

The Prevalence of Eating Disorders Among Male Collegiate Athletes

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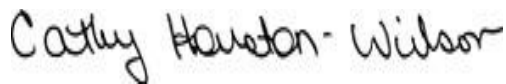


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Abstract

Eating disorders have been a common topic surrounding collegiate athletes. Previous research has been mostly geared towards female athletes due to societal stigmas. Over time, research has shown that male collegiate athletes are just as susceptible to developing eating disorders and disordered eating behaviors. Although it is a less common issue for males, previous research has shown that disordered eating behaviors such as excessive exercising and supplement use are quite common for male collegiate athletes. Male athletes are now being viewed as an at-risk population for developing eating disorders and disordered eating behaviors due to the sports they participate in, pressures in and out of sport as well as the lack of education in athletic departments. The purpose of this synthesis was to review the literature on the prevalence of eating disorders among male collegiate athletes.

Chapter 1: Introduction

Athletes have been identified as an at-risk population for developing eating disorders and body image concerns due to societal beliefs surrounding body, weight, eating, and performance pressures that are unique to their sport's environment (DiPasquale & Petrie, 2013). Recent research has shown that male collegiate athletes are facing an increased pressure to meet a specific body standard for their sport (Galli, Reel, Petrie, Greenleaf, & Carter 2011). In the past, most research has been geared towards female athletes with eating disorders. As more research has been conducted, studies have shown more male athletes are developing eating disorders and disordered eating behaviors. According to Dimitrova and Vanlyan (2019), the ratio between women and men with eating disorders was more than 10:1 two decades ago, but as more recent research has been conducted, male athletes have been identified as an at-risk population for eating disorders.

Eating disorders, also known as disordered eating, can be described as preoccupation with food, body weight, and shape that leads to long lasting impacts to the body (Bratland-Sanda & Sundgot-Borgen, 2013). Anorexia, binge eating disorder, and bulimia are three common eating disorders that male athletes may face. There are also disordered eating behaviors that may lead to full-blown eating disorders if symptoms go undetected or untreated. Disordered eating behaviors are described as taking measures to lose weight which may include restrictive diets, fasting, taking laxatives, diuretics, or diet pills, vomiting, exercising excessively, and passive or active dehydration (Bratland-Sanda & Sundgot-Borgen, 2013). Overall, these behaviors can have lasting consequences on athletic performance, well-being, health, and identity of male collegiate athletes.

Many researchers have noted that the type of sport that an athlete participates in could lead to eating disorders and disordered eating behaviors. Sport type has been found to significantly impact the intensity of weight pressures. Goltz, Stenzel, and Schenider (2013) suggested that participating in sports that focus on leanness, or have weight restrictions, puts male athletes at a higher risk of

developing disordered eating behaviors. Lean sports are classified as sports where having a low body weight, lean build, or aesthetic appearance gives a competitive advantage (Dimitrova & Vanlyan, 2018). Sports such as wrestling, track, cross country, swimming, and gymnastics tend to be at a higher risk for developing eating disorders or disordered eating behaviors due to the emphasis on fulfilling a specific body type or weight.

There are also pressures within the sport that could lead to disordered eating. Freedman, Hage, and Quatromoni (2021) stated that coaches and teammates can have an impact on the athletes as well. They suggested that comments by coaches about their weight, eating, or appearance add pressure since athletes want to make their coaches proud and prove their worth on the team. Galli et al., (2016) discussed how male athletes tend to internalize the goals set by their coaches to avoid disappointment and can obsess over their weight or physique if they don't fulfill the expectations. With sports that focus on maintaining or fulfilling a specific weight or body type, male athletes tend to internalize these goals set by their coaches which leads to these athletes excessively weighing themselves (Galli et al., 2017). Excessive weighing is a common disordered eating behavior for athletes in lean sports, specifically athletes who participate in weight-specific sports such as wrestling.

Freedman et al., (2021) examined the other factors outside of sports that could lead to eating disorders and disordered eating behaviors with male collegiate athletes. Not only does the sport environment play a role in the athlete's potential of developing an eating disorder, but also societal norms, gender stereotypes, and social media play a role as well. Most research has been based off females with eating disorders, so male athletes who are experiencing signs of eating disorders go undiagnosed or they don't think they are doing anything wrong to their bodies.

Studies have shown that there is a lack of education and resources about eating disorders in athletic departments. Athletic administrators such as athletic directors, coaches, strength and

conditioning specialists, and athletic trainers play a big role in athlete's lives and athletic careers. Torres-McGehee et al., (2012) concluded that many athletic departments don't have the resources such as registered dietitians to give athletes and administrators the proper education surrounding nutrition. They also concluded that many athletic administrators have inadequate knowledge surrounding eating disorders, disordered eating behaviors, and nutrition to effectively support their athletes who may be struggling. If athletic departments don't have the proper resources, athletes who are struggling could potentially progress with their eating disorders and disordered behaviors and could have long-lasting impacts to their health and well-being.

Overtime, male collegiate athletes have been seen as an at-risk population for developing eating disorders. This synthesis will uncover topics such as the overall prevalence of male eating disorders, the influences of sport-types and sport characteristics, main causes and influences, and education surrounding eating disorders. Overall, this synthesis will discuss the prevalence of eating disorders among male collegiate athletes.

Statement of the Problem

Although male athletes are just as susceptible to develop an eating disorder as a female athlete, there have been fewer studies that have included male athletes. Within the past decade, more research has been done to look at the causes and effects of eating disorders on male athletes. Chatterton and Trent (2013) suggest that male athletes can also experience eating disorders, and at even higher percentages, subclinical disorders, and pathogenic weight control behaviors. Approximately 10 million men suffer from clinically significant eating disorders, such as anorexia, bulimia, binge eating disorder, or disordered eating behaviors (DeFeciani, 2015). The National Institute of Mental Health states that most males will hide their eating disorders to avoid stereotypes and societal stigmas (Freedman et al., 2021). Since many male athlete's eating disorders go undiagnosed due to lack of education, societal stigmas, and stereotypes, eating disorders can progress

and lead to lasting impacts to their bodies. Eating disorders and disordered eating behaviors can lead to physical and psychological complications such as electrolyte and hormonal imbalances, dehydration, cardiac arrhythmia, depression, low self-esteem, and substance abuse (Chatterton & Petrie, 2013).

Purpose of the Study

The purpose of this synthesis is to review the literature on the prevalence of eating disorders among male collegiate athletes.

Operational Definitions

1. Eating Disorders or Disordered Eating: potentially life-threatening condition with a mortality rate that is one of the highest of all the psychiatric conditions and yields significant health consequences due to eating too much or not eating enough (Selby & Reel, 2011).
2. Disordered Eating Behaviors: taking measures to lose weight such as restrictive diets, fasting, taking laxatives, diuretics, or diet pills, vomiting, exercising excessively, and passive or active dehydration (Bratland-Sanda & Sundgot-Borgen, 2013).
3. Bulimia: episodes of bingeing large amounts of food followed by a purge due to fear of gaining weight (Selby & Reel, 2011).
4. Anorexia: avoiding eating and drinking due to being terrified of gaining weight.
5. Binge Eating Disorder: episodes of uncontrollable food consumption in a short amount of time (Selby & Reel, 2011).

