19.7)	56 (12.2)	169 (53.0)	266 (58.0)	42 (13.2)	59 (12.9)	44 (13.8)	75 (16.3)	1 (0.3)	3 (0.7)
#2: The media places pressure on males to have the "perfect" male body.*	10 (3.1)	18 (3.9)	88 (27.6)	78 (17.0)	67 (21.0)	62 (13.5)	133 (41.7)	253 (55.2)	21 (6.6)	47 (10.3)
#3: Males with eating disorders openly talk about it.	154 (48.3)	276 (60.1)	118 (37.0)	153 (33.3)	35 (11.0)	21 (4.6)	12 (3.8)	7 (1.5)	0 (0.0)	2 (0.4)
#4: Eating disorders impact males *physically* to the same degree as females.	17 (5.3)	15 (3.3)	82 (25.8)	114 (24.9)	70 (22.0)	108 (23.6)	120 (37.7)	168 (36.7)	29 (9.1)	53 (11.6)
#5: Eating disorders impact males *psychologically* to the same degree as females.*	25 (7.8)	11 (2.4)	81 (25.4)	85 (18.5)	54 (16.9)	82 (17.9)	123 (38.6)	220 (47.9)	36 (11.3)	61 (13.3)
#6: Athletes use eating disorder behavior to control their weight.*	21 (6.6)	10 (2.2)	63 (19.7)	64 (13.9)	74 (23.2)	110 (24.0)	129 (40.4)	224 (48.8)	32 (10.0)	51 (11.1)
#7: Coaches are aware of male eating disorders.*	26(8.2)	18 (3.9)	77 (24.1)	164 (35.7)	106 (33.2)	161 (35.1)	91 (28.5)	104 (22.7)	19 (6.0)	12 (2.6)
#8: There is professional help available to males with eating disorders.	8(2.5)	6 (1.3)	20 (6.3)	30 (6.5)	78 (24.5)	107 (23.3)	153 (48.0)	205 (44.7)	60 (18.8)	111 (24.2)

M: number (%) of male students endorsing response;
F: number (%) of female students endorsing response;
*Statistically significant sex differences in the distribution of responses to questionnaire items on male eating disorders.

