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Body dissatisfaction in Division III collegiate male athletes: an exploratory study

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Body Dissatisfaction in Division III Collegiate Male Athletes: An Exploratory Study

by

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Abstract

Given the paucity of literature investigating body dissatisfaction in collegiate male athletes, more work is necessary to establish the extent and consequences of that phenomenon in this population. The purpose of this study was to explore body dissatisfaction in collegiate male athletes participating in varsity sports at SUNY Cortland. The specific aim was to determine the prevalence of body dissatisfaction in collegiate male athletes and other intra-individual factors that may exist within varsity men's sports. Thirteen participants completed electronic surveys for the Weight Pressures Scale for Male athletes (WPS-M), the Drive for Muscularity Scale (DMS), and the Body Esteem Scale (BES), as well as paper copies of the Male Body Scale (MBS) and Male Fit Body Scale (MFBS). Height (cm), weight (kg), and body fat percentage were also measured objectively. Statistical analyses were completed using SPSS. A level of significance was set at .05 for all statistical analyses. Results of the present study showed out of 13 total participants, 61.54% were classified as having fat-related body dissatisfaction, and 92.30% were classified as having muscularity-related body dissatisfaction. Significant correlations were found between the WPS-M and the DMS (r = -.774, p = .002), the WPS-M Coach/Teammate pressures subscale and the DMS (r = -.835, p < .001), the WPS-M and the BES-PC (r = -.589, p = .034), the WPS-M Coach/Teammate pressures subscale and the BES-PC (r = -.645, p = .017), the DMS and the BES-UBS (r = .618, p = .024), the DMS and the BES-PC (r = .558, p = .048), the MBS score and the weight difference (r = .644, p = .018), and the WPS-M Appearance pressures subscale and the weight difference (r = -.649, p = .016). Significant differences were observed for the BES-PA ($F(2,10) = 4.272$, p = .046, η_p^2 = .461) and the BES-PC ($F(2,10) = 6.881$, p = .013, η_p^2 = .579). Post hoc comparisons revealed those who were satisfied with their body type (M = 61.60, SD = 1.949) had a significantly higher mean score on the BES-PC compared to

those who wanted to be smaller (M = 43.33, SD = 9.292, p = .012). Body dissatisfaction affects both male and female athletes, however there is still a gap in scientific literature on this phenomenon in collegiate male athletes. The present study has provided new evidence on male athletes and both fat-related and muscularity-related body dissatisfaction. Recent research has shown males and females require different methods to identify those at risk for developing disordered eating behaviors and body dissatisfaction. Investigating male body dissatisfaction and using evidence-based findings for the development and implementation of risk factor assessments for specific populations (e.g., Division III male athletes) can help sports medicine staff, including athletic trainers, identify those at risk effectively.

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CHAPTER 1

INTRODUCTION

The importance of body positivity has become a recent focus in American society. Breaking the social norms of what is considered "healthy" has allowed representation of all body types in areas such as popular media and athletics. Unfortunately, body image issues continue to affect athletes and can lead to disordered eating behaviors in both males and females. Research has shown that body dissatisfaction can lead to disordered eating behaviors or diagnosed eating disorders (Goltz et al., 2013; Krentz & Warschburger, 2011). If disordered eating behaviors are present, they can lead to energy deficiency in athletes, which can further result in an increased risk of injury and worse performance (Krentz & Warschburger, 2011). Not only can body dissatisfaction lead to negative physical effects, but it can also lead to other mental health conditions (Pluhar et al., 2019). Previous research has found participants are at risk for disordered eating if they participate in aesthetic sports and believe leanness will be beneficial (Krentz & Warschburger, 2011). Aesthetic sport participants do not directly compete against one another, but rather involve one or more judges that provide a score for the individual performance (e.g., gymnastics, figure skating, etc.). These scores are often largely based on how well a movement is executed and how the performer looks during the execution. This can place an emphasis on body image and potentially lead to body dissatisfaction if individuals assign a greater importance of their physical appearance to their scores. More recent research has shown athletes in sports that are not aesthetic based can also suffer from body dissatisfaction (Galli et al., 2011). For example, wrestling is a sport where physically dominating the competitor is the determining factor for success. But, because

weight classes are relevant to competition and factor into who each competitor faces, there is a potential advantage of modifying anthropometrics in order to compete in the desired weight class. (Galli et al., 2011). This can lead to negative body changing strategies in order to pursue body satisfaction, including the use of steroids (Galli et al., 2011).

Body dissatisfaction and overall body image in males tends to be less discussed in the scientific literature and popular media than females. There are differences between the types of body dissatisfaction that females experience compared to males, which prevents a unified approach to identifying and addressing these concerns. For example, females tend to focus on weight loss while males typically want to be lean and muscular (Galli et al., 2011). Ralph-Nearman and Filik (2018) suggested females tend to focus on how much body fat they have in relation to body dissatisfaction. While these studies have looked at differences between body dissatisfaction in males and females, they have not discussed the prevalence of body dissatisfaction within collegiate male sport participants. Fiske et al. (2014) has called for more studies to examine the prevalence of body dissatisfaction across subgroups. By determining the prevalence of body dissatisfaction in collegiate male sports, specific risk factor assessments could be developed, and appropriate interventions can be provided to individuals struggling with body image. The National Athletic Trainers' Association position statement on *Preventing, Detecting, and Managing Disordered Eating in Athletes* (2008), does not include recommendations from more recent research related to male athletes and disordered eating. In the position statement, it states "*…similar strategies should be used to detect and treat the condition in both sexes*" (Bonci et al., 2008, p. 98). This contradicts the more recent research

suggesting that males and females require different methods to identify those at risk for developing disordered eating behaviors. Vaughan et al. (2004) found only 27% of athletic trainers felt they could effectively identify female athletes with disordered eating behaviors. Utilizing findings from recent research for the development and implementation of risk factor assessments for specific populations (e.g., male athletes) can help sports medicine staff, including athletic trainers, identify those at risk more effectively.

Statement of the Problem

Given the paucity of literature investigating body dissatisfaction in collegiate male athletes, more work is necessary to establish the extent and interrelated factors of this phenomenon in this population.

Purpose

The purpose of this study was to explore body dissatisfaction in collegiate male athletes participating in varsity sports at SUNY Cortland. The specific aim was to determine the prevalence of body dissatisfaction in collegiate male athletes and other intra-individual factors that may exist within varsity men's sports.

Research Question

The intent of the research question was to determine the prevalence of body dissatisfaction among college male student-athletes across a variety of sports and establish descriptive data relative to other possible factors of body dissatisfaction.

Delimitations

The delimitations of this study include:

1. Only varsity male student-athletes from SUNY Cortland were included in this study.
2. Only athletes from basketball, cross-country, football, soccer, track and field, and wrestling were allowed to participate in this study.
3. Only athletes who had completed at least one full season of athletic competition at SUNY Cortland on a varsity men's sport team were allowed to participate in this study.

Limitations

The limitations of this study include:

1. There was a small sample size of participants due to a five percent response rate.
2. Only self-report scales were utilized, which may be inaccurate if participants chose to be dishonest.
3. Findings are limited to Division III collegiate male athletes.

Assumptions

The following assumptions were made about this study:

1. All participants truthfully answered survey responses.

Definition of Terms

Body dissatisfaction	Negative thoughts related to one's own body type (Quittkat et al., 2019).
Body changing strategies	Any behavior that attempts to change one's body composition or body size (Galli et al., 2011).

Significance of the Study

By studying the prevalence of body dissatisfaction and potential associated intra-individual factors, sports medicine staff (i.e., athletic trainers, team physicians, etc.) may be able to identify individuals at risk of developing body dissatisfaction and may be able to better monitor these athletes to prevent disordered eating behaviors or negative body composition changing practices (e.g., steroid usage). More research on body dissatisfaction in male athletes can increase awareness within the larger population that body image concerns are not solely a female phenomenon as is popularly assumed. A holistic approach to health that includes educating the network of coaches, teammates, and referees in the sport is important to addressing issues of body dissatisfaction in male sports.