Research Questions

The following research questions will be the primary focus explored for this literature review:

1. What is the prevalence of eating disorders within male collegiate athletics?

2. What are the specific sports that are predominately impacted?
3. What are the characteristics of the sports that lead to eating disorders?
4. What are the leading causes of eating disorders?
5. What is the current knowledge of athletes and administrators surrounding eating disorders?

Delimitations

1. The articles used in the literature review of the synthesis were both peer reviewed and full text.
2. The articles selected were published between 2011-2021.
3. All articles included in this synthesis focused on male collegiate athletes and eating disorders.
4. Articles can include female athletes to show the comparisons between male and female athletes.
5. Some articles included the knowledge and education surrounding athletic administrators.

Chapter 2: Methods and Procedures

The purpose of this chapter is to review the methods and procedures used to determine the prevalence of eating disorders among male collegiate athletes. This chapter will detail the steps taken to find the literature directly related to male collegiate athletes with eating disorders. The literature will also touch on the causes of eating disorders and how the sports that they play could potentially lead to eating disorders. The articles that are used throughout the synthesis were obtained through SUNY Brockport's Drake Memorial Library website and Google Scholar.

On the SUNY Brockport's Drake Memorial Library website, databases can be searched by subject. For this synthesis, the articles were found under the Kinesiology, Sports, & Phys. Ed subject. Within Kinesiology, Sports & Phys. Ed. subject, there are two databases: SportDiscus and Academic Search Complete. Both databases were used to search for articles.

Keywords were used to help guide the search and find relevant articles to answer the research questions. These specific keywords included *eating disorders*, *male athletes*, and *collegiate athletes*. Within each search, limiters were used such as full text and scholarly peer reviewed journals. All articles used in this synthesis were published between 2011-2021. Out of the keywords, *eating disorders* and *male athletes* were the most important. The keyword, *collegiate athletes*, was used to help narrow down the population to find more specific articles.

The first search was a combined search with Academic Search Complete and SportDiscus. The initial search included the keywords *eating disorders* and *male athletes*. With the limiters of full text, scholarly peer reviewed, and published between 2011-2021, there was 106 results. Once the keyword, *collegiate athlete*, was added, the results went down to eight. Five articles were usable for this synthesis.

The second search included a broader search on the SUNY Brockport's Drake Memorial Library website to provide more options for articles. This broad search included all academic

journals within the library's database. Within this search, all articles were posted between 2011-2021, full text, and were peer reviewed. By using the *keywords eating disorders, collegiate athletes, and male athletes*. 100 articles were found and six were used for this synthesis.

The third search was conducted through Google Scholar. An advanced search was done with the limiters of articles published between 2011-2021. This search included the words *eating disorders* and *male collegiate athletes*. The search resulted in 470 articles. Out of the 470 results, four articles fit the criteria for this synthesis.

After completing my search process, 15 articles will be included in this synthesis. 14 articles will be directly used for the literature review. One article was a metanalysis which is not counted in the literature review. To be counted towards the research process, the article must have studied eating disorders within male collegiate athletics. The articles could also focus on how specific sports and the characteristics associated with the sport could lead to disordered eating. Some articles touched on the education for athletes and administrators and offered solutions to decrease the number of eating disorders within male collegiate athletics. Some articles compared male and female collegiate athletes' experiences with eating disorders and were used to show the overall prevalence of eating disorders as well as show that males are also just as susceptible to developing eating disorders.

The articles used in this synthesis were produced from journals such as *Psychology of Sport and Exercise, The Physician and SportsMedicine, Journal of Athletic Training, Clinical Social Work Journal, Journal of Sports Sciences, European Journal of Sport Science, Turkish Journal of Sports Medicine, Journal of Sports Behavior, Brazilian Journal of Psychiatry, Journal of American College Health, Journal of Clinical Sport Psychology, Journal of Treatment & Prevention, Journal of Sport Psychology in Action, and International Journal of Eating Disorders*.

The critical mass for this synthesis included 4,402 collegiate athletes who have participated in a varsity-level program at a NCAA university within the United States and one collegiate program

in Brazil. The athletes participated at a DI, DII, or DIII institution. The participants ranged from 18-26 years old and came from a variety of different backgrounds, but mostly consisted of white males. The participants played sports such as basketball, baseball, football, volleyball, swimming, track, cross country, and wrestling. Coaches and other administrators such as nutritionists, sports psychologists, counselors, athletic directors, and athletic trainers were also included in this study to assess the current knowledge and procedures set in the athletic departments. Female collegiate athletes were also showcased in this synthesis to show that men are also susceptible to eating disorders and disordered eating behaviors and patterns regardless of their gender. The articles included in this synthesis include both qualitative and quantitative approaches as well as one meta-analysis. Data was collected through surveys, phone interviews, questionnaires, and in-person interviews. Questionnaires were the primary form of data collection. The questionnaires helped uncover the current knowledge and understanding of eating disorders as well as the experiences of the male athletes.

The primary challenge of this research process was finding articles specifically about male athletes with eating disorders. Since eating disorders are primarily known for being an issue that females face, there isn't as much research out there for male athletes. Over time, there has been more awareness for male athletes with eating disorders, especially at the collegiate level. Even though there isn't as much research about male athletes with eating disorders compared to female athletes, this synthesis showcases the prevalence of male collegiate athletes with eating disorders.

Chapter 3: Review of Literature

The focus of this chapter is to review the literature on the prevalence of eating disorders among male collegiate athletes. Specifically, this chapter will uncover how prevalent eating disorders are for male collegiate athletes. This chapter will uncover if participating in specific sport types such as lean, non-lean, aesthetic, and leads to eating disorders and disordered eating behaviors. Additionally, the chapter will talk about the characteristics of specific sport types that could lead to eating disorders. This chapter will also highlight the main causes and influences of eating disorders such as pressures from teammates, coaches, family members, and society. Lastly, this chapter will discuss the current knowledge and education that athletes have that could lead to eating disorders. These five topics are essential to understanding the true prevalence of eating disorders within male collegiate athletics.

Eating disorders are typically associated with female athletes, but over time, more research has been done that has been specifically geared towards male athletes. Since there has been less research done on male collegiate athletes compared to females, it is important to acknowledge that males are just as susceptible to developing eating disorders and disordered eating behaviors as females. By understanding the prevalence surrounding male collegiate athletes with eating disorders, athletic departments can provide better support, education, and early intervention methods to help these athletes avoid long-lasting consequences to their well-being.

What is the Prevalence?

