

PROGRAMS ON A DIET?: AN EXAMINATION OF ATHLETIC DEPARTMENTS' EATING
DISORDER POLICIES AT NCAA DIVISION I UNIVERSITIES

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Taylor K. Wise
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Thesis Approvals:

Dr. Michael L. Sachs, Kinesiology, Temple University

Dr. Lois A. Butcher, Kinesiology, Temple University

Dr. Joseph P. DuCette, Psychological Studies in Education, Temple University

ABSTRACT

The purpose of this study was to determine which NCAA Division I universities have an eating disorder policy specific to collegiate athletes. Demographic factors were also assessed for their relationship to whether or not a university has a specific policy. An additional goal of the study was to examine currently existing policies, assess common themes between them, and determine which themes are most appropriate and beneficial for future policies. The study used both qualitative and quantitative data analysis. Participants of the study were the 128 NCAA Division I Football Bowl Subdivision universities.

The research design involved a documentary analysis to determine which universities currently have a policy specific to athletes with eating disorders. An online search for policies yielded 13 official policies, primarily found through a general Google search. For the universities in which an online search did not provide results, athletic department personnel were contacted by email requesting the status of their policies in relation to athletes with eating disorders. Of the 115 universities that were contacted, 50 universities replied. Through analysis of the email responses, the researcher found an additional 20 universities with a specific policy regarding athletes with eating disorders. In total, the researcher found 33 of the 128 universities (26%) to have an official policy specific to athletes with eating disorders.

Existing policies were analyzed and coded into themes. The researcher found 16 major themes that were recurring throughout existing policies. Each theme was analyzed individually to determine recurring patterns. The researcher found between four and six recurring patterns per major theme.

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CHAPTER 1

INTRODUCTION

Disordered eating behaviors have become a major issue on college campuses. Behaviors such as starvation, self-induced vomiting, and excessively exercising are only some of the many ways people with disordered eating attempt to control their diet and weight (Danner, Sternheim, & Evers, 2014). There is potential for anyone to develop an eating disorder; however, there is debate over whether or not athletes are at a greater risk for developing eating disorders than the general population. Collegiate athletes face a high pressure to perform successfully, which may contribute to the development of disordered eating to maintain a specific physique for competition (Kirk, Singh, & Getz, 2001). Any form of disordered eating can put a person at risk for serious medical problems (Hudson et al., 2012). The risk of disordered eating in athletes and the serious medical consequences associated with disordered eating makes it necessary to address how to recognize and effectively treat eating disorders in collegiate athletes.

Although anorexia nervosa and bulimia nervosa are the most familiar eating disorders, it is important to recognize that disordered eating manifests in many forms. Some less recognizable eating disorders include binge eating disorder (BED), eating disorder not otherwise specified (EDNOS), anorexia athletica (AA), and non-diagnosable disordered eating behaviors that are nonetheless dangerous and require medical attention (Sundgot-Borgen & Torstveit, 2004). Medically diagnosed eating disorders are fairly rare with less than 3% of the general population having been diagnosed with an eating disorder (Hoek & van Hoeken, 2003). However, this statistic does not include non-diagnosed disordered eating behavior.

Non-diagnosable disordered eating includes symptomatic behaviors such as purging or skipping meals that occur on a regular basis but not to the extent that they match the Diagnostic and Statistical Manual criteria for official diagnosis (Shisslak, Crago, & Estes, 1995). This means that eating disorders occur on a spectrum from less to more severe. In the general population, the prevalence of partial syndrome disordered eating is at least twice as common as diagnosed eating disorders (Shisslak, Crago, & Estes, 1995). It is difficult to find an exact percentage of non-diagnosable disordered eating in the general population because the classification of disordered eating is broad and disordered behaviors are not easy to identify.

Many mental and physical health complications have been associated with eating disorders. These include but are not limited to: osteoporosis, skeletal disorders, amenorrhea, nutritional deficiencies, endocrine and gastrointestinal problems, dental problems, substance abuse, and psychiatric disorders (Hudson et al., 2012; Treasure et al., 2010). Additionally, cardiovascular complications such as bradycardia, irregular blood pressure, and dysrhythmias are correlated to anorexic behaviors while electrolyte imbalances are correlated to purging behaviors (Palla & Litt, 1988). Furthermore, self-induced vomiting and laxative abuse have been linked to constipation, acid reflux, dry skin, intestinal bleeding, dehydration, and tooth decay (Brown, 1985). Due to the severe health issues associated with eating disorders, it is necessary to understand the cause of eating disorders so that they can be better prevented in the future.

Both genetic and environmental factors play a role in the development of disordered eating (Mazzeo & Bulik, 2009). Family studies showing a higher prevalence of eating disorders among relatives suggests that disordered eating is influenced by additive genetic factors (Lilenfeld et al., 1998). Obsessive personality traits seem to be specifically correlated with highly controlled and restricting eating patterns (Lilenfeld et al., 1998). Furthermore, exposure to

sociocultural influences such as unrealistic thin images of models results in lasting negative feelings of body dissatisfaction (Stice, Spangler, & Agras, 2001).

The presence of both underweight and overweight stigmas can significantly contribute to the desire to engage in unhealthy behaviors to achieve a specific weight. Children and adults who are exposed to weight stigma are at increased risk for adverse health consequences that include psychiatric disorders, disordered eating, obesity, substance abuse, and cardiovascular problems (Hatzenbuehler et al., 2009; Neumark-Sztainer et al., 2002). Mental health issues such as high stress, depression, and anxiety also occur in people who perceive weight discrimination regardless of their actual weight or amount of social support (Puhl & Heuer, 2009).

Current research suggests that the prevalence of diagnosable eating disorders in athletes is similar to that of the general population (Greenleaf et al., 2009). Approximately 2% of collegiate athletes are diagnosed with an eating disorder. However, roughly one-fifth of collegiate athletes regularly engage in disordered eating behaviors (Greenleaf et al., 2009). It may be that athletes are at a higher risk than non-athletes for non-diagnosable disordered eating. Athletes are often thought of as people who are in great physical condition and live very healthy lives. It could appear that body dissatisfaction and disordered eating is not an issue in athletic populations. In reality, the demands of competition at collegiate and elite levels can be extensive both physically and mentally. Such demands can be triggering to maladaptive eating behaviors (Thompson & Sherman, 1999). Athletes commit to long hours of strenuous training with the belief that such training will develop a competitive body that will make them successful in their sport (Kirk, Singh, & Getz, 2001). This can be especially difficult for collegiate student-athletes who have to manage the pressures of both academics and athletics, as well as potential stresses of being away from home (Thompson, 2014).

In addition to the pressure of athletic success, athletes experience the same pressures of appearance that the general public face. One of the most common pressures is for people to maintain a thin appearance because it represents health and beauty (Stice, Spangler, & Agras, 2001). However, “thin” does not necessarily correlate to athletic success in all sports (Byrne & McLean, 2002). Athletes may attempt to achieve a societal standard of beauty that does not contribute positively to their health or sport performance. Additionally, the sport culture itself can put athletes at risk for disordered eating. Many athletes receive sport-specific pressure from coaches, teammates, parents, and peers to match the physical requirements for their sport (Kirk, Singh, & Getz, 2001). This can be very complicated because, although athletes are expected to maintain a strong enough body to perform to a high standard, they are not immune to the societal pressures to maintain a thin physique. This balance between thin and strong can be difficult to achieve.

Furthermore, people who are overweight or have visible fat on their body face a stigma of being lazy and unmotivated (Puhl & Heuer, 2009). This stigma can be emotionally stressful to athletes who commit multiple hours a day to training and don’t want a body that is associated with laziness. Corrective behaviors such as self-starvation, laxative use, bingeing and purging, and extra exercise outside of practice are all strategies that athletes use to attempt to perfect the balance between society’s idea of beauty and the appropriate body for athletic success (Greenleaf et al., 2009).

Some research has suggested that athletes who participate in sports that emphasize leanness or that are weight dependent are more likely to develop disordered eating behaviors (Sundgot-Borgen & Torstveit, 2004). Sports such as ballet, rowing, gymnastics, and long-distance running could be triggering because they often require low-body weights for better

performance (Byrne & McLean, 2002). Additionally, the mental state of an athlete can be a risk factor for disordered eating. High anxiety, depression, and obsessive tendencies often accompany eating disorders (Lilenfeld et al., 1998; Shanmugam et al., 2014). Some personality traits that are beneficial to athletic success, such as adherence and perseverance, are also associated with disordered eating (Thompson & Sherman, 1999). Without realizing, coaches may encourage certain traits in their athletes that, while positive to athletic success, aren't beneficial in cases of maladaptive behaviors. Other risk factors for athletes include revealing uniforms, observation of disordered behavior in teammates, and perceived pressure on weight from coaches and peers (Thompson, 2014).