CHAPTER 2

LITERATURE REVIEW

An individual perceives his or her body along a continuum of satisfaction that incorporates a number of several factors such as thoughts, beliefs, emotions, and behaviors (Cash, 2004). There appears to be trajectory evidence that suggests body dissatisfaction originates during mid-adolescence and stabilizes throughout adulthood (Wang et al., 2019). The accumulated perceptions of these factors then leads to a sense of satisfaction or dissatisfaction with one's body, which is often embedded in a cultural context. Emphasizing how an individual looks on the outside rather than focusing on overall health could lead to body dissatisfaction. This emphasis may stem from the societal notion that "*…the body is infinitely malleable"* and "*…vast rewards await the person who attains the ideal."* (Brownell, 1991, p. 1). This section will discuss previous research which has focused on overall body dissatisfaction in males and females, body esteem, measures, and different sport types.

Body Dissatisfaction

There is a significant gap in the literature for male athletes with body dissatisfaction. Until recently, it was believed these types of conditions were not as relevant to males (Goltz et al., 2013). With the differences between male and female body structure, factors related to body dissatisfaction cannot be assumed to be the same for both sexes. Recent studies have begun looking at differences between males and females with body dissatisfaction (Fiske et al., 2014; Tornero-Quinones et al., 2019; Quittkat et al., 2019). A recent review by Fiske et al. (2014) of body dissatisfaction among adults in the United States noted a wide range of prevalence rates for females

(11%-72%) and males (8%-61%). Researchers noted that the inconsistencies were most likely due to the instruments being used and general (e.g., overall body dissatisfaction) versus specific assessments (e.g., weight dissatisfaction; facial attraction; Fiske et al., 2014).

Moradi et al. (2010) suggested the desire to be physically fit is a common reason for participation in sports, which can develop from body dissatisfaction and negative self-esteem. The perception of one's physique serves as a critical motivational factor for sport participation and could have long term physical activity involvement consequences. Tornero-Quinones et al. (2019) found a higher percentage of females demonstrated a risk of dependency on physical activity to cope with body dissatisfaction compared to males. Becoming dependent on exercise could lead to issues related to overtraining or an unhealthy obsession with the sport to cope with daily life stress (Tornero-Quinones et al., 2019). While the present study is focusing on body dissatisfaction in male athletes, it is important to note body dissatisfaction can also increase the risk of developing negative eating behaviors. According to Goltz et al. (2013) male athletes are more likely to suffer from disordered eating compared to non-athletes. An exploratory study by McCreary and Sasse (2000) investigated disordered eating behaviors in males and found that because male athletes tend to want to be more muscular, they are more likely to binge eat in order to try to gain weight. Males also have an increased risk of using anabolic androgenic steroids to achieve muscularity (Galli et al., 2011). The use of these anabolic androgenic steroids can lead to significant health concerns (McCreary & Sasse, 2000).

Wang et al. (2019) suggested that body dissatisfaction begins during mid-adolescence and stabilizes during adulthood. Quittkat et al. (2019) provided evidence that

body dissatisfaction was consistent for both males and females as age increases. This suggests that body dissatisfaction may or may not be consistent for males competing in collegiate athletics. Galli et al. (2011) demonstrated that males tend to want to be more muscular, while females tend to focus on trying to be skinnier, partly due to societal pressures. This is often due to the belief that a thinner body will make an athlete perform better in certain sports (Krentz & Warschburger, 2011). However, Leng et al. (2020) found that out of 74 male participants, only 42% identified their ideal body type as being smaller than their perceived body type. Out of the 74 male participants, 32% identified an ideal body type larger than their own. These results suggest males may not be limited to one ideal body type.

Body Esteem

Male and female athletes also experience different forms of body esteem. Franzoi and Shields (1984) showed that males tend to judge themselves based on how functional their body is rather than just how it looks, while females tend to focus on their body image rather than functionality. Based on these observations, Franzoi and Shields (1984) have identified the three most important characteristics of self-esteem for males as physical attractiveness, upper body strength, and physical condition. Soulliard et al. (2019) demonstrated that females had decreased body appreciation and functionality appreciation when compared to males. It is important to mention the participants of this study were majority female at 70.9% (Soulliard et al., 2019). Comparatively, Quittkat et al. (2019) found body appreciation was higher in females compared males and suggested these results were likely due to males judging their body's functionality.

Scales Developed for Males

Galli et al. (2011) developed a scale to measure appearance pressures and pressures from coaches and teammates based on the differences in how males experience body dissatisfaction. From the development of the Weight Pressures Scale for Male Athletes (WPS-M), it was shown males tend to experience more weight pressures from coaches or teammates rather than from themselves (Galli et al., 2011). Nugent (2020) found that male participants had higher mean scores on the WPS compared to female participants, though not statistically significant. It was also shown that body satisfaction decreased when more weight pressures were present for both males and females (Nugent, 2020). While it has been shown that weight pressures can increase body dissatisfaction (Galli et al., 2011; Nugent, 2020), there is also evidence that coaches who are positive about weight pressures can reduce body dissatisfaction (Pluhar et al., 2019). While previous research has analyzed weight pressures on male athletes, additional work to investigate relationships between body dissatisfaction and weight pressures in male athletes is necessary.

As previously discussed, males tend to want a more muscular body type rather than a thin body type. The Drive for Muscularity scale (DMS) was developed by McCreary and Sasse (2000) because the drive for thinness was suggested to be less common in males. It was found that adolescent boys have a higher drive for muscularity compared to adolescent girls (McCreary & Sasse, 2000). The DMS was also used by Ralph-Nearman and Filik (2018) to measure the desire to be more muscular as they developed new scales for measuring body dissatisfaction in males. Both Ralph-Nearman and Filik (2018) and Galli et al. (2011) showed reliability and validity for the DMS. The

DMS is important for identifying male athletes who have a drive for muscularity which could lead to the development of body dissatisfaction.

Sport Type

While previous literature discusses that males tend to want to be more muscular (Galli et al., 2011), it has been shown the ideal body type for males can vary (Leng et al., 2020). It is possible the reason for this inconsistency could be related to sport type. A recent study by Perelman et al. (2018) assessed group differences in body dissatisfaction among sex, sport type, and division level. Sports were grouped into lean-promoting (e.g., cross country/track and field) or non-lean promoting (e.g., soccer) sports. Results showed evidence that men in lean-promoting sports experience significantly more body dissatisfaction. Researchers also found women experienced more body dissatisfaction when compared to men. However, it is important to note there were only 62 male participants compared to 129 female participants (Perelman et al., 2018).

A study by Krentz and Warschburger (2011) which looked at aesthetic sports demonstrated that aesthetic-sport athletes tend to have higher rates of disordered eating behaviors when compared to non-aesthetic sport athletes. Females in this study also showed higher amounts of disordered eating and body dissatisfaction (Krentz & Warschburger, 2011). Unfortunately, this study only looked at aesthetic sports, and did not look at other types of sports which may still emphasize an ideal body type or weight.

A meta-analysis of body image between athletes and nonathletes by Hausenblas and Downs (2001) illustrate that out of the 78 studies assessed, only 19.2% of comparisons assessed involved male athletes. For this meta-analysis, sports were grouped into three categories: endurance sports, aesthetic sports, and ball game sports. Results

showed no difference in the effect for body image concerns among these sport groups, which contradicts previous research. It is possible these results occurred due to the limited number of studies assessing ball game sports (e.g., basketball, soccer).

As previously mentioned, body dissatisfaction can develop during mid-adolescence (Wang et al., 2019). To assess body image concerns in adolescent male athletes, McKay Parks and Read (1997) compared two groups: football players (N = 44) and cross-country runners (N = 30). Results showed cross-country runners experienced higher body dissatisfaction and disordered eating patterns compared to football players. However, 83% of participants across both groups were not satisfied with their current weight. (McKay Parks & Read, 1997). This provides evidence that different sport types need to be further assessed to understand how body dissatisfaction can be influenced by sport.