Over time, researchers have seen how male athletes are susceptible to developing eating disorders and disordered eating behaviors. With more studies being done, researchers are seeing how prevalent eating disorders are for male athletes, specifically at the collegiate level. Chatterton and Petrie (2013) conducted a study that included a sample size of 732 male collegiate athletes to determine the prevalence of disordered eating and pathogenic weight control behaviors within male

collegiate athletics. To investigate the prevalence of eating disorders within the group of participants, they were all given the Questionnaire for Eating Disorder Diagnosis regarding disordered eating such as bingeing and purging. The participants were also given seven items from the 36-item Bulimia Test which examines disordered eating behaviors such as vomiting, diuretics, dieting, fasting, excessive exercise, and bingeing. The results concluded that most of the athletes were classified as asymptomatic, but there were 117 male collegiate athletes who were considered symptomatic, meaning that they displayed disordered eating behaviors. Additionally, eight athletes were classified as having an eating disorder. Of these eight athletes, four had bulimia, three had binge eating disorder, and one had non-binge bulimia. Although most athletes were classified as asymptomatic, there was still a group of athletes that were symptomatic or diagnosed with an eating disorder.

Similarly, DiPasquale and Petrie (2013) wanted to uncover the prevalence of eating disorders within collegiate athletes. In their study, they compared female and male collegiate athletes to determine the prevalence of eating disorders. The study included 156 female and 146 male athletes. All participants were given the Questionnaire for Eating Disorder Diagnosis to uncover body image concerns and disordered eating behavior. Based on their results, the participants were classified as symptomatic, asymptomatic, or eating disordered. As hypothesized, the female athletes had higher rates of eating disorders and disordered eating behaviors compared to the male athletes. The results concluded that there were 144 that were asymptomatic, 10 that were symptomatic, and none that were diagnosed with eating disorders. As for the male athletes, 122 were classified asymptomatic, but 17 were classified as symptomatic. None of the male athletes were classified as having an eating disorder. Although the numbers for the female athletes having eating disorders was higher than the male athletes, this still shows that there is a prevalence of male collegiate athletes struggling with disordered eating behaviors.

Does Sport-Type Matter?

One of the biggest questions surrounding the prevalence of eating disorders within male collegiate athletics is if the sport-type contributes to the number of cases. A study by Dimitrova and Vanlyan (2018) attempted to identify some risk factors that may contribute to disordered eating attitudes and behaviors in male collegiate athletes based on type and level of sport activity. This study included 186 participants who competed at the collegiate level. To get more accurate results, the participants were divided into groups, lean sports, and non-lean sports, based on their sport-type. Those who were in the lean sport group represented aesthetic, endurance, weight-dependent, and antigravitation sports. These categories were based on low body weight, lean body, or aesthetic appearance to give a competitive advantage. All participants were given the Eating Disorder Examination Questionnaire to investigate the prevalence of disordered eating attitudes. Within this questionnaire, there are four subscales: dietary restraint, eating concerns, shape concerns, and weight concerns. The questionnaire focused on nutrition knowledge, exercise contributing to weight loss, and disordered eating behaviors such as bingeing, purging, and laxative use. The results concluded that athletes who participated in lean sports were more prone to compulsively exercising and having restricted diets. Specifically, three of the athletes who participated in lean sports were considered to as having clinically significant disordered eating. Binge eating was one of the more popular disordered eating behaviors for both lean sport and non-lean sport athletes. 43.3% of non-lean sport athletes and 40% of lean athletes would binge eat. Self-induced vomiting, also known as purging, and laxative use were low in prevalence. 38.2% of lean sport athletes obsessively exercised which was significantly higher than the 13.3% of non-lean athletes. Overall, 61.8% of lean sport athletes had signs of disorder behaviors compared to the 47% of non-lean sport athletes. Although the participation in specific sports did not impact the study, it is important to note that there were high numbers of disordered eating behaviors regardless of sport type.

Reinstenbach-Golz et al. (2013) conducted a similar study to identify disordered eating behaviors and body image dissatisfaction as well as their relationship to male collegiate athletes in high-risk sports for eating disorders. 156 male Brazilian athletes were divided into three categories: weight class (jiu-jitsu, judo, karate, and rowing), lean (swimming, triathlon, and horse racing), and aesthetic (ballet, dance, gymnastics, and skating). All participants were given The Eating Attitudes Test, The Bulimic Investigatory Test, and The Body Shape Questionnaire to examine restrictive eating behaviors, binge eating and compensatory behaviors, and body image concerns. Based on the results of the questionnaires, 43 of the participating athletes displayed disordered eating behaviors. Athletes who participated in lean or weight-restricted sports were at higher risks of developing eating disorders and disordered eating behaviors. The questionnaires showed how these athletes were focused on being lean to improve performance and trained more than weight class and aesthetic sport athletes. According to the researchers, the results imply that sports that have high body requirements, even without high levels of body dissatisfaction, are at a much higher risk of developing eating disorders and disordered eating behaviors.

Perelman et al. (2018) examined the relationship of body satisfaction and how it relates to sex and sport type. This study included 129 female and 62 male collegiate athletes. Out of the 191 athletes, 103 participated in lean sports and 88 participated in non-lean sports. The athletes participated in sports such as cross country, track, basketball, soccer, gymnastics, tennis swimming and diving, softball, golf, volleyball, basketball, baseball, and lacrosse. To collect data, the participants were given the Body Shape Questionnaire and the Eating Attitudes Test. Like the previous studies, female athletes had higher rates of body satisfaction compared to men. Although the division they participated in didn't matter, the sport type did. Men who participated in lean sports had high rates of body dissatisfaction compared to the men who participated in non-lean sports. They concluded that male athletes who strive

for muscularity have less body dissatisfaction compared to the male athletes who strive to be leaner and thinner. The male athletes were more affected by sport-type compared to the female athletes.

In a meta-analysis completed by Chapman and Woodman (2016), they investigated whether male collegiate athletes are more at risk of disordered eating relative to male controls and whether there are moderators such as sport type. This meta-analysis included data from 31 studies and one of the studies had 687 participants. The studies included in the meta-analysis utilized questionnaires such as the Eating Attitudes Test, The Bulimic Investigatory Test, and the Eating Disorder Inventory. Their research concluded that athletes who participated in sports that emphasized lean body mass and shape had higher levels of eating disorders and disordered eating behaviors compared to endurance, mass-dependent, and aesthetic sports. They concluded that out of all sports included in this meta-analysis, wrestling was at the highest risk of developing eating disorders due to competing in specific weight classes and the athletes' desire to achieve high muscle mass and low body fat.