Recognizing disordered eating behavior can be difficult. Individuals engaging in disordered eating might not recognize that their behaviors are unhealthy (Becker, Eddy, & Perloe, 2009). A person won't seek out help if he or she doesn't realize that they need help in the first place. Of the people who do recognize that they engage in unhealthy behaviors, they might still be in denial about the severity of their behaviors and thus not feel the need to seek out treatment at the present time. There are also people who are well aware of their disordered eating, but who try to conceal their behaviors and are fearful of disclosing them to others (Becker, Eddy, & Perloe, 2009).

For those who have engaged in disordered eating, there is a social stigma that eating disorders are the complete fault of the individual and that if the individual wanted, he or she could choose to stop the disordered behaviors at any time (Crisp, 2005; Mond et al., 2006). This can put a lot of shame and pressure on people to hide their disordered behavior, especially if they're trying to get healthy but are struggling to do so. This may especially be the case for athletes who fear the judgement of a mental disorder (Thompson, 2014). Athletes may fear that

being exposed as engaging in disordered eating will keep them from participating in athletics and thus make it even more difficult to control their weight (Thompson, 2014). Regardless of someone's reasons, concealing disordered eating in athletic environments puts athletes at risk for continuation of maladaptive behaviors and resulting medical complications.

As a result of the medical consequences associated with disordered eating, the prevalence of disordered eating in collegiate athletes, and the risk factors to athletes, coaches and athletic departments need to be prepared to identify disordered eating and be able to provide appropriate support. The sooner maladaptive behaviors are recognized, the sooner treatment can be employed. Current research on disordered eating has suggested that treatment is most effective when a patient learns to emotionally and behaviorally recover in the most realistic environmental settings possible (Danner, Sternheim, & Evers, 2014). As athletes spend a large amount of time in their sport environment with other athletes, it is crucial for athletic departments to have resources available that provide educational information on disordered eating and information on where to find support if athletes need it.

Universities can differ significantly in the resources that are provided to students for academic support, mentoring, and counseling. Athletic department policies and resources can also differ significantly, even between schools that otherwise appear similar. This means that the social and psychological environments for athletes can vary from school to school where some are positive and others aren't as much. While counseling centers for the general student body are common at universities, resources specific to athletes are not as standard. A study by Hayden et al. (2013) found that less than 33% of NCAA Division I FBS universities (120 at the time) provided sport psychology services to their collegiate athletes. Less than 18% of the FBS universities had a certified AASP consultant available either through athletic departments or

counseling centers (Hayden et al., 2013). These statistics are low, especially since FBS universities are some of the most competitive and well-funded Division I universities in the NCAA (Wallace, 2010). However, there are some resources that exist outside of individual universities, such as those provided by the NCAA, that do address mental health in athletes.

In 2014, the NCAA published a handbook titled *Mind, Body and Sport* (Brown, 2014) that outlines the importance and prevalence of various mental health issues in athletic environments. Athletes at any university are capable of going to the NCAA website and downloading the handbook to read in-depth about professional explanations and other student-athlete perspectives on mental health in athletics. The NCAA website also lists multiple mental health educational resources that athletics department personnel, coaches, and athletes can access for free. Although these resources are beneficial, it is still recommended that individual athletic departments establish resources and procedures specific to managing the mental health of collegiate athletes (Klenck, 2014). Some suggested components of collegiate mental health resources include a professional services team (physicians, psychologists, athletic trainers, and nutritionists), a protocol for screening and referring, information on risk and crisis management, and procedures for transitioning care (Klenck, 2014).

Experienced professionals such as Dr. Ron Thompson (2014) suggest that college athletic departments create some sort of policy or treatment protocol that outlines how to recognize, manage, and refer athletes with disordered eating behaviors. Policies tailored specifically to collegiate athletes as opposed to all students may be ideal because they can address the risks, environmental factors, and treatment needs that are specific to student-athletes. Some schools have already developed separate policies to address eating disorders in collegiate athletes, but not all universities have developed such policies. It is even possible that some schools' general

athletic policies don't address eating disorders at all. This study looked into the policies that the current 128 NCAA Division I FBS universities have in relation to athletes with eating disorders. For policies that do exist, the study also looked into recurring themes present in athletics eating disorder policies.

Statement of the Problem:

The goal of this study is to accomplish three objectives: first, to quantitatively determine which NCAA Division I universities have an eating disorder policy specific to collegiate athletes. Second, to use qualitative methods to determine what common themes exist among the existing policies. Third, to assess any differences between the schools that have an official policy and those that don't in terms of quality of the athletic program and demographic factors.

Research Questions:

The following questions are addressed in this study:

1. How many FBS universities have official policies for the recognition and treatment of disordered eating in athletes?
2. How easily accessible are policies that currently exist?
3. Of the schools that do have policies, what are the common themes included in the policies?
4. For the FBS universities, what is the relationship of having an official policy specific to disordered eating in athletes and the size of the school, the athletic revenue, the athletic expenditure, the number of athletes, and whether or not the school is a private or public institution?
5. How do schools that have policies perform in the Capital One Cup compared with schools that do not have policies?

Delimitations:

The following delimitations were present in this study:

1. Only the 128 varsity Division I NCAA FBS universities were included in this study. Division II, Division III, and other Division I schools were not represented.
2. Data were collected through online web searches and by contacting FBS athletic department personnel. The results were delimited to the internet information available and email responses.
3. Online data were collected within a 72-hour period. Information provided on university websites and Google searches was delimited to what was provided and accurate during those hours.
4. Only athletics department policies for eating disorders were considered. University policies intended for the general student body were not considered.
5. The results are applicable only to Division I FBS institutions; results may not generalize to other NCAA institutions.

Limitations:

The following limitations were present in this study:

1. The treatment and recovery of athletes at each university was not looked into, and so it cannot be known with certainty whether or not the existing policies are effective.
2. Collegiate athletes were not interviewed, and so it is not known whether or not athletes are aware of existing eating disorder policies or if they refer to the existing policies.
3. Schools for which an internet search did not provide information on an official eating

disorders policy relied on the email response of athletic department personnel to indicate whether or not policies exist at their institutions. If there was no email response from the school, it cannot be known with certainty that the athletic program does or does not have an existing policy.

4. Whether or not athletes seek treatment outside of athletic departments was not looked into. It is possible that having an official athletics eating disorder policy is not related to the number of athletes who seek treatment and recover.

Definition of Terms

The following terms were defined for use in this study:

AASP Certified Consultant: Certified Consultants for sport and exercise psychology recognized by the Association for Applied Sport Psychology. CC-AASP professionals hold either masters or doctoral degrees, have met specific course and supervised experience requirements, and typically consult on topics related to performance enhancement (AASP, 1996).

Anorexic Athletica: A condition in which an athlete fears weight gain and has symptoms similar to but not as severe as anorexia nervosa or bulimia nervosa, such as excessive exercising or reduction of energy intake (Borgen & Torstveit, 2004).

Athletics Eating Disorder Policy: A university policy specific to collegiate athletes that addresses multiple factors of eating disorder management, such as prevention, recognition, treatment, and referral of athletes with disordered eating. A policy should be an officially written document that contains separate sections addressing such factors. The policy must be more than just a mention of disordered eating in an athletic handbook, cannot be limited to a flow chart, and cannot be intended for the general student body.

Capital One Cup: A multi-sport award acknowledging athletic success in men's and

women's Division I programs. Points based on NCAA Championship standings and coaching polls are tracked throughout the year. The schools with the most points rank high in Capital One Cup standings and can be eligible for student-athlete scholarships from Capital One (CapitalOneCup, 2016).

Disordered Eating: A range of disordered eating behaviors that do not warrant a specific eating disorder diagnosis and range in severity from mild to severe. Disordered eating includes but is not limited to: weight fluctuations, aversion to eating, fluctuations in mood and emotional stability, and use of compensatory methods such as excessive exercise, laxative use, and purging (Shisslak, Crago, & Estes, 1995).

Eating Disorder: A condition in which a person has disordered emotions, attitudes, and behaviors related to weight and food. Anorexia nervosa (AN), bulimia nervosa (BN), and binge eating disorder (BED) are diagnosable eating disorders with specific symptoms and criteria that must be met for diagnosis (APA, 2013).

EDNOS: Eating Disorder Not Otherwise Specified, the most prevalent eating disorder.

EDNOS involves the combination of disordered behaviors of one or more diagnosable eating disorders (such as AN or BN), but does not meet the full criteria for diagnosis (Thomas, Vartanian, & Brownell, 2009). For example, someone who uses both fasting and purging methods of weight control may be diagnosed with EDNOS.

FBS Universities: Universities with varsity football programs that belong in the Football Bowl Subdivision, formerly considered NCAA Division I-A universities (Wallace, 2010). To maintain FBS membership, FBS universities must sponsor at least 16 varsity intercollegiate teams, have at least eight all-female teams, and maintain a home attendance average of 15,000

(NCAA, 2007). FBS universities are generally well-funded and the football programs have post season 'bowl' games rather than traditional championship games (Wallace, 2010).