Summary

Previous research on male athletes with body dissatisfaction in collegiate sports is scarce. Males differ from females in how they determine their body esteem (Franzoi & Shields, 1984). While previous research shows high amounts of body dissatisfaction in females, this should not imply that rates are significantly lower in males, nor should it be treated as such. Some male athletes are more likely to turn to anabolic steroid use to reach their desired body type (Galli et al., 2011), which can lead to serious health concerns (McCreary & Sasse, 2000). Investigating differences in male body dissatisfaction between sports can help develop risk assessments and lead to better education for athletes who may be at risk for developing body dissatisfaction.

CHAPTER 3

METHODS

The purpose of this investigation was to determine the prevalence of body dissatisfaction among Division III college aged male student-athletes and to examine the possible relationships between body dissatisfaction and individual motivation, external pressures, and self-esteem. This chapter will discuss participants, instrumentation, procedures, and data analysis.

Participants

Participants were recruited from men's varsity athletic teams at SUNY Cortland. Approximately 260 male athletes were invited to participate after permission was received from coaches. A total of 13 male student-athletes (5% response rate) participated in this study from the following varsity men's teams: basketball (n = 4), cross country/track and field (n = 5), football (n = 1), soccer (n = 1), and wrestling (n = 2). Out of the cross country/track and field athletes (n =5), three participated in both cross country and track and field, and the other two athletes only participated in track and field. Participants were required to have completed at least one full season of athletic competition at SUNY Cortland on a varsity men's sport team. Participants were excluded if they participated in more than one sport, except for any cross country and track and field athletes.

Instrumentation

Informed Consent form (Appendix A). This form was used to notify the participants that they could withdraw from the study at any point. The informed consent form also contained information regarding the purpose of the study, the expected length of the

study, risks and benefits, IRB approval information, and contact information of the primary researcher.

Measures

Male Body Scale/Male Fit Body Scale (Appendices C & D). To measure body dissatisfaction, the Male Body Scale (MBS) and Male Fit Body Scale (MFBS) were used to identify what each participant considered to be their current body type and the ideal body type (Ralph-Nearman & Filik, 2018). These scales include nine figures with different body types. The MFBS includes more muscular body types (muscularity-related body dissatisfaction) compared to the MBS (fat-related body dissatisfaction; Ralph-Nearman & Filik, 2018). To score the MBS and MFBS, the difference between participants identified ideal body type and identified current body type was calculated.

Weight Pressures Scale for Male Athletes (Appendix E). To measure weight pressures within sports, the Weight Pressures Scale for Male Athletes (WPS-M; Galli et al., 2011) was used. The WPS-M measures weight related pressures from teammates, coaches, or oneself (Galli et al. 2011). For scoring the WPS-M, participants were asked to rate 14 items ($\alpha = .865$) on a scale of one (*never*) to six (*always*) and averages of all items were taken for one total score as well as averages for the appearance pressures (7 items; $\alpha = .466$) and coach/teammate pressures (7 items; $\alpha = .884$) subscales.

Drive for Muscularity Scale (Appendix F). Participants were assessed on how much they wish to become more muscular using the Drive for Muscularity Scale (DMS; McCreary & Sasse, 2000). The DMS has 15 items ($\alpha = .723$) which are rated on a scale of one (*always*) to six (*never*). For scoring, all values were averaged together for one total score.

Body Esteem Scale (Appendix G). Measurement of participants' body self-esteem, specifically based on their internal perception of their body image, was assessed with the Body Esteem Scale (BES; Franzoi & Shields, 1984). During data processing, three subscales of the BES were analyzed: the Physical Attractiveness subscale (PA; 11 items; $\alpha = .922$), the Upper Body Strength subscale (UBS; 9 items; $\alpha = .784$), and the Physical Condition subscale (PC; 13 items; $\alpha = .918$). These subscales represent the three most important characteristics of self-esteem for males (Franzoi & Shields, 1984). For the BES, 35 items ($\alpha = .958$) are rated on a scale of one (*have strong negative feelings*) to five (*have strong positive feelings*). For scoring, the items from each subscale were added together for a total score.

Equipment

Height and Weight. Following completion of all surveys, participants height and weight were taken on a Detecto Stadiometer (Model 750, USA). Heights (centimeters; cm) were taken by the primary researcher and weights (kilograms; kg) were automatically displayed by the device. All participants were instructed to remove their shoes before stepping onto the stadiometer.

Bioelectrical Impedance. After participants height and weight were taken by the primary researcher, an upper body bioelectrical impedance device was used to determine participants actual body fat percentage (Omron Fat Loss Monitor, Model Number HBF-306C). On the device, each participant was set to "athlete." Participants age, height (cm), weight (kg), and sex were all input by the primary researcher and the device was handed to participants before pressing "start."

Design and Procedures

This study design was an exploratory between groups comparison. Variables included survey responses to body dissatisfaction, drive for muscularity, body-esteem, and weight pressures. After receiving approval from the SUNY Cortland Institutional Review Board (IRB), the primary researcher contacted the athletic director. The athletic director assisted with contacting the coaches for permission to recruit their team. Rosters from men's basketball, men's cross-country, football, soccer, men's track and field, and wrestling were sent to the primary researcher. Initially, 50% of the athletes from each team were randomly selected to invite for participation in the study. An amendment to the IRB application was approved to invite all participants from the six teams. Participants were sent a recruitment email inviting them to participate in the study which included an incentive that all participants would be entered into a raffle for a pair of 3rd Generation Apple AirPods. Participants were instructed to sign up for a time slot where they would meet with the primary investigator in the Proehl Exercise Physiology Laboratory (PRST 1170) in the Professional Studies Building. During this time slot, participants were first given an informed consent form to complete. After the informed consent form was signed, participants were given a random three-digit participant number by rolling a six-sided die three times. Next, participants were administered the surveys (WPS-M, DMS, BES) electronically using Select Survey. On the first page of the survey, participants were asked their participant number, sport, position or event, the number of athletic seasons at SUNY Cortland, age, and their perceived height (cm) and weight (kg). Participants self-reported their height and weight in inches and pounds, respectively, and the primary researcher converted these measurements to centimeters and kilograms,

respectively. The second page included the WPS-M, the third was the DMS, and finally the BES was split onto pages four and five. Following completion of the online surveys, participants completed the MBS and MFBS with the primary researcher. First, participants were asked to identify the figure which represents their current body type on the MBS and to write the letter "C" above that figure. Then, they were asked to identify the figure which represents their ideal body type on the MBS and to write the letter "I" above that figure. This was repeated on the MFBS. Following completion of the MBS and MFBS, the primary investigator measured the participant's height (cm) and weight (kg) using a Detecto stadiometer (Model 750, USA). Next, using the measurements obtained, the primary researcher set up the bioelectrical impedance device (height, weight, age, sex) and instructed the participant on how to use it. The participants' body fat percentage was displayed on the bioelectrical impedance device (Omron Fat Loss Monitor, Model Number HBF-306C). After all measurements were recorded, participants were given a debriefing statement (Appendix H).

Data Processing

All survey responses and objective data were entered into a Microsoft Excel file and all scales were scored by the primary researcher. The Microsoft Excel file was imported to SPSS (Version 28) for data processing and statistical analysis. There were four items excluded from data processing for the BES (body scent, legs, sex activities, and body hair) because they were not included in scoring for the BES for males (Franzoi & Shields, 1984).