Sport Characteristics

Athletes often think that over-exercising and taking measures to lose weight will benefit them, but they may lead to disordered eating and disordered eating behaviors. Certain sports may require athletes to maintain or achieve a specific physique. Wilson et al. (2016) discussed how altering body weight too much can negatively impact athletes' performance and well-being. Through their study, they focused on weight-control practices within collegiate athletics as well as if gender and nutrition knowledge played a role in eating disorders and disordered eating behaviors. 138 male athletes and 50 female athletes participated in this study. All athletes were categorized into weight-sensitive and less weight-sensitive groups based on their sport participation. The weight-sensitive group consisted of athletes who participated in gymnastics, swimming, diving, wrestling, and track and field events such as long-distance running and jumping. The less weight-sensitive group were athletes who participated in basketball, bowling, rifle, soccer, volleyball, football, golf, sprinting, and

throwing events in track and field. The participants were given the Weight Control Practices Questionnaire as well as the Sports Nutrition Knowledge Questionnaire. With these questionnaires, the athletes had to report any symptoms as a result of trying to lose weight such as light-headedness, headaches, changes in mood, difficulty concentrating, nausea, nose bleeds, increased fatigue, and difficulty concentrating. As previous research has stated, female athletes tend to have much higher rates of disordered eating and disordered eating behaviors. In this study, 32% of males and 56% of females attempted weight loss. For athletes in weight-sensitive sports, the results were very similar for both males and females with 50% of males and 60% of females attempting to lose weight. Wrestling had the highest prevalence of weight loss out of all the participating sports while football had the highest prevalence of weight gain.

Adams et al. (2016) conducted a similar study to investigate body weight and nutritional behaviors among collegiate athletes. The study consisted of 58 male athletes and 97 female athletes. To collect data, all participants completed the FAST questionnaire and were asked additional questions about their supplement use for weight gain, weight loss, or performance enhancement. Male athletes had higher rates of using nutritional supplements for weight gain, weight loss, or performance enhancement within the past 12 months.

Main Causes & Influences of Eating Disorders

There are many causes and influences for male collegiate athletes developing eating disorders and disordered eating behaviors. Research has shown that some of the most common influences come from coaches, teammates, family members, and societal pressures. With the increased pressure to fulfill a specific body type, Galli et al. (2011) wanted to explore how body pressures affect different sports. The sample size consisted of 203 male collegiate athletes participating in a variety of sports such as football, baseball, track, swimming, basketball, hockey, lacrosse, cheerleading, cross country, golf, fencing, skiing, soccer, volleyball, wrestling, and diving. All participants were given a variety of

questionnaires: Weight Pressures Scale for Male Athletes, The Rosenberg Self-Esteem Scale, Appearance Evaluation, Positive and Negative Affect Schedule, Bulimia Test, Drive for Muscularity Scale, and the Marlowe-Crowne Social Desirability Scale. Based on the results of the questionnaires, the researchers discovered two major types of weight pressures: pressure to maintain a weight that is desirable to coaches and teammates as well as an individual outside of the sport such as friends, family, and spectators. This overwhelming amount of pressure correlated to athletes having eating disorders or disordered eating behaviors, specifically with power sports and endurance sports. The results also showed that the athletes felt that their physical appearance showed their dedication to their sport but led to more issues with their self-esteem and how they viewed their bodies. For example, endurance sports felt the pressure to be lean while power sports felt the pressure to be bigger and muscular. Although female athletes were involved with this study, it is still important to note that there were male athletes who were symptomatic.

Like the previous study, Galli et al. (2017) wanted to uncover how team weigh-ins and self-weighing impacted body image and drive for muscularity. This study included 744 male collegiate athletes who represented 17 sports. The participants were given a variety of questionnaires to investigate disordered eating behaviors and body image concerns such as the Perceived Sociocultural Pressure Scale, Sociocultural Attitudes Toward Appearance, Body Parts Satisfaction Scale of Men, Dietary Intent Scale, Positive and Negative Affect Schedule, Drive for Muscularity Scale, and the Bulimia Test. Out of the 744 participants, only 168 athletes participated in team weigh-ins and were grouped based on how often they were weighed. The researchers found a significant correlation between the number of times the athletes weighed themselves and sociocultural pressures. They also concluded that athletes who weighed themselves seven or more times per week had higher levels of bulimic symptomology. Based on the questionnaire results, they found that the athletes weren't

necessarily concerned with their weight, but they were more concerned with how lean or muscular their physique looked.

Chatterton et al. (2017) created a study to test Petrie and Greenleaf's psychosocial model in relation to bulimic symptomatology. The purpose of the study was to examine the psychological health and well-being of 698 male collegiate athletes. This study included 698 male collegiate athletes who participated in baseball, football, track and field, swimming and diving, soccer, basketball, cross country, tennis, wrestling, lacrosse, crew, golf, ice hockey, volleyball, skiing, and squash. The athletes completed a variety of different questionnaires including the Weight Pressure in Sport Scale for Men, Perceived Sociocultural Pressure Scale, Sociocultural Attitudes Toward Appearance Questionnaire, Body Satisfaction Scale for Men, Dietary Intent Scale, Positive and Negative Affect Schedule, Drive for Muscularity Scale, and the Bulimia Test. Sport-specific weight pressures has direct effects on internalization, negative affect, body satisfaction, dietary restrictions, and drive for muscularity. This led to restricting calories, engaging in muscle building behaviors and negatively impacting self-esteem. Societal pressures also played a role as well. The athletes who participated in sports that focused on leanness and muscularity and were heavily influenced by coaches and teammates were also impacted.

In a study conducted by Freedman et al. (2021) they interviewed eight current and former collegiate athletes about their disordered eating behaviors and compulsive exercising behaviors. Their goal was to characterize how male athletes developing eating and exercise disorders. Through these interviews, they discovered three main themes of why the participants eating disorders or disordered eating behaviors started: the sport environment, societal norms and gender stereotypes, as well as social media comparisons. They also found that the disordered eating continued due to having a need to control as well as having a dedication to the sport. The athletes expressed that how the normative culture of acceptance, and having external praise from teammates, coaches, and their families, reinforced their disordered behaviors which led to performance and appearance pressure. After

examining the data from the questionnaires, eight athletes were diagnosed with eating disorders. More specifically, four were diagnosed with bulimia, three were diagnosed with binge eating disorder, and one was diagnosed with non-binge eating disorder.

Galli et al. (2014) created a study to determine which of the five personality and psychological variables of interest best predicted the eating disorder status in male collegiate athletes. The variables included perfectionism, self-esteem, optimism, reason for exercise, and appearance orientation. This study included 203 male collegiate athletes and they were given the Questionnaire for Eating disorder Diagnoses, Multidimensional Perfectionism Scale, Reasons for Exercise Inventory, and the Appearance Orientation Scale. The results concluded that the athletes' personality and psychological variables were not correlated to their diagnosis. Based on the athletes' responses, 164 athletes were asymptomatic, and 39 athletes were symptomatic.