CHAPTER 2

REVIEW OF LITERATURE

Introduction

This chapter will review the research literature on athletes with diagnosable eating disorders and non-diagnosable disordered eating behavior. The chapter will first present the current literature on prevalence of eating disorders in athletes as compared to non-athletes. Potential risk factors for the onset of disordered eating will then be reviewed, including which factors and sports are most likely triggering to the onset of disordered eating. Medical consequences of disordered eating will also be addressed as they are serious and necessary to prevent and recognize disordered eating in athletes. Chapter 2 will conclude with what is recommended to be included in policies that address disordered eating in athletes so that they can be quickly recognized and treated.

Prevalence of Disordered Eating in Athletes

Diagnosable eating disorders and disordered eating behaviors are similar in symptoms but differ in severity. While all medically diagnosed eating disorders include disordered eating behaviors, not all disordered eating is severe enough to be medically diagnosed as a disorder. The Diagnostic and Statistical Manual of Mental Disorders (DSM-5) classifies anorexia nervosa (AN), bulimia nervosa (BN), binge eating disorder (BED) and eating disorders not otherwise specified (EDNOS) as diagnosable eating disorders (APA, 2013). The disordered eating continuum ranges from healthy eating and exercise behaviors to extreme weight loss methods and controlled eating of diagnosable disorders.

Approximately 1-2% of the general population have been diagnosed with an eating disorder, with anorexia nervosa being the least common diagnosis and binge eating disorder

being the most common diagnosis (Hoek & van Hoeken, 2003). In general, eating disorders are more common in women than in men, and are also more common in Western countries than they are in Asian countries (Qian et al., 2013). They occur most commonly in adolescents and young adults (Strober, 2000). It has been estimated that between 4% and 20% of people diagnosed with an eating disorder will die due to events such as suicide, heart failure, and intestinal collapse (Garner & Garfinkel, 1997). Patients who live through their eating disorder are still at great risk for physiological and psychological issues.

Many studies have looked into the prevalence of clinical and subclinical eating disorders in athletes. A popular question in research has been whether or not the prevalence of eating disorders is higher in athletes than it is in non-athletes. The research literature has not been entirely consistent. Many studies have shown athletes to exhibit higher levels of symptomatic behaviors, such as binge-purge and fasting behaviors, than non-athletes (Sundgot-Borgen & Torstveit, 2004). However, much of the research literature suggests that there is not a significant difference between the prevalence of diagnosable eating disorders in athletes compared to the general population.

The Questionnaire for Eating Disorder Diagnosis (Q-EDD) is commonly used to study the prevalence of eating disorders (Sanford-Martens et al., 2005). In the Q-EDD, participants self-report their thoughts and behaviors as either being symptomatic (clinical and subclinical) or asymptomatic (free from disordered eating behaviors). Athletes and non-athletes have responded similarly on the Q-EDD, suggesting that there is not a significant difference between prevalence of diagnosed eating disorders between athletes and the general population (Sanford-Martens et al., 2005).

According to a study conducted by Greenleaf et al. (2009), only 2% of the Division I collegiate athletes studied (n=204) classified as having an eating disorder. This is within the 1-3% prevalence range of diagnosable eating disorders in the general population (Hoek & van Hoeken, 2003). However, 18% of the participants in the study by Greenleaf et al. exhibited disordered eating behaviors regularly. Another study that looked specifically into male athletes found similar results. In this study, none of the athletes had diagnosable eating disorders, but approximately 20% of the male athletes engaged in symptomatic behaviors, most commonly those of excessive exercise and fasting (Petrie et al., 2008). Vomiting, laxatives, and diuretics were a method of weight control by less than 10% of male athletes exhibiting disordered behavior (Petrie et al., 2008). Although the percentage of diagnosable eating disorders in athletes is relatively low, these studies suggest that approximately one in five athletes exhibit some sort of disordered eating behavior. This is a concern because any form of disordered eating is dangerous.

Disordered eating can manifest in many different forms. Multiple studies have shown collegiate athletes to engage in regular symptomatic disordered eating, even though most athletes are not officially diagnosed as having an eating disorder. Regardless of existing diagnosis, athletes may engage in behaviors such as fasting, laxative abuse, binge-purge behaviors, and excessive exercise outside of practice (Greenleaf et al., 2009). One study found approximately 15% of female collegiate athletes to regularly fast (starving oneself), 7% to purge through self-induced vomiting, 5% to use laxatives, and over 4% of athletes to use diuretics (Black & Burckes-Miller, 1988). These methods are all used to control weight by attempting to keep weight low, but athletes also engage in emotional eating, such as bingeing, which make weight control even more difficult. A study by Johnson et al. (1999) found that over 16% of collegiate athletes engage in monthly binge eating, and 23% of athletes continue to binge-eat throughout

their lives. Such behaviors are often used to manage emotions, and so when highly emotional, athletes may engage in binge-sessions (Johnson et al., 1999).

Less noticeable disordered eating behaviors may include occasional skipping of meals, dieting while in-season, and over hydrating and dehydrating oneself. Athletes who conduct such behaviors on a consistent basis are classified as being symptomatic. Approximately 73% of collegiate athletes classify as asymptomatic, meaning that they do not conduct regular behaviors of disordered eating (Greenleaf et al., 2009). Although 73% represents the majority of college athletes, the reality is that over 25% of collegiate athletes have exhibited symptomatic behaviors at some point. The most common behavior athletes use to control their weight is over-exercising, meaning that they engage in their own exercise outside of scheduled practice (Greenleaf et al., 2009; Petrie et al., 2008). Furthermore, the majority of athletes who classify as symptomatic are exhibiting disordered behavior on a regular basis. The current literature clearly highlights the fact that even though the majority of athletes do not conduct regular disordered eating behaviors, there is still a significant percentage of athletes who do. This information is crucial to understand in order to effectively prevent the development of disordered behavior in athletes who are not yet meeting the criteria for a diagnosable eating disorder.

Although prevalence of diagnosed disorders across all sports does not seem to be different from the general population, sports that specifically emphasize a low body weight or lean body shape show a higher prevalence of eating disorder symptoms in athletes compared to non-athletes (Byrne & McLean, 2002). Specifically, sports associated with leanness, aesthetics, and weight categories have a higher risk for and prevalence of disordered eating than the general population (Sundgot-Borgen & Torstveit, 2004). Even between sports, sports that emphasize weight (such as

wrestling) and sports that emphasize thinness (such as figure-skating) have a higher prevalence of eating disorders than other sports (Sundgot-Borgen, 1993).

There is not an exact comparison of non-diagnosed disordered eating between athletes and non-athletes, but research has suggested that the prevalence of non-diagnosable disordered eating is higher in athletes due to the high pressure to conform body shape and perform athletically at high levels (DiPasquale & Petrie, 2013). Sundgot-Borgen and Torstveit (2010) found that approximately 13% of adolescent female athletes, 20% of adult female athletes, 3% of adolescent male athletes, and 8% of adult male athletes engage in non-diagnosable disordered eating behavior. Females in sports that emphasize leanness and aesthetics have the highest prevalence of and risk for disordered eating (Thompson, 2014). It is possible that the higher prevalence in females stems from sociocultural pressure for a thin appearance, but more research is needed to look into this.

Prevalence is also different for males and females between sports. The prevalence of disordered eating in females is highest in endurance and aesthetic sports, whereas the prevalence of disordered eating in males is highest in weight class sports (Schaal et al., 2011). A study conducted by Martinsen et al. (2010) found no differences in disordered eating prevalence between male and female adolescent athletes. The study also found that adolescent athletes show less prevalence of eating disorders than non-athletes. It may be that the difference in prevalence of eating disorders and the differences between genders increases at collegiate and elite levels of athletics due to the increased demands on performance, length of exposure to the sport, and sport-specific specialization (Bratland-Sanda & Sundgot-Borgen, 2013).

The prevalence of diagnosed eating disorders and the larger prevalence between females than males do not appear to be different between athletes and the general population (Greenleaf

et al., 2009; Hoek & van Hoeken, 2003; Qian et al., 2013). However, it may be that the prevalence of non-diagnosable disordered eating is greater in athletes. The exact point in which disordered behaviors become a diagnosable eating disorder is difficult to determine, but the reality is that any form of disordered behavior can contribute negatively to the overall performance and health of an athlete. The simple act of skipping a few meals or excessively exercising once every few weeks can cause the body's metabolism to change, and can furthermore cause serious medical complications such as an irregular heartbeat, weakness, or organ failure (Brown, 1985). It is important to consider the risk factors of disordered eating that are specific to athletes so that steps can be taken towards prevention, recognition, and treatment.