Statistical Analysis

Descriptive statistics were calculated for the age of the participants, the number of collegiate level athletic seasons completed, self-reported height (cm) and weight (kg), actual height (cm) and weight (kg) measurements, body fat percentage, and for the scores of the WPS-M, DMS, and the BES. For the MBS and MFBS, participants were placed into one of three body dissatisfaction classifications: (0) satisfied, (1) want to be smaller, and (2) want to be bigger. This classification was determined based on their MBS and MFBS score. If participants scored a 0 on the MBS or MFBS, they were placed into the satisfied category. Those with negative scores (≤ -1) were placed into the want to be smaller category, and those with positive scores (≥ 1) were placed into the want to be bigger category. For the WPS-M, greater weight pressures are evidenced by a higher score. For the DMS, the higher the total score, the higher the drive for muscularity. Finally, for the BES, higher scores represented higher body esteem.

Due to the exploratory nature of the study, additional analyses were run to investigate potential relationships using Pearson's correlations. Pearson's correlations were completed for the following variables: MBS score, MFBS score, WPS-M score (including Coach/Teammate pressures and Appearance pressures subscales), DMS score, BES: Physical Attractiveness score, BES: Upper Body Strength score, BES: Physical Condition score, and the difference between participants self-reported weight (kg) and observed weight (kg).

To investigate potential differences among the three MBS body dissatisfaction classifications, between-subjects ANOVAs were completed. Seven between-subjects ANOVAs were run to test for differences in the WPS-M score, the DMS score, the BES-

PA score, the BES-UBS score, the BES-PC score, body fat percentage, and the weight difference (kg) among three body dissatisfaction groups (satisfied, want to be smaller, and want to be bigger). A level of significance was set at $p < 0.05$ for all statistical analyses.

CHAPTER 4

RESULTS

Table 1 provides descriptive statistics for participant characteristics and sport affiliation and history. A total of 13 male student-athletes participated in this study. Four of the participants were basketball athletes (30.77%), five were cross country and/or track and field athletes (38.46%), one was a football athlete (7.69%), one was a soccer athlete (7.69%), and two were wrestling athletes (15.38%). Out of the cross country/track and field athletes (n =5), three participated in both cross country and track and field, and the other two athletes only participated in track and field. Participants' mean self-reported height (M = 182.49 cm, SD = 8.15 cm) and weight (M = 84.48 kg, SD = 18.04 kg) were calculated, as well as their mean observed height (M = 180.78 cm, SD = 7.71 cm) and weight (M = 85.03 kg, SD = 19.42 kg).

Table 1. Participant sport affiliation and characteristics. Values are mean and SD for sports with $n > 1$.

Sport	Age		Number of Seasons		Body Fat %		n
	M	SD	M	SD	M	SD	
Basketball	20.5	2.08	1	—	11.93	1.90	4
Cross Country/Track and Field	21.2	0.45	3.6	0.89	11.36	3.40	5
Football	20	—	3	—	17.4	—	1
Soccer	23	—	4	—	15.6	—	1
Wrestling	21	1.41	1.5	0.71	18.85	10.11	2
Total	21	1.35	2.46	1.39	13.48	4.74	13

Descriptive statistics for the MBS and MFBS scores are shown in Table 2. For the MBS, out of 13 total participants, five were classified as being satisfied with their body type (38.46%), three were classified as wanting to be smaller (23.08%), and five were classified as wanting to be bigger (38.46%). For the MFBS, out of 13 total participants, one was classified as being satisfied with their body type (7.69%) and 12 were classified as wanting to be bigger (92.31%).

Table 2. Descriptive statistics for Male Body Scale (MBS) and Male Fit Body Scale (MFBS).

Scale	Figure	Possible Range	Actual Range	Mean	SD	N
MBS	Current	1 to 9	3 to 8	4.462	1.506	13
MBS	Ideal	1 to 9	3 to 6	4.538	1.050	13
MBS	Score	-8 to 8	-2 to 1	0.077	0.954	13
MFBS	Current	1 to 9	3 to 7	4.538	1.450	13
MFBS	Ideal	1 to 9	3 to 9	6.231	1.536	13
MFBS	Score	-8 to 8	0 to 4	1.692	1.109	13

Correlational Analyses

Pearson's correlations were run to investigate potential relationships between the following variables: MBS score, MFBS score, WPS-M score (including Coach/Teammate pressures and Appearance pressures subscale scores), DMS score, BES-PA score, BES-UBS score, BES-PC score, and the difference between participants self-reported weight (kg) and observed weight (kg).

Weight Pressure Scale

Figure 1 shows a negative, linear correlation between the WPS-M and the DMS. The Weight Pressure Scale for Male Athletes and the Drive for Muscularity Scale have a large, statistically significant correlation, $r = -.77$, $p = .002$, shown in Table 3. There was also a large, negative, statistically significant correlation between the Coach/Teammate

pressures subscale of the WPS-M and the DMS, $r = -.84$, $p < .001$; however, there was not a significant correlation between the Appearance pressures subscale of the WPS-M and the DMS, $r = -.48$, $p = .099$ (Table 3).

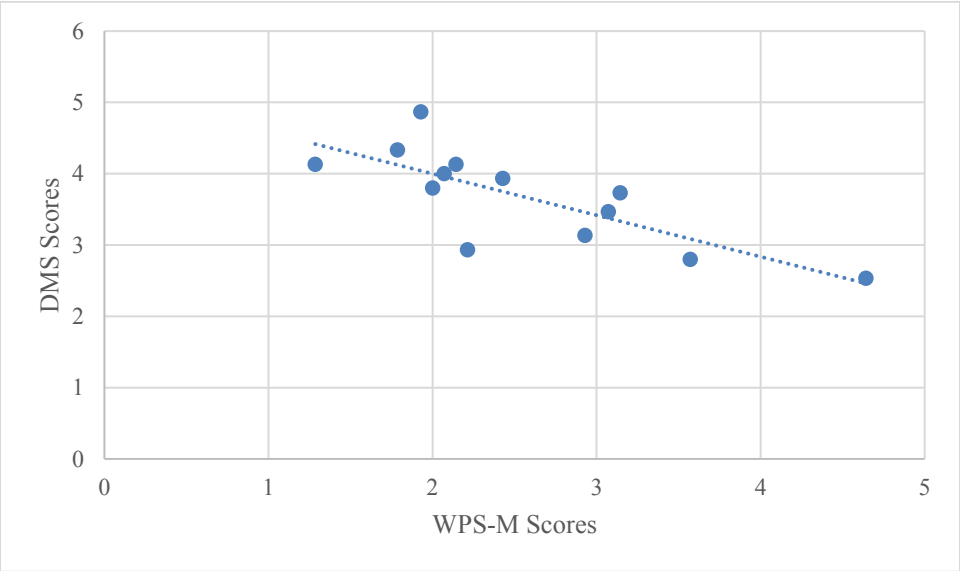

Figure 1: Relationship between the Weight Pressures Scale for Male Athletes (WPS-M) and the Drive for Muscularity Scale (DMS). ($r = -.774$, $p = .002$).

Body Esteem Scale

Figure 2 shows a negative, linear correlation between the WPS-M and the BES-PC. The Weight Pressures Scale for Male Athletes and the Body Esteem Scale: Physical Condition have a large, statistically significant correlation, $r = -.59$, $p = .034$, shown in Table 3. There was also a large, statistically significant correlation between the Coach/Teammate pressure subscale of the WPS-M and the BES-PC, $r = -.65$, $p = .017$; however, there was not a significant correlation between the Appearance pressures subscale of the WPS-M and the BES-PC, $r = -.34$, $p = .257$ (Table 3).