Petrie et al. (2014) examined the relationship of the most common potential risk factors for bulimic symptoms in male collegiate athletes. The four main psychological constructs that were examined are body dissatisfaction, restrained eating, drive for muscularity, and negative affect. This study included 203 male collegiate athletes from 17 NCAA Division I universities across the United States. The athletes participated in a variety of different sports such as baseball, wrestling, football, swimming, diving, fencing, basketball, cross country, cheerleading, golf, hockey, lacrosse, soccer, track, alpine skiing, and volleyball. The athletes were given questionnaires surrounding the four main psychological constructs: The Bulimia Test, Positive Negative Affective States Scale, Body Parts Satisfaction Scale, Multidimensional Body-Self Relations Questionnaire, Dietary Intent Scale, Drive for Muscularity Scale, and Marlowe-Crowne Social Desirability Scale. Based on the results of the questionnaires, the researchers uncovered major themes that contributed to the athletes' body image: fear, hostility, sadness, and guilt. Male athletes were restricting their calories due to pressures from family, coaches, teammates, and societal ideals. Due to the caloric restriction and dietary changes,

athletes were showing signs of binge eating disorder to make up for lost calories. Athletes were also showing signs of binge eating disorder during high-stress times surrounding competition. Many were fearful of losing their spot on the team and would use food as a coping mechanism. The results also concluded that the athletes drive for muscularity came from the endorsement of muscle-building behaviors within the sport rather than having muscular body attitudes. They also concluded that the stress of trying to maintain a specific physique contributed to athletes feeling depressed, overwhelmed, isolated, shameful, and embarrassed.

Education & Training

Studies have showcased how there is a lack of education for male athletes as well as athletic administrators. The lack of education adds to the prevalence of eating disorders. The study conducted by Torres-McGehee et al. (2012) uncovered the nutrition knowledge among collegiate athletes, coaches, athletic trainers, and strength and conditioning specialists. The study included over 400 athletes, 400 coaches, 200 strength and conditioning specialists and athletic trainers. The athletes and coaches represented a wide variety of sports such as baseball, basketball, cheerleading, cross country, equestrian, football, golf, gymnastics, ice hockey, lacrosse, rowing, soccer, swimming and diving, tennis, track and field, volleyball, and wrestling. To collect data, the participants were given a 10-point Likert scale about nutrition programs, knowledge, resources, and habits. They were also given a questionnaire with 20 multiple choice questions about four main themes: micronutrients and macronutrients, supplements and performance, weight management and eating disorders, and hydration. The results concluded that only 58.2% of the participants had access to a registered dietician. 21.9% of these participants had access to a full-time dietician while 28.2% had access to a part-time dietician. The remaining 49.9% had access to a registered dietician from their on-campus student health center or an off-campus resource. Most athletes received their nutritional education from athletic trainers and strength and conditioning specialists and not registered dietitians. This led

to the participants having a below-average knowledge of nutrition. 28.6% of athletic trainers did not have adequate nutrition knowledge compared to 16.9% of strength and conditioning specialists. Coaches and athletes had even lower knowledge of nutrition. 55.9% of athletes and 64.1% of coaches had inadequate knowledge of nutrition. Having such low knowledge and training surrounding proper nutrition puts athletes at risk for developing eating disorders.

Summary

Research has shown that there is a prevalence of male collegiate athletes developing eating disorders. Although the numbers may not be as high as female athletes with eating disorders, this is still an issue within athletic departments across the world. This chapter uncovers five common topics to help understand how prevalent eating disorders and disordered eating behaviors are for male athletes within collegiate athletics.

From the current research, we can conclude that specific sport types can play a role in eating disorders. Lean sports, which are sometimes grouped with endurance and aesthetic sports, are the most common sport-type that are susceptible to developing eating disorders due to the need to be thin and have a lean physique. To lose weight, athletes will resort to disordered eating behaviors such as vomiting, diuretics, dieting, fasting, excessive exercise, and bingeing. Over-exercising and taking other measures are common themes for athletes with eating disorders and disordered eating. Some of the more common causes and influences to eating disorders and disordered eating are pressures from friends, family, coaches, and teammates. Also, many male collegiate athletes feel societal pressures to fit a specific body type for their sport or just have a lean muscular body. Another important aspect that leads to eating disorders and disordered eating behaviors is the lack of education surrounding proper nutrition and eating disorders. Many athletes and administrators that work with the athletes directly are undereducated to provide the proper information, education, and support. By not having the proper education, many athletes who are experiencing disordered eating behaviors could turn into

full-blown eating disorders. It is important for athletes to understand how disordered eating behaviors can impact their performance and overall well-being.

Even though male collegiate athletes have lower rates of eating disorders, the current research shows that many are experiencing disordered eating behaviors. Through more education and knowledge as well as dropping the stigma that only female athletes experience eating disorders, more male athletes will be able to feel comfortable to seek the help they need. Overall, there needs to be more awareness surrounding male collegiate athletes with disordered eating behaviors and eating disorders.

Chapter 4:

Results, Discussion, and Recommendations for Future Research

The purpose of this chapter is to present the results of the review of literature on the prevalence of eating disorders among male collegiate athletes and how these results align with the purported research questions which guided this synthesis project. In addition, recommendations for future research as it relates to the prevalence of eating disorders on male collegiate athletes are presented.

The results of this review of literature revealed a few common themes that created consistent results throughout previous research. The research consistently showcased that male athletes are just as susceptible to developing disordered eating behaviors and eating disorders as female athletes. Although there are more female athletes with eating disorders, the current research shows that there are male athletes who are struggling with eating disorders and disordered eating behaviors. The research also indicated that there are many influences inside and outside of the sport that contributes to male athletes developing disordered eating behaviors and eating disorders. Participating in specific sport-types such as lean sports have been noted to have higher rates of male athletes with eating disorders and disordered eating behaviors. Research has shown that most athletic departments and colleges are lacking the proper resources to successfully educate and support their athletes which have led to increased cases.

The literature review has shown that more education and providing resources for athletes and other administrators working with athletes could combat the challenges surrounding eating disorders and disordered eating behaviors. It is essential to educate administrators, so they are able to properly support their athletes and provide them with the resources they need. With more education, this could reduce the number of causes and potentially stop cases from progressing into something more serious. The research has shown that there are more cases of disordered eating behaviors than eating

disorders. With early intervention, these disordered eating behaviors can be treated so they don't turn into eating disorders. Eating disorders and disordered eating behaviors can impact someone's physical, mental, and emotional well-being. Early intervention is necessary to stop the potential harm and long-lasting impacts on the body.

Discussion

Interpretations

As part of this literature review, several research questions were posed. The first research question examines what is the current prevalence of eating disorders within male collegiate athletes? The results concluded that there is a prevalence of eating disorders within male collegiate athletics. Although most studies are geared towards females with eating disorders, studies showed that male athletes do struggle with eating disorders as well. The research showed that eating disorders aren't as prevalent compared to females. The research explained that disordered eating behaviors are more common than having eating disorders for males. For example, in the study conducted by DiPasquale and Petrie (2013), 17 male athletes were symptomatic meaning they had disordered eating behaviors and none of the athletes had eating disorders. In Chatterton's and Petrie's (2013) study, 117 male athletes were symptomatic and eight had eating disorders.