Risk factors for Disordered Eating in Athletic Environments

The current literature provides many explanations for the development of eating disorders in the general population. Predisposing risk factors include biological, psychological, and sociocultural factors (Stice, 2002). A person's genetic makeup can predispose them to certain personality traits, such as perfectionism, as well as certain psychological traits, such as body dissatisfaction and low self-esteem (Mazzeo & Bulik, 2009; Stice, 2002). Family studies have shown that there is a genetic link associated with the onset of disordered eating. People who have first-degree relatives with a history of disordered eating are more likely to also develop disordered eating compared to people with no familial link (Strober, 2000). However, not everyone who has a family history develops an eating disorder, and so environmental factors usually play an important role in the development of disordered eating.

People's experiences largely shape their thoughts, feelings, and behaviors related to eating and otherwise. Sociocultural factors such as bullying, pressure from peers, traumatic experience, media influences, and negative comments about body types can contribute to the

onset of disordered eating (Stice, 2002). However, with the exception of traumatic experiences, most people are exposed to similar environmental risk factors, and yet not everyone develops disordered eating. This suggests that disordered eating results from a combination of both genetic predisposition and exposure to environmental triggers (Mazzeo & Bulik, 2009).

Furthermore, the internalization of societal beliefs, self-esteem, and body image has been correlated to unhealthy dieting behaviors (Sears, Tracy, & McBride, 2012). Behavioral studies have shown that people who engage in disordered eating often have higher rates of general psychopathology than people who don't engage in disordered eating (Malevani et al., 2008; O'Brien, 2006). Depression, anxiety, low-self-esteem, and impulsivity are psychological components that often accompany eating disorders. It is difficult to determine if disordered eating causes other psychopathologies, or if psychopathologies predispose disordered eating. Regardless, it is important to note that psychopathologies co-occur with disordered eating (Malevani et al., 2008; O'Brien, 2006).

When considering college students, the transition to college can be a risk factor for both athletes and non-athletes to engage in pathogenic eating behaviors. This transition is associated with increased stress and anxiety due to the increased amount of personal responsibility and potential loss of social support that comes with moving away from home (Montgomery & Cote, 2003). One study found that females who adjusted poorly to the social environment at college and being away from their parents were at increased risk for body dissatisfaction and binge-eating than female students who adjusted well (Barker & Galambos, 2006). Academics are also much more demanding in college coursework compared to primary school, which can contribute to increased stress and pressure placed on students (Schwitzer et al., 2001). Along with sociocultural and genetic risk factors, the added factors of transitioning to college may contribute

to both emotional eating (binge eating) and feelings of needing to find control (such as over one's weight). Independent of the actual weight of college students, feelings of low self-esteem, dissatisfaction, and inadequacy can be risk factors for disordered behaviors (Ackard et al., 2002).

There may not be a significant difference in prevalence of diagnosable eating disorders between athletes and non-athletes, but there remains concern over whether or not sport culture produces an additional environmental risk for disordered behavior that goes undiagnosed.

Athletes feel the same sociocultural pressures on appearance as non-athletes, but they also feel pressure to maintain a body that correlates to success in their sport. Specifically, it has been predicted that sports that emphasize aesthetics, lean bodies, and weight categories contain athletes who are at a higher risk for developing an eating disorder than the general population (Sundgot-Borgen & Torstveit, 2004). A study by Sundgot-Borgen (1993) found that sports that are weight-dependent (wrestling) and sports that require a 'thin-build' (diving) result in a higher prevalence of disordered eating than sports that require a 'normal-build'. The reason for this is that the culture of the specific sport itself puts pressure on the athlete to visually look a specific way (Currie, 2010).

Such encouragement of certain body types can put athletes at additional risk for developing disordered eating (Currie, 2010). Most sports have standard athletic appearances associated with them. For instance, long-distance runners are typically associated with thinness and gymnasts are often associated with tiny figures (Sundgot-Borgen & Torstveit, 2010). Not only might athletes feel pressure to fit their sport-specific paradigm, but athletes who do and also engage in disordered behavior might go unnoticed because they otherwise look normal to the sport (Sundgot-Borgen & Torstveit, 2010). For example, thinness of a runner that results from disordered eating might go unnoticed because runners are generally recognized as having thin

figures. Sport culture that promotes certain body types might make it more likely that athletes engage in disordered eating and other unhealthy behaviors without others recognizing (Currie, 2010). Even if disordered behaviors such as dieting and over-exercising are noticed, they may be incorrectly identified as normal behaviors because exercising and watching food intake are seen as “good athlete” traits (Thompson, 2014).

It is also important to note that athletes are not immune to the general societal pressure to maintain a thin appearance, yet they have the additional pressure to match the physical demands of their sport. Often, the physical demands of a sport are not met with “thin” and unmuscular bodies (Byrne & McLean, 2002). For example, a thin athlete may feel out of place in a sport that requires a lot of muscle, just as a very muscular athlete might feel out of place in a society that admires thinness. The balance between visually fitting the part of societal standards and physically matching the demands of a sport can be difficult for athletes.

Uniforms are also a concern as many athletes participate in sports in which the uniforms are very revealing and can increase body consciousness and dissatisfaction (Greenleaf, 2002). Sports such as swimming, volleyball, dance, gymnastics, running, wrestling, and others have uniforms that are both small and tight-fitting. Athletes may feel uncomfortable in their uniforms and therefore use maladaptive eating behaviors to control their weight. Furthermore, sports in which judges are used to determine results make success more subjective and may potentially lead to athletes believing their physical appearance is just as important as their actual athletic performance (Greenleaf, 2002). Frequent weight regulation, overtraining, early sport-specific training, injuries, and motivation or threat perception from coaches can further increase the risk of resorting to disordered eating (Smolak, Murnen, & Ruble, 2000).

Research conducted by Berry and Howe (2000) looked into how variables such as self-esteem, body image, and social pressure contribute to the onset of disordered eating behavior in college athletes. Physical examinations including height, weight, percent body fat, and skin folds were recorded. Psychological questionnaires followed the physical examinations, including the Rosenberg's Self-Esteem Scale to measure self-esteem, Marten's Sport Competition Anxiety Questionnaire to measure competition anxiety, The Body Shape Questionnaire to assess body image, and the Dutch Eating Behavior Questionnaire to measure eating disorder symptoms. MANOVAs and canonical correlations were then used to assess the data acquired. The study found that low body image and high social pressure, specifically from coaches and teammates, are the most influential risk factors for the development of disordered eating in athletes. Another study conducted by Krane et al. (2001) used similar methods and found body dissatisfaction and a drive for thinness to be most predictive of unhealthy eating behaviors in athletes.

Certain personality traits may also be predisposing for disordered eating in athletes. Perfectionist and obsessive personality traits are associated with disordered eating (Lilenfeld et al., 1998). These traits are also common among athletes as athletes are often very competitive and highly driven to achieve success (Sellars, Evans, & Thomas, 2016). Thompson and Sherman (1999) suggest that many coaches desire specific traits in their athletes that are also found in eating disorders such as perfectionism, (over)compliance, and excessive exercise. Other traits such as an orientation for high-achievement and obsessive compulsive tendencies are also shared between athletes and people with eating disorders (Leon, 1991).

Disordered eating can be maintained by factors such as approval from coaches on a thin appearance and initial athletic success from dieting (International Olympic Committee, 2005). Without realizing it, coaches may encourage certain personalities and behaviors in their athletes

that are associated with pathogenic eating behaviors. While encouraging such traits is fine for improving athletic success, such encouragement might be triggering to athletes who have genetic predispositions or have experienced certain environmental influences that lead them to pathological eating behaviors. Athletes may also misinterpret athletic success as being the result of changes in weight (Thompson, 2014). This can encourage athletes to further engage in disordered methods of weight control.

The general relationship between athletes, teammates, and coaches can be complicated and, in some cases, triggering to maladaptive eating. Relationships between coaches and athletes that are high in conflict and low in support are often triggering (Thompson, 2014). Any predisposed genetic or environmental risks to athletes are only going to be enhanced when athletes feel their coaches and teammates are non-supportive and/or contribute to their feelings of dissatisfaction. There is also potential for an otherwise healthy athlete to be exposed to disordered eating through the observation of teammates or competitors engaging in disordered eating (Thompson, 2014). Furthermore, there is an association between coaches who emphasize performance results over skill development and the onset of disordered eating in athletes. The win-at-all-costs mentality is extreme, and such pressure can encourage extreme methods of body shaping and weight control (Thompson, 2014). Coaches may reduce pressure on athletes and make them feel generally more comfortable in the athletic environment by positively motivating them to focus on mastering skills rather than only focusing on winning.