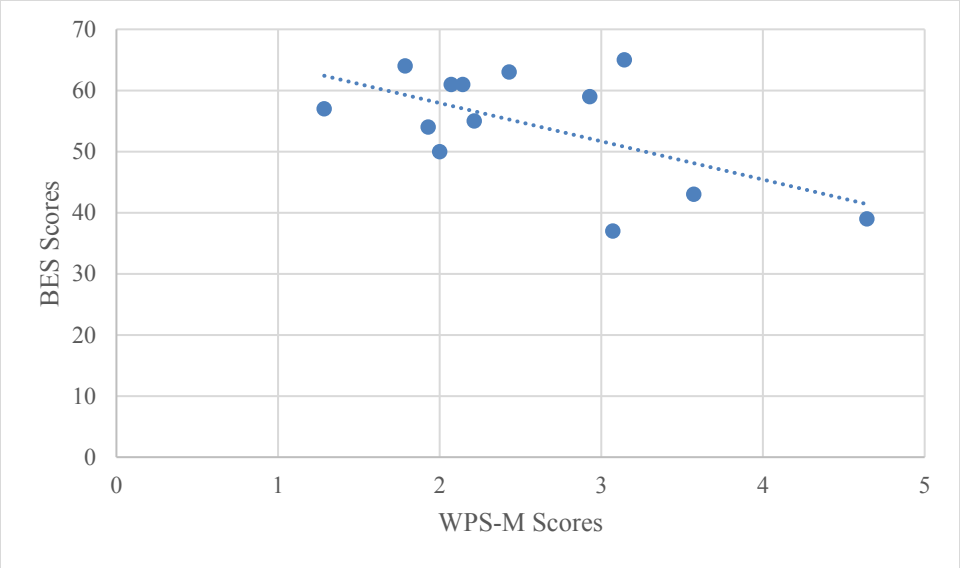

Figure 2: Relationship between Weight Pressures Scale for Male Athletes and the Body Esteem Scale Physical Condition Subscale. (r = -.589, p = .034).

Drive for Muscularity Scale

Figure 3 shows positive, linear correlations between the DMS and the BES-UBS and between the DMS and the BES-PC. The Drive for Muscularity Scale and the Body Esteem Scale: Upper Body Strength have a large, statistically significant correlation, r = .62, p = .024 (Table 3). The Drive for Muscularity Scale and the Body Esteem Scale: Physical Condition also have a large, statistically significant correlation, r = .56, p = .048 (Table 3). However, the Drive for Muscularity Scale and the Body Esteem Scale: Physical Attractiveness did not have a statistically significant correlation, r = .49, p = .093 (Table 3).

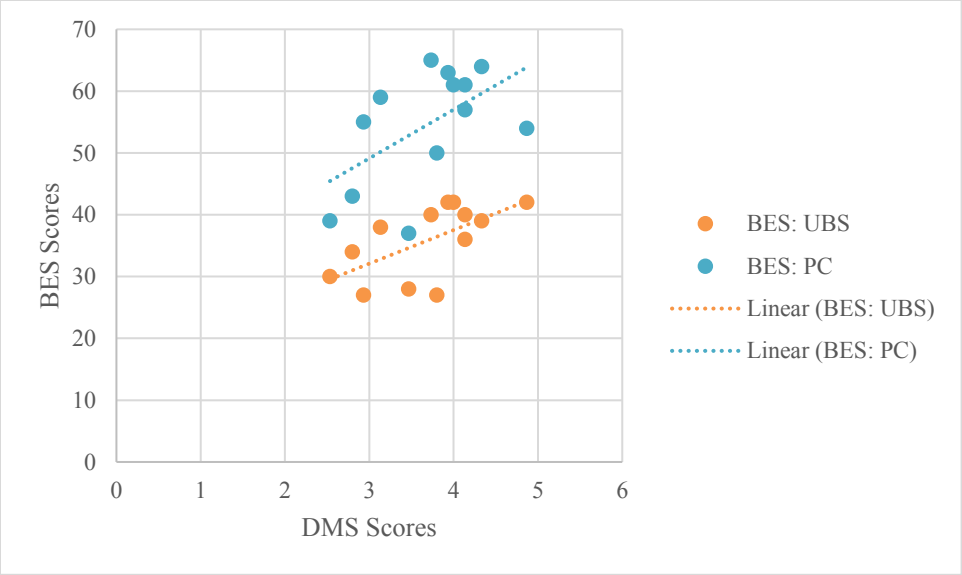

Figure 3: Relationship between Drive for Muscularity Scale and the Body Esteem Scale: Upper Body Strength and Physical Condition. (DMS and BES:UBS are shown in orange, $r = .618$, $p = .024$; DMS and BES:PC are shown in blue, $r = .558$, $p = .048$).

Weight Difference (kg)

A large, positive, statistically significant correlation was found between the MBS score and the difference between participants self-reported weights (kg) and observed weights (kg), $r = .64$, $p = .018$ (Table 3). There was also a large, negative, statistically significant correlation found between the WPS-M Appearance pressures subscale and the difference between participants self-reported weights (kg) and observed weights (kg), $r = -.65$, $p = .016$ (Table 3). No other significant correlations were found between the scales.

Table 3. Correlations Between Variables

Variable	MBS Score	MFBS Score	WPS-M	WPS-M C/T	WPS-M Appear.	DMS	BES-PA	BES-UBS	BES-PC
MBS Score	—	—	—	—	—	—	—	—	—
MFBS Score	*r* = .339	—	—	—	—	—	—	—	—
WPS-M	*r* = -.452	*r* =.361	—	—	—	—	—	—	—
WPS-M C/T	*r* = -.378	*r* =.410	*r* =.974**	—	—	—	—	—	—
WPS-M Appear.	*r* = -.531	*r* =.175	*r* =.856**	*r* =.717**	—	—	—	—	—
DMS	*r* = .042	*r* = -.383	*r*=-.774**	*r*=-.835**	*r* = -.478	—	—	—	—
BES-PA	*r* = -.017	*r* = -.232	*r* = -.265	*r* = -.362	*r* =.010	*r* =.485	—	—	—
BES-UBS	*r* = -.026	*r* = -.203	*r* = -.299	*r* = -.402	*r* = -.001	*r* =.618*	*r* =.795*	—	—
BES-PC	*r* = .428	*r* = -.223	*r* = -.589*	*r* = -.645*	*r* = -.339	*r* =.558*	*r* =.848*	*r* =.720*	—
Wt. Diff	*r* = .644*	*r* = -.061	*r* = -.529	*r* = -.430	*r* = -.649*	*r* =.302	*r* =.077	*r* =.214	*r* =.426

* . Correlation is significant at the .05 level.

**. Correlation is significant at the .01 level.

Between-Subjects Analysis of Variance

Seven between-subjects ANOVAs were run to test for differences in the WPS-M, the DMS, the BES-PA, the BES-UBS, the BES-PC, body fat percentage, and the weight difference (kg) among three body dissatisfaction groups (satisfied, want to be smaller, and want to be bigger).

Table 4 shows descriptive statistics for scores on the WPS-M, the DMS, the BES-PA, the BES-UBS, the BES-PC, body fat percentage and weight difference (kg) split by MBS body dissatisfaction classification (satisfied, want to be smaller, or want to be bigger).

Table 4. Descriptive statistics (mean and SD) for WPS-M, DMS, BES-PA, BES-UBS, BES-PC, Body Fat Percentage, and Difference in Weight by Body Dissatisfaction Category

BD Category	WPS-M		DMS		BES-PA		BES-UBS		BES-PC		Body Fat (%)		Wt. Diff (kg)	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
0 Satisfied	2.27	.43	3.91	.46	50.00	3.39	40.20	1.79	61.60	1.95	10.98	3.42	.24	1.88
1 Smaller	3.21	1.36	3.62	1.17	36.67	5.69	33.33	7.57	43.33	9.29	18.53	6.97	-3.09	2.45
2 Bigger	2.44	.92	3.48	.58	37.00	11.29	32.80	5.72	54.00	8.19	12.94	1.98	.17	1.42

Table 5 shows multiple between-subjects ANOVA results. There was a main effect observed for the BES-PA ($F(2,10) = 4.27$, $p = .046$, $\eta_p^2 = .46$) and a main effect observed for the BES-PC ($F(2,10) = 6.88$, $p = .013$, $\eta_p^2 = .58$). No main effects were found for the WPS-M ($F(2,10) = 1.13$, $p = .360$), the DMS ($F(2,10) = .47$, $p = .637$), the BES-UBS ($F(2,10) = 3.10$, $p = .090$), body fat percentage ($F(2,10) = 3.42$, $p = .074$), or the difference in weight ($F(2,10) = 3.68$, $p = .064$).