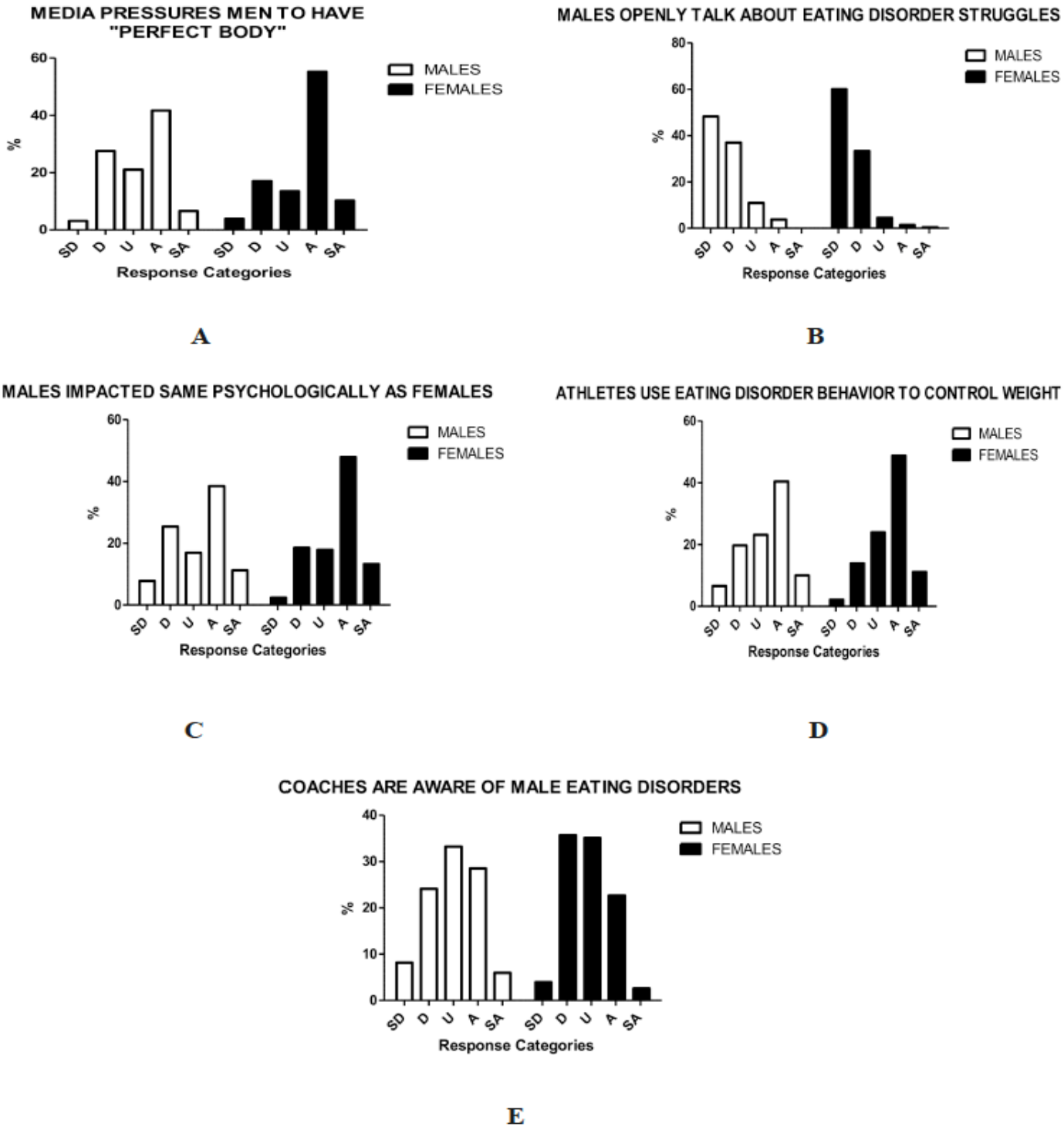
Table 2. Participant Characteristics

	Men (n= 319)	**Women (n= 459)**	**P-value**
AGE (YRS)	19.6 ± 2.2	19.3 ± 2.0	0.036
HEIGHT (METERS)	1.8 ± .06	1.6 ± .06	0.001
WEIGHT (KG)	79.0 ± 12.6	60.6 ± 11.3	0.001
BMI (KG/M^2)	23.9 ± 3.2	22.0 ± 3.6	0.001
WEIGHT CATEGORY % *#			0.001
UNDERWEIGHT (n= 31)	0.9 (n= 3)	6.3 (n= 28)	
NORMAL (n= 573)	68.1 (n=216)	81.3 (n= 357)	
OVERWEIGHT (n= 123)	25.8 (n=82)	9.3 (n= 41)	
OBESE (n= 29)	5.0 (n= 16)	2.9 (n= 13)	
TOTAL:	100% (n= 317)	100% (n= 439)	
CLASS STATUS %			0.100
FRESHMAN (n= 464)	55.9 (n =178)	62.9 (n= 286)	
SOPHOMORE (n =180)	24.2 (n= 77)	22.6 (n= 103)	
JUNIOR (n = 71)	10.0 (n= 32)	8.5 (n= 39)	
SENIOR (n= 57)	9.7 (n =31)	5.7 (n = 26)	
TOTAL:	100% (n= 318)	100% (n= 454)	
RACE % (n= 767)			0.390
AMERICAN INDIAN/ALASKA NATIVE (n= 5)	0.9 (n= 3)	0.4 (n= 2)	
ASIAN (n =24)	2.5 (n= 8)	3.5 (n= 16)	
BLACK/AFRICAN-AMERICAN (n= 64)	6.3 (n= 20)	9.7 (n= 44)	
WHITE (n= 650)	86.9 (n= 273)	83.2 (n= 377)	
OTHER (n= 24)	3.1 (n= 10)	3.0 (n= 14)	
TOTAL:	100% (n= 314)	100% (n= 453)	
ETHINCITY % * (n= 708)			0.013
HISPANIC/LATINO (n= 25)	5.6 (n= 16)	2.1 (n= 9)	
NOT HISPANIC/LATINO (n= 683)	94.3 (n= 268)	97.8 (n= 415)	
TOTAL:	100% (n= 284)	100% (n= 424)	

* Statistically significant difference between male and female students, $p<0.05$. # Weight categories defined by the World Health Organization based on BMI: underweight (≤18.5 kg/m2); normal weight (18.5-24.9 kg/m2); overweight (25.0-29.9 kg/m2); obese (≥30.0 kg/m2).

Figure 1. Sex differences in the distribution of responses to questionnaire items on male eating disorders, p-values are for Chi-square tests for differences between male and female responses. SD, Strongly Disagree; D, Disagree; U, Undecided; A, Agree; SA, Strongly Agree. 1-A) The media places pressure on males to have the 'perfect' body, p<0.0001; 1-B) Males with eating disorders openly talk about it, p<0.0001; 1-C) Eating disorders impact males psychologically to the same degree as females, p<0.0001; 1-D) Athletes use eating disorder behavior to control their weight, p=0.003; 1-E) Coaches are aware of male eating disorders, p<0.0001.

FIGURE I



with the statement, while 28% of both men and women agreed or strongly agreed with the remainder undecided. Finally, there was no significant difference (p=0.337) in response distribution between males and females for the statement "There is professional help available to males with eating disorders", with 67% of men and 69% of women agreeing or strongly agreeing with the statement.