The second research question that was examined was, what are the specific sports that are predominately impacted? It was a common theme that lean sports were the most impacted by eating disorders and disordered eating behaviors due to the emphasis on fulfilling a low body weight, lean body, or having an aesthetic appearance for competition or to gain a competitive advantage. Within the larger category of lean sports, this also includes aesthetic, endurance, weight-dependent, and antigravitation sports. Reinstenbach-Golz et al. (2013) concluded that lean sports are typically more at risk due to their high body requirements of maintaining a specific physique for their sport. In the study conducted by Dimitrova and Vanlyan (2018), they concluded that lean sport athletes are more

likely to binge eat due to their restrictive diets and compulsive exercising. Perelman et al. (2018) found that males who participate in lean sports have much higher rates of body dissatisfaction compared to males who participate in non-lean sports. They noted that males who strive to have a lean or thin body type have higher rates of body dissatisfaction compared to male athletes who are focused on being muscular. Their research concluded that male athletes are more affected by their sport type compared to female athletes. Similarly, Chapman and Woodman (2016) found that male athletes who participated in sports that emphasized having a lean body mass and shape had higher levels of eating disorders and disordered eating behaviors. Specifically, their study concluded that the lean sport with the most cases was wrestling due to competing at specific weight classes and having high muscle mass and low body fat.

The third research question that was examined was what are the characteristics of sports that lead to eating disorders? Sports such as lean sports emphasize having a specific physique to have a competitive advantage and succeed. Wilson et al. (2016) compared weight-sensitive sports to less weight-sensitive sports to examine weight control practices. Through their research, they found that weight-sensitive sports such as gymnastics, swimming, wrestling, and track and field were the most impacted due to the emphasis on losing weight to be successful in the sport. Specifically, they concluded that wrestling has the highest prevalence of weight loss. Since many sports emphasize weight loss and weight gain, athletes will often use supplements to achieve their desired body weight. Some athletes will use supplements as a form of performance enhancement. Adams et al. (2016) discovered that male athletes had higher rates of excessive supplement usage which is a common disordered eating behavior.

The fourth research question that was researched was what are the leading causes of eating disorders? The research showed that many influences inside and outside the sport lead athletes to develop eating disorders and disordered eating behaviors. Galli et al. (2011) discovered that there

were two main types of weight pressure influences: in sport and out of sport. In sport pressures include pressures from coaches and teammates and out of sport pressures include pressures from friends, family, and spectators. Athletes reported that their physical appearance showed their dedication to the sport but lead to body image issues. Galli et al. (2017) concluded that sports that emphasize a certain physique and maintain a specific weight had higher levels of bulimic symptomology and body image concerns. They also concluded that the athletes aren't necessarily worried about their weight, they were more worried about how their bodies looked and how their teammates and coaches viewed them. Similarly, Chatterton et al. (2017) found that sports that emphasized leanness and muscularity were heavily influenced by their coaches and teammates. The athletes would restrict calories and have other disordered eating behaviors which would negatively impact their self-esteem. Freedman et al. (2021) found that that the main causes of eating disorders in male athletes were based off the sport environment, gender stereotypes, societal norms, and social media comparisons. Galli et al. (2014) hypothesized they psychological variables would impact athletes developing eating disorders, but the results concluded they these variables were not correlated to the athletes' diagnosis. Petrie et al. (2014) concluded that the pressure from family, coaches, teammates, and society impacted their body image. Binge eating was noted to be common during high-stress times and the fear of losing their spot on the team. Due to the stress, their mental health was impacted.

The final research question examined was what is the current knowledge of athletes and administrators surrounding eating disorders? The research concluded that there is a lack of education and resources for athletes and administrators working with athletes such as strength and conditioning specialists, coaches, and athletic trainers. Torres-McGehee et al. (2012) found that most athletic departments did not have the proper resources to address eating disorders and give proper education surrounding nutrition and exercise. Most athletes received their nutritional education from their

coaches. Based on their research, the administrators working with the athletes did not have the proper knowledge in order to support athletes who may be struggling with eating disorders and disordered eating behaviors.

Implications

The previous research on the prevalence of eating disorders on male collegiate athletes shows that the problem may be more prevalent than we may assume. The results of this synthesis can offer some practical implications which can be beneficial to male collegiate athletes and collegiate athletic departments in order to support athletes and potentially reduce the number of cases of eating disorders.

It is important for athletic departments to provide more training, education, and resources to the administrators such as athletic trainers, coaches, athletic directors, and strength and conditioning coaches who work directly with the athletes. By providing more education and resources, the administrators would be able to offer the proper assistance to support athletes if they are showing signs or symptoms of an eating disorder or disordered eating behaviors. The research has shown that those who are working with the athletes have a strong influence on the athletes. Studies have shown that there is a lack of education surrounding proper nutrition and many athletic departments do not have a registered dietician working with the athletes. By having a registered dietician working with the players and teams, they can learn about proper nutrition, and this could reduce the amount of eating disorder cases.

Not only would it be beneficial for administrators to have more education, but it would also help the athletes as well. Many athletes don't understand the repercussions of their actions when it comes to eating disorders. Eating disorders and disordered eating behaviors can have lasting impacts on the body and can negatively impact their athletic performance. Specifically for males, there is a stigma surrounding males and eating disorders. These athletes should feel supported and have access

to resources and education surrounding topics of proper nutrition and eating disorders. Resources should be visible to all athletes and there should be open conversations surrounding eating disorders as well. Most of the time, male athletes don't understand that they have eating disorders or disordered eating behaviors. When they are aware of their behaviors, they may be able to seek help. Having open conversations about eating disorders may allow athletes to feel more comfortable seeking help.

Overall, people need to be more aware of the words and attitudes they use involving eating disorders. Since male eating disorders are not a common topic and there is a societal stigma around male athletes, many male athletes do not feel comfortable discussing these topics. Whether it is parents, coaches, teammates, or society, de-emphasizing the importance of weight and maintaining a specific physique can drastically reduce the number of cases. Athletes should not feel pressured to weigh themselves, take nutritional supplements or performance enhancers, or cut calories to be successful in their sport.

Limitations & Recommendations for Future Research

In reviewing the data base on the prevalence of eating disorders among male collegiate athletes, the following limitations were noted regarding the studies under review. Many of the studies included self-reported data such as surveys and questionnaires. The athletes included could have underreported their symptoms in order to avoid shame. Since participation was voluntary, athletes who experienced eating disorders or disordered eating behavior may have decided to not participate which could impact the data collected. Most of the research was limited to lean sports and lean sport categories. Research surrounding athletic administrators' knowledge about eating disorders and disordered eating behaviors were also very limited.

Based on these limitations and other insights related to the literature, the following recommendations for future research should be considered:

1. Further research into male athletes with eating disorders and disordered eating behaviors.

Currently, there aren't as many studies done surrounding male athletes with eating disorders and disordered eating behaviors. Although research has shown that female athletes have more cases, research is also showing that there is a prevalence of male cases as well.