Traditional dieting is also related to disordered eating. According to the National Eating Disorders Association (NEDA), approximately 35% of people who engage in normal dieting will develop pathological dieting patterns at some point (Shisslak, Crago, & Estes, 1995). This means that a large number of people who diet are at risk for developing an eating disorder. Positive

associations have been found between the frequency of dieting behaviors and emotions related to exercise preoccupation, insecurity, negative body perceptions, and depression in college females (Ackard et al., 2002). Athletes who either intentionally or unintentionally restrict calorie intake or calories from specific macronutrients put themselves at risk for other disordered eating behavior (International Olympic Committee, 2005).

There also seems to be a relationship between the psychological state of an athlete and the prevalence of disordered eating. Athletes who are depressed are more likely to develop disordered eating than those who are not depressed, and athletes who engage in disordered eating are more likely to develop depression than those with healthy eating behaviors (Shanmugam, Jowett, & Meyer, 2014). Athletes may find themselves in a cycle in which negative feelings elicit negative behaviors, which further elicits negative feelings, and so on.

There are numerous genetic, environmental, and psychological risk factors associated with the development of disordered eating in the general population. Athletes are not immune to any of these, but they also experience added risk factors that are specific to their athletic environment. Pressure to perform, sport-specific body types, revealing uniforms, relationships with coaches and teammates, certain personality traits, and both real and perceived pressure on weight, dieting, and appearance can all be triggering to athletes. Coaches, athletes, and athletic departments must be able to recognize these risks as they can lead to maladaptive eating behaviors that not only decrease performance, but lead to potentially dangerous physical and mental health issues.

Medical Consequences of Disordered Eating

Disordered eating usually results in serious medical consequences on the body. Behaviors such as caloric restriction, bingeing, purging, using diuretics and laxatives, and exercising

excessively lead to chaotic relationships with food. Such disordered eating disrupts the normal uptake of nutrition in the body and leads to serious medical and psychological problems. It is essential to stop disordered behaviors before they negatively impact one's health. Early intervention of eating disorders leads to a higher likelihood of improved health and recovery than late intervention (Herzog, Nussbaum, & Marmor, 1996). This means that professionals need to be aware of the signs and symptoms of eating disorders so that intervention and treatment can begin as soon as possible.

Eating disorders are often causes of morbidity and mortality. The death rate for anorexia nervosa is higher than the death rate of all other mental illnesses. It is ten-times more likely that an adolescent or young adult with anorexia will die than someone without anorexia (Torpy, Burke, & Glass, 2006). A study conducted by Eckert et al. (1995) looked into the recovery of eating disorder patients 10 years after receiving treatment. The mortality rate of the patients was found to be almost 7%. The mortality rate rises to 18% over a 30-year follow-up of eating disorder patients, with the most common cause of death being from cardiovascular collapse (Theander, 1985).

There are still many physical health consequences for people who survive their eating disorder. Cardiovascular problems are most common, including bradycardia, dysthymias, and irregular blood pressure (Palla & Litt, 1988). Osteoporosis (bone loss), amenorrhea (loss of menstrual cycle), endocrine and gastrointestinal problems, skeletal disorders, and psychiatric disorders also result from disordered eating (Hudson et al., 2012; Treasure et al., 2010). Signs of anorexia nervosa that physicians look for include electrolyte imbalances, hair loss, anemia (low red blood cell count) and kidney failure. The act of purging through vomiting, diuretics, and laxative abuse may present medical issues such as intestinal bleeding, chronic dehydration, tooth

decay, acid reflux, and constipation (Brown, 1985). Medical professionals often use blood tests and electrocardiograms to help recognize and diagnose eating disorders (Torpy et al., 2006). However, physicians must be aware that even if traditional signs of an eating disorder are not obvious, that does not mean that there is no disorder to be found (Becker & Baker, 2010; Mehler, 2001). Medical professionals must be skilled to recognize subtle signs and not look past them when evaluating patients.

Medical issues that can mask eating disorders include hyperthyroidism, immune-deficiency, malabsorption, Addison's disease, diabetes, chronic infections, and inflammatory bowel disease (Becker & Baker, 2010; Herzog et al., 1996; Hsu, 1996; Mehler, 2001). Medical professionals need to be very careful when diagnosing conditions that correlate to eating disorders and make sure that an accurate diagnosis is being performed. Psychiatric co-morbidity is also extremely common in people with disordered eating. More often than not, eating disorders coexist with other mental illnesses, such as anxiety and obsessive disorders, depression, and substance abuse (Torpy et al., 2006). Affective disorders, somatization disorders, and sexual abuse are other common co-morbidities (Becker & Baker, 2010; Herzog et al., 1996; Hsu, 1996; Mehler, 2001). Physicians need to consider the possibility of multiple health issues occurring at one time and make sure that each issue is given attention.

Dermatologists may be helpful in detecting eating disorders in co-morbid cases in which some signs of eating disorders are hidden. People with disordered eating often have cutaneous manifestations around their entire body, but most significantly around their hands (Strumia, 2005). Xerosis (abnormally dry skin) and roughness often make the skin look aged beyond the actual age of the person with an eating disorder (Strumia, 2005).

Another common consequence of eating disorders is nutritional deficiency or nutritional insufficiency. A lot of people with disordered eating are deficient in carbohydrate and fat sources, but they seem to have fairly adequate intake of protein (Nova et al., 2002). This may protect against infection and some of the most damaging medical concerns of eating disorders. However, more severe cases of eating disorders may cause deficiencies in multiple vitamins and proteins. These nutrient deficiencies lead to a depressed immune system and possibility of infection (Nova et al., 2002). Nutritional deficiencies can become so severe that people develop refeeding syndrome, a syndrome in which those who are severely malnourished are resistant to the reinstatement of nutritional sources (Strandjord et al., 2015). Refeeding syndrome can make reintroducing critical nutrients and electrolytes difficult even under medical care, which lengthens the recovery process. It is ideal for treatment to help patients develop healthy eating behaviors as soon as possible so as to avoid refeeding syndrome.

The reintroduction to consistent and healthy nutritional eating is a gradual and often long process. Some patients need to be re-taught how to eat without purging, while others need to be re-taught how to eat food at all. Medical Nutrition Therapy (MNT) is a form of therapy that customizes diet plans and progress goals for patients depending on their type of disorder and its severity (Ekern, 2012). Dieticians and eating disorder specialists should work together to introduce healthy foods and eating behaviors, as well as help patients understand the importance of maintaining their health through proper eating and eating disorder recovery (Ekern, 2012). People with disordered eating will vary in terms of the extent of treatment they need. Some people may be okay to seek nutritional therapy in outpatient visits, but more extreme cases, such as in refeeding syndrome, may require hospitalization. A caloric prescription of approximately

2,200 calories a day has been recommended in order to avoid lengthy hospitalization (Strandjord et al., 2015).

It is important to note that nutritional deficiencies and medical consequences are not exclusive to food restriction (such as in anorexia). People can have nutritional deficiencies when overweight, underweight, or of otherwise normal weight (Karges, 2016). The issue isn't necessarily that people aren't taking food in, but rather that they are not taking in food (or specific macronutrients) in enough quantity, consistently enough, or keeping the food in their system (avoiding purging).

It is especially critical for athletes and athletic personnel to understand the medical consequences of disordered eating because athletes already put their bodies through intense physical and mental stress through training and competition. Disordered eating in athletes was originally referred to as part of the Female Athlete Triad. The Triad described the relationship between energy availability (EA), menstrual function, and bone health in athletes (Nattiv et al., 2007). Recently, the International Olympic Committee (IOC) has introduced a more comprehensive term called Relative Energy Deficiency in Sport (RED-S) to address the multiple symptoms of disordered eating:

The syndrome of RED-S refers to impaired physiological function including, but not limited to, metabolic rate, menstrual function, bone health, immunity, protein synthesis, cardiovascular health caused by relative energy deficiency (Mountjoy et al., 2014).

Ultimately, athletes who experience RED-S struggle with the balance of consuming sufficient calories (energy intake) to support the amount of energy expenditure of both daily living activities and sporting activities (Mountjoy et al., 2014). Athletes who have a negative energy balance, meaning that they consume less energy than they expend, put themselves at risk for many medical consequences. Failing to consume enough carbohydrates can result in

glycogen store depletion, a starvation state which causes the body to rely on fat stores until those run out as well (Loucks & Thuma, 2003). Once the body can no longer rely on glycogen or fat storage, it must rely on protein stored in skeletal muscle (Crilly, 2015). This means that in extreme circumstances, athletes will begin breaking down their own muscle for fuel. The less nutritional fuel that an athlete consumes, the more his or her metabolic rate will slow, causing decreased hormone production and protein synthesis (Loucks & Thuma, 2003). This is not only dangerous for one's overall health, but it also interrupts muscle growth and recovery intended to increase athletic performance. Other medical complications associated with RED-S include cardiovascular, renal, endocrine, reproductive, skeletal, and gastrointestinal problems (Mountjoy et al., 2014).