Discussion

The results of the present study suggest that, compared with their female peers, male students are lacking mental health literacy regarding eating disorders and hold beliefs that might contribute to stigmatization of males with eating disorders. Generally, these observations support previous studies, which report male college students both perceive eating disorders to be a "female problem" and underestimate the seriousness of eating disorders, especially in males [10,29] (Mond, 2011; Wingfield, Kelly, Serdar, Shivy, & Mazzeo, 2011).

The majority of male and female students in our study agreed that society does not believe eating disorders are a problem for men. Regarding the severity or intensity of psychological and physical consequences of eating disorders in men relative to those in women, responses differed for psychological versus physical consequences. Nearly half of male and female students felt that physical consequences of eating disorders for men differ in severity compared to the consequences for women. By contrast, the male and female students differed in their beliefs regarding psychological consequences, with males more likely than the females (33% vs. 21%) to believe that males with eating disorders are not impacted to the same degree as females with eating disorders. Other studies reported similar differences between male and female college students. Wingfield et al. [29] reported that both male and female students believe that men are more likely to recover from an eating disorder than women, and that male students are more likely than female students to perceive that recovery from an eating disorder is possible. Mond and Arrighi [30] also reported that male students held beliefs about eating disorders that suggested male students underestimate the seriousness of eating disorders. For example, a significant proportion of male students believed that eating disorders are not difficult to treat and ~30% indicated that it would be only "moderately" or "a little" distressing to have an eating disorder.

Male students were less likely than female students (48% vs. 66%) to believe that the media places pressure on men to have the perfect body. These results are consistent with a study by Tantleff-Dunn et al. [25] who identified that female undergraduates were more likely than males to endorse the following stereotypic male appearance concerns: men are concerned about their physical appearance, would consider taking steroids, are driven to be muscular, fearful of aging and hair loss and are worried about love handles. Women might be more likely to endorse both media pressure on males to have the perfect body and stereotypes about male appearance concerns, because adolescent and young adult women have high levels of body dissatisfaction [31] and an individual's body image concern might affect their perception of the universality of such concerns [25].

Interestingly, despite the majority of students agreeing that society lacks awareness of male eating disorders, ~70% of both male and female students agreed or strongly agreed that there is professional help available to males with eating disorders. However, the vast majority of male students (85%) do not believe that men with eating disorders talk openly about them, and significantly more female students (94%) shared this belief. This observation is consistent with men being less likely than women to disclose distress or to seek help, especially for a problem that is viewed as non-normative for men [26].

There were differences between male and female responses to the two items related to eating disorders in athletes. Fewer males believed that athletes use eating disordered behaviours to control their weight. It is possible that the male students were less likely to view fasting/excessive exercise as "disordered," but rather considered these behaviors "normal" for some sports, e.g., wrestling. Male students were more likely than female students to believe that coaches are aware of male eating disorders (35% versus 23%). Interestingly, in a recent study of 76 coaches of elite, adolescent male and female athletes, more than half of coaches rated their knowledge of eating disorders as "very poor" to "somewhat poor," and only ~10% rated their knowledge as "good" [9]. These results suggest that coaches would benefit from education regarding eating disorders in athletes.

A recent national survey of eating disorder programs on college campuses reported that stigma preventing outreach and use of services is one of the greatest challenges faced by universities in providing services to the student population (National Eating Disorders Association, 2013). The results of the present study have implications for improving mental health literacy about male eating disorders to change stigmatizing attitudes of eating-disordered males and others, thereby lowering a significant barrier to treatment-seeking. In particular, it appears that there is significant work to be done in changing society's perception of eating disorders as a female problem. Education that targets the beliefs of young men about the serious physical and psychological consequences of eating disorders is needed. As suggested by Wingfield et al. [29], because the media is a primary source of information on eating disorders, accurate depiction of male eating disorders would facilitate attitude change. Our results also suggest that disordered eating in male athletes also should be a focus of interventions targeted to young men.

The strengths of this study are the following: a large sample size of male and female college students; a study population where nutrition knowledge is representative of non-nutrition major college students; and the use of questionnaire items about attitudes towards male eating disorders that were developed for and piloted test in male college students. This study also has several limitations. It is possible that some of the participants may have been previously exposed to the topic of eating disorders; however, eating disorders had not been covered in the course at the time the questionnaire was administered. The majority of the participants were Caucasian and freshman college level; consequently, the results of our study cannot be generalized to all undergraduate students. Finally, the study population was a convenience sample and there was selection bias because the participants were enrolled in an elective nutrition course.

Conclusion

In conclusion, the results of this study suggest that, compared with their female peers, college-aged males differ in attitudes of eating disorders in young men. In particular, compared with their female peers, male students are lacking mental health literacy regarding eating disorders and hold beliefs that might contribute to stigmatization of males with eating disorders.

Acknowledgments

This study was supported by the Department of Nutrition and Exercise Physiology Summer Research Internship at University of Missouri.

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