2. Further research into other sport-types such as power sports. Power sports such as weightlifting, and football could also be at risk of developing eating disorders and disordered eating behaviors due to the emphasis on gaining a lot of muscle. To gain a lot of muscle, athletes may over-exercise and take performance-enhancing supplements which are considered disordered eating behaviors.
3. Further research into specific sports instead of sport-types would be beneficial in order to be more aware of the potential issues and concerns surrounding specific sports such as wrestling.
4. Further research should look at what athletic departments are doing to support and educate athletes about eating disorders, specifically male athletes. Also, what current resources and training are available to athletes and ways that athletic departments could better support the athletes.
5. Further research should look at the current knowledge and training that athletic administrators have such as athletic directors, strength and conditioning specialists, nutritionists, coaches, and athletic trainers.

Summary

The purpose of this literature review was to determine the prevalence of eating disorders among male collegiate athletes. Delimiting variables were used to do an exhaustive data-based search which yielded 14 number of articles. These articles were then systematically used to determine the prevalence of eating disorders on male collegiate athletes. Specifically, this literature review

discussed the prevalence of eating disorders, influences of sport-type, characteristics of sport-types, main causes, and influences, as well and the current education and training surrounding eating disorders and disordered eating behaviors.

The research revealed that although male athletes with eating disorders aren't as prevalent as females with eating disorders, it still showcased that this is an ongoing problem in athletic departments. Due to influences in and out of sport, male athletes are not getting the help they need. Specific sport-types such as lean sports have higher rates of eating disorders due to the pressure to maintain a specific physique or weight. Many athletic departments are not equipped with the proper training and resources to effectively support and educate their athletes. Since many administrators don't have the proper training or resources, the athletes who are struggling with disordered eating behaviors or eating disorders will progress and could potentially have long-lasting impacts on their bodies and athletic performance.

Further research surrounding male athletes with eating disorders would be very beneficial. There is not enough research surrounding males with eating disorders which continues to feed the narrative and stigmas that females only develop eating disorders. Educating athletes, administrators, and society would be greatly beneficial and would show male athletes that they are not alone. By conducting more research surrounding these topics, more male athletes could seek help and reduce the amount of eating disorder and disordered eating cases within collegiate athletic programs.

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Author	Title	Source	Purpose	Methods & Procedures	Analysis	Findings	Discussion/ Recommendations Research Notes – Commonalities/Differences
Galli, Reel, Petrie, Greenleaf, & Carter (2011)	Preliminary development of the weight pressures in sport scale for male athletes	Journal of Sport Behavior	The purpose of this study was to develop a preliminary measure of weight pressures, the relationship between various demographic variables and weight pressures, and determine the relative contribution of weight pressures.	203 male athletes from three NCAA D1 institutions. Athletes participated in a variety of different sports. Utilized different scales to answer research questions: demographic, weight pressures, self-esteem, body image, negative affect, bulimic symptomology, drive for muscularity, and social desirability.	Exploratory Factor Analysis was used as well as parallel analysis.	Athletes experienced the most pressure from coaches/teammates as well as their appearance. No correlation with demographics (school year, race etc). The type of sport did impact the weight pressure of the athletes.	Sport-specific pressures can lead to disordered eating and negative health behaviors. Male athletes experience more pressure to achieve a specific body type that is physically fit and skilled. Power sports and endurance sports experienced the most pressure. Coaches and administrators who are working with male athletes should be more aware of disordered eating and other unhealthy behaviors. There also needs to be more education for athletes to understand eating disorders. There needs to be more screening for eating disorders and open conversations.
Dimitrova & Vanlyan (2018)	Factors Associated with Eating Disorders in Male Athletes	Turkish Journal of Sports Medicine	This purpose of this study was to identify some risk factors that may contribute to disordered eating attitudes and	186 collegiate athletes and non-athletes participated and were given an Eating Disorder Examination Questionnaire and were divided into groups based on their sport	Used a Statistical Analyses and Descriptive Statistics to examine physical variables. ANOVA statistics were used	Differences were insignificant. Compulsive exercising was higher with athletes who participate in lean sports. Athletes who competed at a higher level had	Needs to be more research about other factors that could contribute to eating disorder attitudes and behaviors.

			behaviors in male athletes according to type and level of participation to sports activity. (Qualitative)	type and their athletic participation.	to see the characteristics with sports type and competitive level.	higher dietary restraints.	
Golz, Stenzel, Schneider (2013)	Disordered Eating Behaviors and Body Image in Male Athletes	Brazilian Journal of Psychiatry	The purpose of this study is to identify disordered eating behaviors and body image dissatisfaction, as well as their relationship to body fat among, collegiate male athletes in high-risk sports for eating disorders.	156 male athletes were divided into categories: lean sports, weight-class sports, and aesthetic sports. The athletes were given the Eating Attitudes Test, Bulimic Investigatory Test, and the Body Shape Questionnaire.	Utilized the Kruskal-Wallis test and the Mann-Whitney test to compare the sports categories as well as the body fat percentages.	Sports that emphasized leanness had the highest training volume. One-quarter of athletes that participated in this study showed disordered eating behaviors. Sports that have weight restrictions were at an increased risk for developing disordered eating behaviors. Body dissatisfaction was one of the more relevant factors for developing eating disorders.	Athletes need to be aware of the risks associated with eating disorders and disordered eating behaviors. Coaches need to take notice of weight fluctuations and unhealthy eating habits. By being aware, this can stop an eating disorder from progressing with an early diagnosis and treatment.

Galli, Petri, Chatterton (2017)	Team Weigh-Ins and Self-Weighing: Relations to Body-Related Perceptions and Disordered Eating in Collegiate Male Athletes	Psychology of Sport and Exercise	The purpose of this study was to examine the relation of team weigh-ins and self-weighing frequency on collegiate male athletes' internalization of body ideals, social pressures about weight and body, body satisfaction, dietary intent, negative affect, drive for muscularity and bulimic symptomatology.	738 male collegiate athletes participated in a cross-sectional survey. The athletes participated in 17 different sports. The survey was used to see the different sociocultural pressures that could lead to eating disorders and disordered eating behaviors such as physique, friends, coaches, family, and the media.	Participants were grouped based on if they were weighed for their sport and how often they are weighed. They also examined the sport type and how the two factors combined made a difference in their behaviors and habits	The more the athletes were weighed, the more pressure they felt to lose weight and would restrict their calorie intake or over exercise.	Sports psychologists should be involved more with athletes. Coaches and other administrators that have direct interactions with the athletes should be more aware of the signs and consequences of eating disorders in order to educate the athletes. With more education, there could be less cases of eating disorders.
Galli, Petrie, Greenleaf, Reel, Carter (2014)	Personality and Psychological Correlates of Eating Disorder Symptoms Among Male	Eating Behaviors	The purpose of this study was to determine which of five personalit	203 male athletes from three NCAA D1 schools participated and were categorized into groups based on their	Athletes were given the Questionnaire for Eating Disorder Diagnosis ,	164 athletes were asymptomatic and 39 were symptomatic . No athletes were diagnosed	There needs to be more research geared towards males specifically with eating disorders since it can look different from person to person. Athletic departments could use the Eating Disorder Assessment for Men.