Two of the most common medical complications of eating disorders in athletes include menstrual disorders and bone loss. Functional Hypothalamic Amenorrhea (FHA) is the term associated with compromised menstrual functioning in females. This happens when the hypothalamic hormone gonadotropin-releasing hormone is disrupted with decreased energy intake and fat mass (Sonntag & Ludwig, 2012). Other metabolic hormones that are interrupted with decreased energy availability include insulin-like growth factor-I (IFG-1), ghrelin, leptin, glucose, fatty acids, cortisol, insulin, growth hormone, and ketones (Wade, 2004). High anxiety and distorted perceptions of self-normalcy can also accompany irregular or completely absent menstrual cycles (Nappi & Facchinetti, 2003). Additionally, bone structure and density can be compromised (osteoporosis) with eating pathologies, which can contribute to the onset of stress fractures and other injuries (Chen, Tenforde, & Fredericson, 2013). It is possible that decreased bone density is irreversible in athletes, regardless of whether or not the athlete continues physical performance (Keen & Drinkwater, 1997).

It is clear that in addition to the medical consequences associated with disordered eating, athletes also experience decreases in overall performance. Athletes who don't supply themselves sufficient calories, or sufficient calories from all macronutrients, put themselves at risk for muscle injury, muscle weakness, chronic fatigue, and dehydration (Chen, Tenforde, & Fredericson, 2013). Energy deficiency can also cause the body's VO₂ max (the maximum amount of oxygen the body can utilize) to decrease, meaning that speed and strength will decrease (Thompson, 2014). Athletes may also have a general lack of responsiveness to their training when they don't consume sufficient calories (VanHeest et al., 2014). Impaired judgement, irritability, decreased ability to concentrate, decreased coordination, and depression are performance inhibitors that occur in RED-S (Constantini, 2002).

The medical consequences of disordered eating can be severe, and athletes may be especially prone as they put their bodies under additional stress through training and competing. Coaches, athletes, and athletic department personnel need to understand the serious consequences of disordered eating on the body, the risk factors that contribute to disordered eating in the first place, and how to go about prevention so that athletes can be kept healthy.

Treatment and Policy Considerations for Athletes with Eating Disorders

It would be ideal if all athletic departments had a standard policy in place to help athletes, coaches, and department personnel to recognize and reduce disordered eating in the athletic environment. Unfortunately, due to the fact that only one-third of NCAA Division I FBS universities have a sport psychologist working with their athletes (Hayden et al., 2013), this study does not expect all universities to have resources specific to one mental illness (eating disorders). Collegiate athletic departments should consider both the psychological and physical

health of student-athletes to be extremely important, and should therefore provide specific and comprehensive resources to support student-athletes' health (Etzel, 2006).

Eating disorder recovery treatments for the general population often include a combination of therapy and medication (Mitchell, Roerig, & Steffen, 2013). Although there are multiple treatment options, research has found cognitive behavioral therapy (CBT) to be most effective for long-term relapse prevention in eating disorders of all types (Carter et al., 2009). CBT is founded upon the approach of teaching patients to not only manage their disordered thoughts and behaviors, but also understand how they relate to their emotions, and why they occur on an interpersonal level (Carter et al., 2009). In addition to psychotherapy, antidepressants may be used as they are the most commonly prescribed class of medications for eating disorders (Mitchell, Roerig, & Steffen, 2013).

Standard treatments are likely to work just as well for athletes as non-athletes. However, as a unique subpopulation of people with eating disorders, athletes likely require diagnostic criteria and treatment that meet their specific needs (Beals & Manore, 1994). This specialization should come in the form of the support staff, who need to be experienced in treating athletes specifically because they need to understand the important role of athletics in athletes' lives (Thompson, 2014). The support staff may include a team physician, sport psychologist, clinical psychologist, and athletic trainer who work with athletes on a regular basis and are specialized in the treatment of disordered eating (Etzel, 2006). Treatment is expected to be positive for athletes who comply with their recommended treatment and include their coach and surrounding athletic personnel in their progress (Beals, 2004).

It can be difficult to detect disordered eating in athletes as there might not be any obvious physical differences between healthy athletes and athletes engaging in disordered eating

(Sundgot-Borgen & Torstveit, 2010). Athletes may also be motivated to conceal their behaviors (Becker, Eddy, & Perloe, 2009). The more educated the athletic staff is on signs and symptoms of eating disorders, the more likely they are to detect unhealthy behaviors and be able to explore treatment options (Mountjoy et al., 2014). To detect for RED-S, athletes should be screened in their physical examinations (prior to athletic participation) for dysfunctional eating patterns. Regular screenings throughout the season for at-risk athletes may also be beneficial to make sure that the athlete is consistent with their eating behaviors (Louks and Nattiv, 2005). There are a couple screening tools that exist and can be used to help determine whether or not an athlete has an eating disorder. The Eating Disorder Examination interview (EDE-16) is a common screening tool used to diagnose eating disorders in the general population (Fairburn, Cooper, & O'Connor, 2008). Professionals working specifically with athletes can also use The Brief Eating Disorder in Athletes Questionnaire (BEDA-Q) to distinguish between athletes who show signs of disordered eating and those who don't (Martinsen et al., 2014).

Early prevention and detection of disordered eating behaviors in athletes is crucial to the success of treatment (Mountjoy et al., 2014). Athletic personnel can be part of preventing disordered eating behavior. The IOC recommends that professionals who engage with athletes often (such as coaches and athletic trainers), be educated on energy availability, healthy eating, nutrition, and the risks of dieting (Mountjoy et al., 2014). People who interact with athletes should also be encouraged to reduce critical comments related to body type, reduce emphasis on weight in terms of performance, and encourage realistic goals relating to body composition (Mountjoy et al., 2014). It is important to promote a sport environment in which athletes feel safe and supported. Preventative educational workshops, seminars, and lectures on how to manage healthy weight and eating behaviors in athletes should be provided to coaches and athletic

departments by organizations such as the NCAA and National Sports Federations (Mountjoy et al., 2014). Educational resources should make it clear to coaches and staff that disordered eating is not only bad for an athlete's health, but are also counterproductive to athletic performance (Goss et al., 2005).

When an athlete displays disordered eating behaviors, it can still be difficult to determine how to approach the athlete and whether or not the athlete should be removed from athletic participation. Medical teams and coaches need to be prepared to approach athletes who show signs of disordered behaviors in a sensitive way. It would be beneficial for athletic programs to develop a sport-specific and gender-specific preventative program or policy for athletes with eating disorders to outline such process (Sundgot-Borgen et al., 2013). Programs and/or policies should specify criteria for how to appropriately approach athletes and medical personnel. It is more likely that treatment will begin on a positive note if athletic personnel and medical physicians approach the situation with compassion and understanding (Sundgot-Borgen et al., 2013).

A program that promotes a multidisciplinary approach is likely to be most effective for treating athletes. Teams of professionals should include a sports physician, nutritionist, physiotherapist, and psychologist (Mountjoy et al., 2014). A team of these professionals ensures that every aspect of the athlete's health is addressed and participation in athletics is appropriately discussed.

Whether or not an athlete is allowed to continue training and competing while symptomatic should be determined on an individual basis (Sundgot-Borgen & Torstveit, 2010). Professionals must be conscious of the fact that some athletes use their sport as a means to control their weight. Therefore, athletes should be carefully cleared both physically and

psychologically before continuing athletic participation (Sundgot-Borgen & Torstveit, 2010). Return-to-play should be determined by the medical factors associated with the athlete's condition and the acceptable level of risk (individual to each athlete) that would accompany participating in their specific sport (Creighton et al., 2010). Hopefully, the more quickly an athlete is recognized as engaging in disordered eating and seeks treatment, the more quickly an athlete will be returned to a healthy enough place to participate in athletics. It should also be noted that athletes are more likely to resist treatment if their symptoms are severe (Thompson & Sherman, 2010). With the goal of preventing symptoms from getting worse over time, it is important to not hesitate to provide support to athletes who need it as soon as they are identified.

The IOC recommends that athletic programs outline specific strategies and intervention policies to address disordered eating in the athletic environment. Policies may include: information about seminars and programs to educate athletic personnel about eating disorders, their risks, and their prevention; strategies to reduce emphasis on weight and shift it towards health and nutrition; strategies to develop realistic life and athletic goals; information on how to promote an encouraging team environment; policies on approaching athletes with eating disorders; information on the medical team to support athletes with eating disorders and a policy for how to include them; and a procedure for how to determine return-to-play for athletes (Mountjoy et al., 2014). A comprehensive policy that outlines everything from education, prevention, and initiating treatment may make preventing, recognizing, and treating disordered eating in the athletic environment more realistic.

The research literature provides a lot of information on the prevalence and risk factors of eating disorders, even that which is specific to athletes. However, there is a lack of information about the treatment of athletes with eating disorders and how athletic departments initiate

treatment. To date, no studies have been done that look into existing athletic eating disorder policies in collegiate programs.