Table 5. Between-Subjects ANOVAs – WPS-M, DMS, BES-PA, BES-UBS, BES-PC, Body Fat Percentage, and Difference in Weight (kg)

		SS	df	Mean Square	*F*	Sig
WPS-M	MBS	1.769	2	.884	1.132	.360
	Error	7.814	10	.781	—	—
DMS	MBS	.467	2	.233	.471	.637
	Error	4.954	10	.495	—	—
BES-PA	MBS	530.256	2	265.128	4.272	.046*
	Error	620.667	10	62.067	—	—
BES-UBS	MBS	160.041	2	80.021	3.098	.090
	Error	258.267	10	25.827	—	—
BES-PC	MBS	627.364	2	313.682	6.881	.013*
	Error	455.867	10	45.587	—	—
BF %	MBS	109.316	2	54.658	3.422	.074
	Error	159.747	10	15.975	—	—
Wt. Diff (kg)	MBS	121.347	2	60.674	3.675	.064
	Error	165.116	10	16.512	—	—

*. Significant at the .05 level.

Standard pairwise comparisons using a Bonferroni adjustment revealed no significant differences between the satisfied category and the want to be smaller category ($p = .129$), no significant differences between the satisfied category and the want to be bigger category ($p = .078$), and no significant differences between the want to be smaller category and the want to be bigger category ($p = 1.000$), shown in Table 6.

Table 6. Post Hoc Comparisons – BES-PA (Bonferroni)

BD Category		Mean Difference	SE	Sig.
0 Satisfied	1 Smaller	13.33	5.753	.129
	2 Bigger	13.00	4.983	.078
1 Smaller	2 Bigger	-.33	5.753	1.000

Bonferroni post hoc comparisons, shown in Table 7, revealed those who were satisfied with their body type (M = 61.60, SD = 1.95, Table 4) had a significantly higher mean score on the BES-PC compared to those who wanted to be smaller (M = 43.33, SD = 9.29, Table 4; p = .012, Table 7). However, there was not a significant difference between those who were satisfied and those who wanted to be bigger (p = .316) or between those who wanted to be smaller and those who wanted to be bigger (p = .167) shown in Table 7. Figure 4 shows the mean scores for the BES-PA and the BES-PC split by fat-related body dissatisfaction category.

Table 7. Post Hoc Comparisons – BES-PC (Bonferroni)

BD Category		Mean Difference	SE	Sig.
0 Satisfied	1 Smaller	18.27	4.931	.012*
	2 Bigger	7.60	4.270	.316
1 Smaller	2 Bigger	-10.67	4.931	.167

*. Significant at the .05 level.

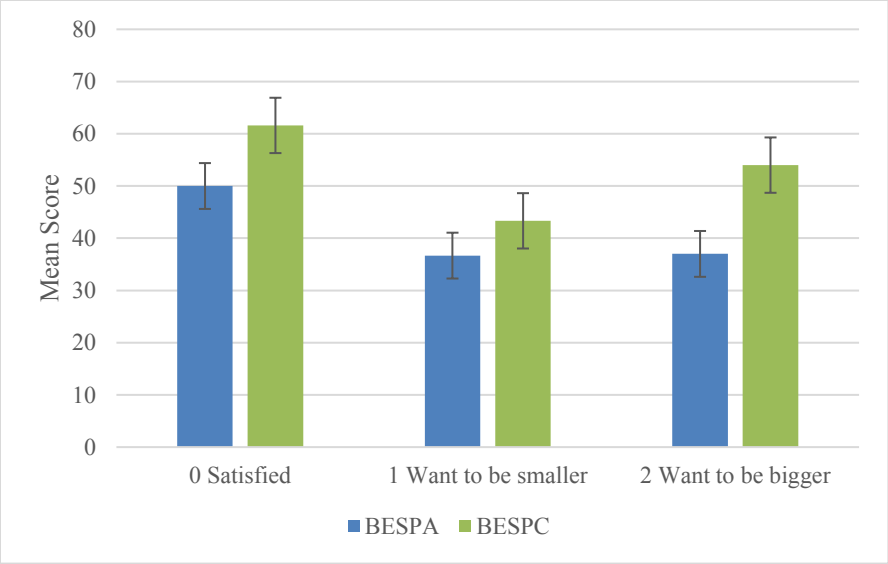

Figure 4: Mean Scores Split by Body Dissatisfaction Category for the Body Esteem Scale: Physical Attractiveness (blue bars) and Physical Condition (green bars).

CHAPTER 5

DISCUSSION

The purpose of this study was to explore body dissatisfaction in college male student-athletes participating in varsity sports at SUNY Cortland. The intent of the research question was to determine the prevalence of body dissatisfaction among college male student-athletes across a variety of sports and to establish descriptive data relative to other possible factors of body dissatisfaction. For the MBS, out of 13 total participants, eight were classified as having fat-related body dissatisfaction (61.54%) and five were classified as being satisfied (38.46%). For the MFBS, out of 13 total participants, 12 were classified as having muscularity-related body dissatisfaction (92.30%) and one was classified as being satisfied (7.69%).

Discussion

Results from the present study provide evidence that male student-athletes may not be limited to one ideal body type. In the present study, for fat-related body dissatisfaction, 38.46% of participants were classified as wanting to be bigger, while 23.07% were classified as wanting to be smaller, with the remaining 38.46% being satisfied with their current body type. This supports findings from Leng et al. (2020) where, out of 74 male participants, 42% identified their ideal body type as being smaller than their perceived body type and 32% identified an ideal body type larger than their own. Similarly, McKay Parks and Read (1997) found 80% of football players (n = 44) wanted to be bigger and 15% wanted to be smaller, while 43% of cross-country runners (n = 30) wanted to be bigger and 20% wanted to be smaller. The present study did not

compare between sports due to the limited sample size, therefore, future studies should aim to investigate differences between sport types.

A noteworthy observation of the descriptive statistics for the MBS and MFBS shows that the range of scores for the 61.53% of participants who had fat-related body dissatisfaction was between negative two and one. The negative score indicates the desire to be smaller, while a positive score indicates the desire to be bigger. In contrast to the MBS, the range of scores for the MFBS was between zero and four. This means all participants who had muscularity-related body dissatisfaction (92.30%) wanted to get bigger. Future studies should investigate this finding further to assess potential differences between fat-related body dissatisfaction and muscularity-related body dissatisfaction. This may explain why some previous research has shown evidence that males tend to want to be more muscular (Galli et al., 2011), while other studies have suggested males may not be limited to one ideal body type (Leng et al., 2020).

Another interesting finding for the present study was the strong negative correlation between the WPS-M and the DMS. These results suggest that as weight pressures increase, the drive for muscularity decreases. The reason for this could be due to the extrinsic focus in the WPS-M and the *Coach/Teammate pressures* subscale, but the intrinsic focus in the DMS. For example, all questions in the WPS-M asked about the team, teammates, coaches, friends, and family (Appendix E), while the DMS questions all begin with "I" (with the exception of the statement "*other people think I work out with weights too often*"; Appendix F). Further research is needed to investigate this relationship with a larger sample size.

The WPS-M was also negatively correlated with the BES-PC. This large correlation suggests that as weight pressures increase, body esteem related to the athlete's physical condition decreases. These results suggest that weight pressures may place an emphasis on male athletes' body functionality and can affect their body esteem negatively, which provides evidence for the suggestion by Franzoi and Shields (1984) that males focus on their body's functionality rather than just how it looks. This is further supported by the negative correlation between the *Coach/Teammate pressures* subscale and the BES-PC, also suggesting as coach and teammate related pressures increase, body esteem decreases. There was not a correlation between the *Appearance pressures* subscale and the BES-PC, which further suggests that males do not focus on how their body looks as much as they focus on its functionality.