	Collegiate Athletes		Physical and psychological variables of interest best predicted eating disorder status in male athletes.	sport type such as ball game, power, endurance, technical, aesthetic, and weight dependent.	Multidimensional Perfectionism Scale, Reasons for Exercise Inventory, and Appearance Orientation Scale.	with an eating disorder. Personality and psychological variables were not a factor. The leading cause was based off of appearance. They also concluded that disordered eating may look different between males and females.	
Freedman, Hage, Quatromoni (2021)	Eating Disorders in Male Athletes: Factors Associated with Onset and Maintenance	Journal of Clinical Sport Psychology	The purpose of this study was to investigate the experiences of male athletes who self-identified having an eating disorder, disordered eating, or compulsive exercise behaviors.	Eight collegiate athletes participated in telephone interviews to talk about their experiences with eating disorders. One had anorexia, one had bulimia, and one had another ED. The other participants have disordered eating but haven't been formally diagnosed.	The participants completed a Qualtrics survey and participated in the 45-minute interview.	13 major themes were revealed that characterized the experiences of the athletes. These 13 themes were based on sport environment, social norms, and gender stereotypes. Some of the main contributing factors for eating disorders in this study	Men are just as susceptible to developing eating disorders as women. The article suggested implementing policies and enhancing knowledge surrounding mental health and nutrition. Athletes should be screened for behavioral, physical, and mental health risks that could lead to eating disorders. The authors believe it should be mandatory to screen athletes for ED symptomology. There also needs to be ongoing education for male athletes about eating disorders, nutrition, and mental health.

						were to gain a competitive edge, social media influences, societal pressure, and using exercise to seek control within themselves.	
Chatterton & Petrie (2013)	Prevalence of Disordered Eating and Pathogenic Weight Control Behaviors Among Male Collegiate Athletes	The Journal of Treatment & Prevention	The purpose of this study was to determine the prevalence of disordered eating and pathogenic weight control behaviors in male collegiate athletes	732 male collegiate athletes participated in this study and represented 17 different sports. The athletes are given the 50-item Questionnaire for Eating Disorder Diagnosis. They were also given seven items from the Bulimia Test to assess their weight control behaviors.	Based on the QEDD classification, they were categorized based on the severity of their eating disorder. They also investigated the potential relationships between the type of sport and the classification of the eating disorder and how often they were engaging in eating and weight control	607 were asymptomatic, 117 were symptomatic, and 8 had an eating disorder. Athletes who competed in weight class sports had the highest prevalence of eating disorders compared to ball game athletes or endurance sports. Dieting, fasting, and over exercising were the most common weight control behaviors.	Athletes who participate in weight class or other high-risk sport environments should be closely monitored since they are more susceptible to developing eating disorders and disordered eating behaviors. There also needs to be more awareness surrounding males with eating disorders since they are just as susceptible as female athletes.

					behaviors		
Chatterton, Petrie, Schuler, Ruggero (2017)	Bulimic Symptomatology Among Male Collegiate Athletes: A Test of an Etiological Model	Journal of Sport & Exercise Psychology	The purpose of this article was to examine the direct and indirect effects of general and sport-specific appearance pressures, internalization, body satisfaction, drive for muscularity, negative affect, and dietary restraint on bulimic symptomatology.	698 male collegiate athletes participated in the study.	All athletes were given the 12-item Weight Pressure in Sport Scale for men, 9-item Internalization General Subscale of Sociocultural Attitudes Towards Appearance Questionnaire, 18 items from the Body Parts Satisfaction Scale for Men, 9-item Dietary Intent Scale, 23-items from the Positive and Negative Affect Schedule Expanded, 14-item Drive for	Sport-specific weight pressures has direct effects on internalization, negative affect, body satisfaction, dietary restrictions, and drive for muscularity. This led to restricting calories, engaging in muscle building behaviors and negatively impacting self-esteem. Societal pressures also played a role as well. The athletes who participated in sports that focused on leanness and muscularity and were heavily influenced by coaches and teammates were also impacted.	Those who work with athletes need to know that their words make an impression on the athletes and negatively impact them. Everyone should be working together to provide resources and programs to educate administrators and athletes. There should be screenings for male athletes to identify disordered eating patterns and behaviors. Being aware allows for early intervention if needed.

					<p>Muscularity Scale, and 36-item Bulimia Test. All these surveys were used to help examine the psychological health and well-being of the athletes.</p>		
<p>Wilson, Madrigal, Burnfield (2016)</p>	<p>Weight Control Practices of Division 1 National Collegiate Athletic Association Athletes</p>	<p>The Physician and Sports Medicine</p>	<p>The purpose of this article was to assess the weight control practices and associated symptoms of Division I NCAA athletes over a competitive season. Additional objectives were to: (1) examine</p>	<p>188 athletes participated (138 males and 50 females). They were categorized into weight-sensitive and less weight-sensitive groups.</p>	<p>All participants completed the Weight Control Practices Questionnaire to examine their attempts to gain or lose weight throughout their season. Participants also completed the Sport Nutrition</p>	<p>32% of males attempted to lose weight during their sport season. Males who participated in weight sensitive sports such as wrestling was 95%. 54% percent of male athletes attempted to gain weight with football being the sport with the highest number of male athletes.</p>	<p>There needs to be more research on evaluating the weight control practices. There also needs to be more knowledge about weight control knowledge and symptoms as well.</p>

			if these practices varied with gender and year in school; and (2) assess nutrition knowledge – specifically weight control knowledge – among athletes attempting and not attempting to alter body weight.		Knowledge Questionnaire to see their current knowledge on nutrition, fluid, weight control, recovery, and supplements.		
DiPasquale & Petrie (2013)	Prevalence of Disordered Eating: A Comparison of Male and Female Collegiate Athletes and Nonathletes	Journal of Clinical Sport Psychology	The purpose of this study was to prevalence of eating disorders, body image issues, and weight control behaviors using a valid diagnostic measure.	The participants included 156 female and 146 male NCAA DI athletes representing a variety of different sports. This study also included 353 female and 170 male nonathletes. All participants were given a 50-item questionnaire for Eating	Based on the responses from the questionnaire, the athletes were grouped based on being asymptomatic, symptomatic, or eating disordered.	No male athletes had eating disorders, but 122 were asymptomatic and 17 were symptomatic. 14 male athletes participated in binge eating. More nonathletes than athletes had body image concerns	Athletic programs need to incorporate ongoing health screening programs.

				Disorder Diagnosis. This questionnaire looked into weight control behaviors and body image concerns.			