CHAPTER 3

METHODOLOGY

The objective of this study was to determine which NCAA FBS universities currently have a specific policy in place to recognize and manage eating disorders in collegiate athletes, as well as understand the major themes associated with policies that currently exist. This chapter includes: (a) research design, (b) participants, (c) instrumentation, (d) procedures, and (e) data analysis.

Research Design

The research design involved a documentary analysis to determine which NCAA FBS universities have an eating disorder policy specific to athletes. The initial data were gathered through a web-based search for policies of each school. Schools were separated into two: First, a group in which the web search provided results for an official athletics eating disorder policy; Second, schools in which a web search provided no results.

The study kept note of which type of web search provided results (home website, athletics website, Google search, none, or all three). A follow-up email was sent to the schools in which a web-search did not provide results. Athletics department personnel were asked about the current status of their athletic policies in relation to eating disorders in athletes. Once all policies were collected, the study took a qualitative approach to look for common themes between existing policies. Themes were coded based on recurrence hierarchy. The study then quantitatively analyzed the relationship between the existence of an athletics eating disorder policy and university performance in the Capital One Cup. A quantitative analysis was also used to assess whether or not demographic factors correlate to the existence of university athletics eating disorder policies.

Participants

The participants in this study included the universities in the Football Bowl Subdivision (FBS) of the National Collegiate Athletic Association (NCAA). The population encompassed 128 Division I FBS universities. For a school to participate in the study, it had to be recognized as an FBS university based on their varsity football team for the 2016 season (NCAA, 2007).

Instrumentation

Traditional instruments such as surveys and questionnaires were not used in this study. Data collection came in the form of a web-based search to determine the availability and accessibility of university policies. The researcher additionally email-contacted the athletic department personnel of schools that did not provide results in the web-search.

Procedure

Each university was the recipient of three web-based searches. One search was on the home webpage, a second on the school athletic webpage, and a third in a general Google search. The searches were used to determine whether or not universities have an eating disorder policy that exists specific to collegiate athletes.

It is important to consider that changes in policies can occur at any time at different universities. The aim of the current study was to gain an understanding of what information is available in a given period of time. For this reason, this study's online search was conducted within a 72-hour period: January 19-21, 2017. Any on-line changes in policies outside of this 72-hour period were not included in the study. Universities were separated into groups depending on whether or not their web-based search produced results within the allotted time.

The first of three searches were in the university's home website search bar. In the search bar, the researcher entered "athletics eating disorder policy" and took note of what results came

up. If an obvious policy came up, the researcher marked that university as having an eating disorder policy. If no obvious policy came up, or if the only results included references to articles not relating to the university's athletic procedures, the researcher recorded that the university does not have a policy that comes up on their home website.

The second search was in the university's specific athletic website. Similar to the home website, the researcher typed in "athletics eating disorder policy" into the athletic page search bar. The researcher again took note of what obvious results came up. The third and final search was a Google search of "X University athletics eating disorder policy." The researcher recorded which schools provided results of an athletics eating disorder policy for each web-search. A school was considered to have a policy if a web-search result showed "eating disorder policy" in relation to athletics. For example, search results that read "Intercollegiate Policy on Eating Disorders" or "Athletic Handbook: Eating Disorder Policy" qualified. Universities were separated into the group of having an athletics eating disorder policy if one, two, or all three web-searches provided results. The researcher separately kept track of schools that did not have a specific policy but that mentioned managing eating disorders in athletes in places such as the school athletic handbook. The researcher also kept track of universities for which no policy for athletes and eating disorders came up, but for which an eating disorder policy designed for the general student body came up. Such results were recorded for discussion purposes.

Finally, for schools in which the researcher could find no evidence of an existing athletics eating disorder policy on any web-search, the researcher contacted the Athletics Director, Senior Women Administrator (if one was indicated on the staff listing for the university), and Head Athletic Trainer by email. The email asked whether or not the school has an official policy or

procedure in place to recognize and support athletes with eating disorders. A copy of the standard email can be seen below:

Dear X University Athletic Personnel,

I am a second year student in Temple University's Sport Psychology Master of Science program. I am contacting you because I am currently working on my Master of Science Research Thesis. My research is looking into whether or not NCAA Division I Universities have official policies to recognize and support collegiate athletes with disordered eating.

I am wondering if X University has a policy in place that specifically addresses collegiate athletes and disordered eating behavior? For example, does X University have a policy that addresses how to prevent, recognize, or treat disordered eating in varsity athletes? I was unable to find such a policy for X University through my own on-line search. I am wondering if your school has a policy either written or posted that I couldn't find, or a policy/procedure that may exist but not formally? If so, are you able to provide me a copy of your policy? If not, how does X University typically manage cases of disordered eating in their collegiate athletes?

Any information would be greatly appreciated!

Thank you.

Of the universities contacted by email, the researcher took note of which universities responded with information about an existing policy, which universities do not currently have a policy, and which universities did not provide a response.

For those schools which have an eating disorder policy for athletes (found either on-line or through the university athletic personnel), that policy was downloaded and saved for the qualitative analysis of common themes between policies. Examples of themes that may be found

in policies include: strategies for coaches and athletic staff on how to prevent and recognize disordered eating, strategies for referring athletes to treatment, strategies to reduce risk of disordered eating in athletic environments, and recommendations on how to determine clearance of play for each specific athlete.

Demographic Data were searched in the *Profiles of American Colleges 2017* (Barron, 2016), the Equity in Athletics Data Analysis website (U.S. Department of Education, 2016), and USA Today's report of *2014-2015 NCAA Finances* (Berkowitz et al., 2015). Demographic data assessed included: whether or not the school is a private or public institution; the size of the school's undergraduate student body; the school's number of collegiate student-athletes; the school's athletic revenue; and the school's athletic expenditure. Performance in the Capital One Cup of all 128 FBS universities was found in the Complete Standings (See Appendix A) offered on the Capital One webpage.

Bias Statement

I am currently attending Temple University in the pursuit of the Master of Science degree in Sport and Exercise Psychology. I am 23 years old and a Caucasian female. I consider myself to be a committed athlete and have considered myself so since I was six years old. I began dance lessons at the age of three, soccer and tennis at the age of five, and year-round USA competitive swimming at the age of six. In my adolescent years I also participated in softball, volleyball, basketball, horseback riding, cross-country, snow and water skiing. I committed full time to competitive swimming in high school and continued on to compete at the Division I collegiate level. In the past two years I have taken on long-distance running and am currently training for my third full marathon.

Being an athlete has become a large part of how I identify myself. I find that physical activity makes me feel healthier and is a source of confidence for me. I have been fortunate to have had experiences that have challenged me physically and provided me mental skills that extend well beyond athletics. Over the past two years, I have found running specifically to be very personal and enjoyable. Regardless of the many commitments I have in my life, I always return to running as something that is consistent and cathartic.

I am interested in the clinical psychological issues that athletes sometimes face. I am fortunate to be healthy and am dedicated to maintaining my health. However, throughout my athletic experiences I have observed and known many athletes who have struggled with depression, high anxiety, substance abuse, and eating disorders. I am aware of the mental and physical challenges that athletics can create. It is difficult for me to see athletes struggle in an environment that should be a source of strength.

I have personal interest in the current research because I want to understand what mental health resources are currently available to collegiate athletes. I was not aware of resources that were available when I was an athlete, and so I am interested in what is available at the present time and how easy resources are to find. When I become a professional, I would like to play a role in helping athletes receive the mental health resources they need so that they can be healthy enough to continue pursuing their goals.

Data Analysis

Data collected from the web-search and emails were organized and coded into themes. The researcher was responsible for first determining which schools provided web-search results for an official athletics eating disorder policy (a). Schools were separated into groups that had a policy found on the school's home webpage (b), the school's athletic webpage (c), and in a

general Google search (d). An example of this organization can be seen in Table 1. Schools that mentioned eating disorders in athletes without an official policy in the web-search were separated into a group (e), and schools for which the web-search provided an eating disorder policy for the general student body were separated into an additional group (f). An example of this organization can be seen in Table 2.

The researcher then took the responses from university athletic department personnel about their respective school's policy for eating disorders and separated them into groups that had a policy and did not have a policy. Schools that provided a response were recorded as either having an official policy or not having an official policy. An example of this can be seen in Table 3.