Positive linear correlations were found for the DMS and the BES-UBS as well as the DMS and the BES-PC. Franzoi and Shields (1984) stated the *Upper Body Strength* subscale is a key component of body esteem in males due to the cultural belief that a muscular upper body is masculine and ideal. Therefore, it is suggested that as the drive for muscularity increases, body esteem related to upper body strength will also increase. Similarly, as the drive for muscularity increases, body esteem related to the body's physical condition also increases, suggesting that a more muscular build is believed to be more functional. These relationships should be further investigated in future studies with a larger sample.

The positive correlation between the MBS score and the difference between participants self-reported weights (kg) and observed weights (kg) suggests that as the fat-related body dissatisfaction score increases, the difference between weights also

increases. Future studies should aim to investigate this relationship further to determine what might be the cause for the correlation. It is possible that individuals who are less satisfied with their body may be more unaware of their current weight in an effort to avoid knowing their current body weight. There was a negative correlation between the WPS-M Appearance pressures subscale and the difference in weight (kg). This correlation suggests that as appearance pressures increase, the difference between self-reported weight (kg) and observed weight (kg) will decrease. This could be due to individuals who are experiencing higher appearance pressures being more aware of their body weight as a result of those pressures. Again, future research should investigate this relationship further.

Significant differences were found between the fat-related body dissatisfaction category and the BES-PA. Unfortunately, no simple main effects were found, although there was a noticeable trend suggesting that those who were satisfied with their body type had a higher mean score on the *Physical Attractiveness* subscale compared to those who wanted to be bigger. Future studies should aim to investigate this further with a larger sample size to determine if there is truly a trend. Significant differences were also found between the fat-related body dissatisfaction category and the BES-PC. Post hoc comparisons revealed those who were satisfied with their body type had a significantly higher score on the *Physical Condition* subscale compared to those who wanted to be smaller. There were no significant differences found between the fat-related body dissatisfaction category and the BES-UBS, however, this test violated the assumption of equal variances, therefore any results related to body dissatisfaction and the BES-UBS

cannot be generalized about the population as a whole, but rather is only representative of the current sample.

There were certainly weaknesses in the present study. First, the sample size was small with only 13 participants out of approximately 260 (5% response rate) that were invited to participate. Future studies with a larger sample size may provide a more representative sample of male student-athletes. Due to the small sample size, the true prevalence of body dissatisfaction in Division III male athletes remains unknown. Future research should also aim to explore relationships between the dependent variables and the muscularity-related body dissatisfaction categories from the MFBS scores. Unfortunately, the present study was not able to explore this due to 12 out of 13 participants being classified as wanting to be bigger. The present sample was also limited to specific teams. In the future, recruiting participants from all male sports will provide a more representative sample. Finally, future researchers could also investigate differences between different sport types, as previous research has shown there are already some identified differences related to body dissatisfaction between sports (McKay Parks & Read, 1997).

Although there were some weaknesses with the investigation, the present study still provided evidence related to the prevalence of body dissatisfaction in Division III male athletes. Exploratory analyses also identified relationships which should be investigated more in future research.

Conclusion

Body dissatisfaction affects both male and female athletes, however, there is still a gap in the scientific literature on this phenomenon in Division III male student-athletes.

The present study provides new evidence on male student-athletes and both fat-related and muscularity-related body dissatisfaction. Recent research has shown males and females require different methods to identify those at risk for developing negative eating behaviors and body dissatisfaction. Investigating male body dissatisfaction and using evidence-based findings for the development and implementation of risk factor assessments for specific populations (e.g., Division III male student-athletes) can help sports medicine staff, including athletic trainers, identify those at risk effectively.

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Appendix A – Informed Consent

Informed Consent

State University of New York College at Cortland

The research that you have been asked to participate in is being conducted by Andria Merrill, a candidate for the Master of Science in Exercise Science degree in the Kinesiology Department at SUNY Cortland. We request your informed consent to be a participant in the project described below. *Please feel free to ask about the project, its procedures, or objectives prior to signing.*

Information and Procedures of This Research Study

The purpose of this study is to investigate physical perceptions among NCAA Division III male student-athletes. Your perceptions about your physical body will be measured using two nine-figure scales and three questionnaires (64 items total).

Before agreeing to participate you should know that

A. *Freedom to withdraw*

Participation in this research is voluntary, and there is no penalty for refusal or withdrawal. You are free to withdraw consent at any time without penalty. Additionally, you may ask the researcher to destroy any responses you may have given.

B. *Protection of Participants' Responses*

Your responses are strictly confidential. Only the primary investigator and the faculty thesis committee members will have access to your responses. Your name will not be connected with your responses, and you will be assigned a random participant identification number to ensure your anonymity.

C. *Length of Participation*

The study should take approximately 20 minutes to complete the Informed Consent, all scales and questionnaires, and the measurements for the participant's height, weight, and body fat percentage.

D. *Risks Expected*

The potential risk associated with the research includes a confidentiality risk due to survey responses. To minimize this risk, names will not be used and only the primary investigator and faculty thesis committee members will have access to the completed surveys. Data will be transported by the primary investigator immediately after data collection and will be stored in a locked office on the campus of SUNY Cortland. Another potential risk associated with the research may include psychological discomfort from the questions. If, at any point, you are experiencing psychological discomfort or distress, please contact the SUNY Cortland Counseling Center at (607) 753-4728 Monday through Friday, 8:00am to 12:00pm and 1:00pm to 4:00pm.

E. *Benefits Expected*

Participation in this study will contribute to the scientific literature on physical perceptions in male collegiate student-athletes. The present study will also help sports medicine staff with educating athletes, teammates, and coaches on physical perceptions within the larger college male student-athlete population. By investigating potential individual factors related to these physical perceptions, it will add a broader understanding of physical perceptions in collegiate male student-athletes.

F. *Contact Information*

If you have any questions concerning the purpose or results of this study, you may contact the primary investigator Andria Merrill at andria.merrill@cortland.edu.

For questions about research or your rights as a participant, contact the SUNY Cortland Office of Sponsored Programs at (607) 753-2511.

I, _____, have read the description of the project for which this consent is requested, understand my rights, and I hereby consent to participate in this study.

_____ _____

Signature Date

_____ _____

Researcher's Signature Date

Appendix B – Data Collection Sheet

Participant ID:_____ Date:_____/_____/2022

Sport (circle): Baseball Basketball Cross Country Football Ice Hockey Lacrosse Soccer Swimming and Diving Track and Field Wrestling

Age: _____(yr.) How many athletic seasons at SUNY Cortland: 1 2 3 4+

Sport position: _____ Height:_____(in) Weight:_____(lbs)

Scale Completion: MBS/MFBS____ WPS-M____ DMS____ BES____

Scores (filled out by primary investigator):

MBS	
MFBS	
WPS-M	
C/T	
App.	
DMS	
BES: PA	
BES: UBS	
BES: PC	

Anthropometric Data (filled out by primary investigator):
Actual height:_____(in) Actual weight_____(lbs) Body fat percentage:_____(%)

Appendix C – Male Body Scale (Ralph-Nearman & Filik, 2018)

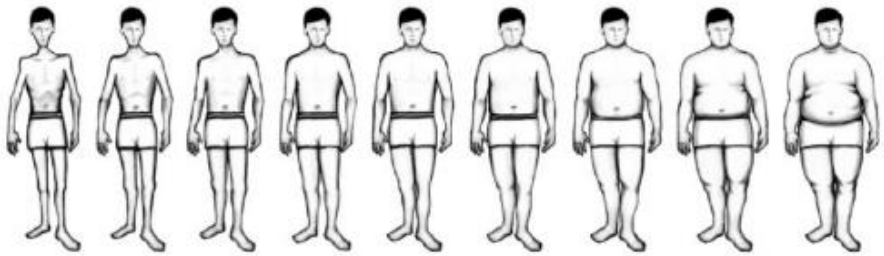

Figure 1. Male Body Scale.

Appendix D – Male Fit Body Scale (Ralph-Nearman & Filik, 2018)

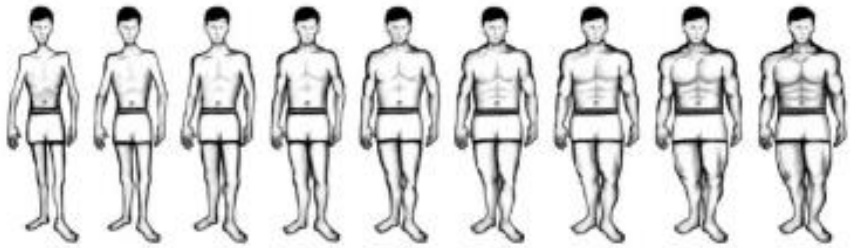

Figure 2. Male Fit Body Scale.

Appendix E – Weight Pressures Scale for Male Athletes (Galli et al. 2011)

Please select the number on the 6-point scale listed below that best describes how you truly feel about your current situation and team. There are no right or wrong answers, so please answer honestly.

1 = Never 2 = Rarely 3 = Sometimes 4 = Often 5 = Usually 6 = Always

My coach places an emphasis on team members' weight.

The leanest athletes get chosen for the best positions on the team or the best positions in a game/competition.

My teammates notice if I put on weight.

My team performance would improve if I gained at least 5 pounds of muscle.

My coach encourages athletes to gain muscle mass.

My team uniform makes me aware of my build.

The crowd scrutinizes my body and makes me concerned about my weight and appearance.

Body weight and appearance are important to my coach.

Body weight and appearance are important to my family.

Body weight and appearance are important to my friends outside of my sport.

Any of my body flaws are readily apparent in my uniform.

Weigh-ins are held periodically throughout the season.

My coach notices changes in my weight.

The leanest team members are at a distinct performance advantage.

Appendix F – Drive for Muscularity Scale (McCreary & Sasse, 2000)

Please read each item carefully then, for each one, select the number that best applies to you:

1 = Always 2 = Very Often 3 = Often 4 = Sometimes 5 = Rarely 6 = Never

I wish that I were more muscular.

I lift weights to build up muscle.

I use protein or energy supplements.

I drink weight gain or protein shakes.

I try to consume as many calories as I can in a day.

I feel guilty if I miss a weight training session.

I think I would feel more confident if I had more muscle mass.

Other people think I work out with weights too often.

I think that I would look better if I gained 10 pounds in bulk.

I think about taking anabolic steroids.

I think that I would feel stronger if I gained a little more muscle mass.

I think that my weight training schedule interferes with other aspects of my life.

I think that my arms are not muscular enough.

I think that my chest is not muscular enough.

I think that my legs are not muscular enough.

Appendix G – Body Esteem Scale (Franzoi & Shields, 1984)

Instructions: On this page are listed a number of body parts and functions. Please read each item and indicate how you feel about this part or function of your own body using the following scale:
1 = Have strong negative feelings 2 = Have moderate negative feelings 3 = Have no feeling one way or the other 4 = Have moderate positive feelings 5 = Have strong positive feelings

body scent
appetite
nose
physical stamina
reflexes
lips
muscular strength
waist
energy level
thighs
ears
biceps
chin
body build
physical coordination
buttocks
agility
width of shoulders
arms
chest or breasts
appearance of eyes
cheeks/cheekbones
hips
legs
figure or physique
sex drive
feet
sex organs
appearance of stomach
health
sex activities
body hair
physical condition
face
weight

Appendix H - Debriefing Statement

DEBRIEFING STATEMENT

Body Dissatisfaction in NCAA Division III Male Athletes

Body dissatisfaction and overall body image in males tends to be less discussed in the scientific literature than females. A meta-analysis which assessed 78 studies reported only 19.2% of comparisons assessed involved male athletes (Hausenblas & Downs, 2001). There are differences between the types of body dissatisfaction that females experience compared to males (Galli, Reel, Petrie, Greenleaf, & Carter, 2011), which prevents a unified approach to identifying and addressing these concerns.

While previous research has investigated differences between body dissatisfaction in males and females, they have not discussed the prevalence of body dissatisfaction within collegiate male sports. By determining the prevalence of body dissatisfaction in male sports, specific risk factor assessments could be developed, and appropriate interventions can be provided to individuals struggling with body image.

The specific aim of this study was to explore body dissatisfaction in college male student-athletes participating in varsity sports at SUNY Cortland. By studying the prevalence of body dissatisfaction and potential associated intra-individual factors, sports medicine staff (i.e., athletic trainers, team physicians, etc.) will be able to identify individuals at risk and better monitor these athletes.

More research on body dissatisfaction in males can increase awareness within the larger population and can be used to educate athletes, coaches, and teammates. All participants of this study completed the same questionnaires, which will be used to investigate the prevalence of body dissatisfaction and to identify potential differences between sports teams.

Do you have any questions?

REFERENCES

Galli, N., Reel, J., Petrie, T., Greenleaf, C., & Carter, J. (2011). Preliminary development of the Weight Pressures in Sport Scale for Male Athletes. *Journal of Sport Behavior, 34*(1), 47.

Hausenblas, H. A., & Downs, D. S. (2001). Comparison of body image between athletes and nonathletes: A meta-analytic review. *Journal of Applied Sport Psychology, 13*(3), 323–339. https://doi.org/10.1080/104132001753144437

Appendix I – SUNY Cortland IRB Approval

To:	Andria Merrill
From:	Kimberly Jackson, Reviewer *on behalf of* Institutional Review Board
Date:	February 1, 2022
RE:	Institutional Review Board Approval

In accordance with SUNY Cortland's procedures for human research participant protections, the protocol referenced below has been approved for a period of one year:

Title of the study: Physical Perceptions among NCAA Division III Male Student-Athletes	
Level of review: Expedited	**Protocol number:** 212224
Project start date: Upon IRB approval	**Approval expiration date*:** 2/1/2023

* **Note:** *Please include the protocol expiration date to the bottom of your consent form and recruitment materials.* For more information about continuation policies and procedures, visit www.cortland.edu/irb/Applications/continuations.html

The federal Office for Research Protections (OHRP) emphasizes that investigators play a crucial role in protecting the rights and welfare of human subjects and are responsible for carrying out sound ethical research consistent with research plans approved by an IRB. Along with meeting the specific requirements of a particular research study, investigators are responsible for ongoing requirements in the conduct of approved research that include, in summary:

- obtaining and documenting informed consent from the participants and/or from a legally authorized representative prior to the individuals' participation in the research, unless these requirements have been waived by the IRB;
- obtaining prior approval from the IRB for any modifications of (or additions to) the previously approved research; this includes modifications to advertisements and other recruitment materials, changes to the informed consent or child assent, the study design and procedures, addition of research staff or student assistants, etc. (except those alterations necessary to eliminate apparent immediate hazards to subjects, which are then to be reported by email to irb@cortland.edu within three days);
- providing to the IRB prompt reports of any unanticipated problems involving risks to subjects or others;
- following the principles outlined in the Belmont Report, OHRP Policies and Procedures (Title 45, Part 46, Protection of Human Subjects), the SUNY Cortland College Handbook, and SUNY Cortland's IRB Policies and Procedures Manual;
- notifying the IRB of continued research under the approved protocol to keep the records active; and,
- maintaining records as required by the HHS regulations and NYS State law, for at least three years after completion of the study.

Miller Building, Room 402 o P.O. Box 2000 o Cortland, NY 13045-0900
Phone: (607) 753-2511 o Fax: (607) 753-5590

In the event that questions or concerns arise about research at SUNY Cortland, please contact the IRB by email irb@cortland.edu or by telephone at (607)753-2511. You may also contact a member of the IRB who possesses expertise in your discipline or methodology, visit http://www.cortland.edu/irb/members.html to obtain a current list of IRB members.

Sincerely,

Kimberly Jackson, Reviewer *on behalf of*
Institutional Review Board
SUNY Cortland