Official policies either found through the web-search or provided by athletic department personnel were downloaded and saved for qualitative analysis. Data had to be organized and coded into relevant themes. The researcher did this by first taking note of major policy sections or themes for each school individually. Examples of sections include: prevention of disordered eating in athletic environments, identification of signs and symptoms, treatment for athletes with disordered eating, and return-to-play procedures. The researcher then took note of the information in relation to each section/theme for each school. Once the information for each individual school was assessed, the researcher then compared the sections and themes of existing policies to one another and took note of recurring themes and noted them as "Theme X." The research also noted patterns between policies within each theme as "Pattern X." Codes compiled were organized based on hierarchy of most recurring to least recurring themes in the policies. An example of this coding sequence is seen below:

1. **Theme A:** Prevention of eating disorder in athletic environment

- a. *Pattern 1*: Education for coaches and staff
 - b. *Pattern 2*: Building a support system
 - c. *Pattern 3*: Screening for eating disorders
2. **Theme B**: Identification of disordered eating in athletes
 - a. *Pattern 1*: Recognition of fluctuating weight
 - b. *Pattern 2*: Exercising outside of scheduled practice
 3. **Theme C**: Return-to-Play procedure
 - a. *Pattern 1*: Consultation with team physician and nutritionist
 - b. *Pattern 2*: Routine sessions with clinical psychologist

Actual results of coding analysis are represented in the Results section. Codes were confirmed by the researcher through consulting doctoral-level colleagues.

Descriptive statistics from demographic data collected were computed using separate sample t-tests. Frequency of policies and success in the Capital One Cup was calculated. Inferential statistics were used to identify the relationship between university demographics and the existence of an eating disorder policy specific to collegiate athletes. Grounded theory was then used to develop hypotheses.

TABLE 1: Example of Results of Web-Search for Athletics Eating Disorder Policy

FBS University	Eating Disorder Policy Found on Web-Search (Y/N) a.	Policy Found on School Home Website (Y/N) b.	Policy Found on School Athletic Website (Y/N) c.	Policy Found in Google Search (Y/N) d.
X				
Y				
Z				

TABLE 2: Example of Web-Search Results for Schools with Information that was Not an Official Policy

FBS University	Information Related to Eating Disorders in Athletes e.	Eating Disorder Policy for General Student Body f.
X		
Y		
Z		

TABLE 3: Example of Email Responses Regarding Status of Existing Policy

FBS University	Currently Existing Policy (Y/N)
X	
Y	
Z	

CHAPTER 4

RESULTS AND DISCUSSION

Introduction

The purpose of this study was to determine which NCAA FBS universities currently have a policy in place to recognize and manage eating disorders in collegiate athletes, determine the relationship between having a policy and demographic data and, finally, to examine currently existing policies and recognize major themes that exist between them.

This chapter will include the results and discussion of qualitative and quantitative data in the following order:

- a. Quantitative results of search for existing policies
- b. Qualitative analysis of existing policies
- c. Statistical analysis of demographic data
- d. Discussion of research questions
- e. General discussion

The following section of results will be broken into two sections: quantitative results of the search for existing online policies and quantitative results of the search for existing policies through athletic personnel.

Online Search for Policies

Each of the 128 FBS universities was the recipient of three web-based searches. The online search was conducted within a 72-hour period between January 19-21, 2017. For each university, the researcher searched for a policy on eating disorders specific to athletes on the university home webpage, on the university athletic webpage, and through a general Google

search. It was found that, of the 128 FBS universities, only 13 provided results online. The results of where each policy was found can be seen in Table 4.

TABLE 4: Results of Online Web-Search for Universities Providing Existing Policies (Y/N)

FBS University	Policy Found on Home Website	Policy Found on Athletic Website	Policy Found in Google Search
Appalachian State University	Y	N	Y
Bowling Green State University	N	N	Y
Clemson University	N	N	Y
Florida State University	Y	N	Y
University of Kansas	N	Y	Y
University of Kentucky	N	N	Y
North Carolina State University	N	Y	Y
University of Notre Dame	N	N	Y
Ohio State University	N	Y	Y
Texas A&M University	Y	Y	Y
Vanderbilt University	N	N	Y
Washington State University	Y	N	Y
West Virginia University	N	N	Y

Of the 13 schools that had a policy specific to athletes and eating disorders found online, four were found on the university home webpage, four were found on the university athletic webpage, and all 13 were found in the general Google search. Only one school, Texas A&M University, had a policy that was found on all three web-searches. Six universities had policies found in two web-searches, and six universities had policies found on only one web-search.

The fact that only 13 universities had policies found online means that only 10% of all FBS universities have a policy that can be found online. This means that almost all of the FBS universities do not have policies that can be found through an online search. It is possible that someone searching for a policy using different wording than “athletics eating disorder policy” could bring up results of more policies, but the researcher of this study expected the most results to come up in the direct search for “athletics eating disorder policy.” The researcher also took careful analysis of search results to make sure that all policies that came up in the online search were in fact identified. However, there is still a possibility that a policy was missed in the online search.

It may also be concerning that, while every university with a policy found online was found in a general Google search, only four universities had a policy listed on the home website and only four universities had a policy listed on their athletic website. This means that 31% of the policies found online were found on the home website and 31% were found on the athletics website. Furthermore, only 3% of all FBS universities have policies that can be found on a university home website, and only 3% of all FBS universities have policies that can be found on found on a university athletics website. Only 5.5% (7/128) of all FBS universities were found either through a university home or university athletics website. The researcher believes that a policy should be easily accessible to athletic staff, student-athletes, and prospective student-athletes. According to this online search, it does not appear that FBS university policies specific to athletes with eating disorders are easily accessible on university websites, and are only slightly more accessible through general Google searches.

It should be noted that changes online can occur at any time. It is possible that since the time the online search was conducted schools have taken down their policy, have made a policy available, or have made changes to existing policies.

It should also be acknowledged that although only 13 official policies specific to athletes with eating disorders were found online, there were some universities in which an online search produced results related to eating disorders and/or eating disorders in athletes. This information was not sufficient to be considered a full policy specific to athletes with eating disorders, but the information may still be more beneficial than no information at all. The researcher kept note of which universities provided information that was related to eating disorders in athletes, but was not a full official policy. The researcher also kept note of the universities for which an eating disorder policy for the general student body came up in the online search. These results naturally came up in the same “athletics eating disorder policy” search in which the 13 full policies were found. The results of the online search that don’t include full policies can be seen in Table 5.

For the 115 schools in which an official policy was not found in the online search, there were some schools in which some information was available, just not a full policy specific to athletes and eating disorders. When searching “X University athletics eating disorder policy,” 25 schools referenced the eating disorder policy that applied to the university’s general student body. In addition, 18 schools referenced information that was specific to athletes and eating disorders, but was not a full policy. An example of this would be a paragraph listed on the school’s sports medicine webpage that acknowledged the risk of eating disorders in athletes or referenced places where an athlete struggling with disordered eating could find support.

Although Table 5 does not relate to official policies regarding eating disorders and athletes, it is included because these 38 schools have some information that could still be

TABLE 5: Web-Search Results for Schools that Provided Information that was Not an Official Athletics Eating Disorder Policy (Y/N)

FBS University	Information Related to Eating Disorders in Athletes	Eating Disorder Policy for General Student Body
US Air Force Academy	N	Y
University of Alabama	Y	N
Ball State University	Y	Y
Boise State University	N	Y
Boston College	Y	Y
Brigham Young University	Y	N
University of Cincinnati	Y	N
Colorado State University	N	Y
University of Connecticut	N	Y
University of Georgia	Y	N
Georgia Institute of Tech.	Y	N
University of Idaho	N	Y
Kansas State University	N	Y
Marshall University	N	Y
University of Massachusetts	N	Y
Middle Tennessee State	N	Y
University of Mississippi	Y	Y
Mississippi State University	Y	Y
United States Naval Academy	Y	Y
University of Nebraska	N	Y
University of Nevada, Reno	Y	N
University of Nevada, LV	Y	N
University of New Mexico	Y	N
Northwestern University	Y	N
Ohio University	N	Y
University of Oregon	N	Y
Rutgers University	Y	N
San Jose State University	N	Y
Syracuse University	N	Y
University of Tennessee	Y	N
University of Texas, Austin	N	Y
Texas State University	N	Y
Texas Tech University	N	Y
Tulane University	Y	N
University of Washington	N	Y
Western Kentucky University	N	Y
Western Michigan University	N	Y
University of Wyoming	Y	N

beneficial. In theory, athletes struggling with disordered eating could search “athletics eating disorder policy” for their school and they could find some information that might be helpful. The researcher does not view this information as ideal, but it is at least more beneficial than not having any information at all. It is again important to note that this information was found within the 72-hour online search period, and so it is possible that more, less, or changed information can be found currently or in the future. However, according to the online search for policies in January of 2017, only 10% of FBS universities have a policy that can be accessed online. Whether other universities have policies specific to athletes with eating disorders that are not found online remains questionable.

Search for Policies through University Athletic Personnel

To answer the question of whether or not a policy does not exist online or does not exist at all, the researcher contacted athletic personnel of the 115 universities for which an online search did not provide results for an official athletics eating disorder policy. Immediately following the online search, the researcher emailed the Athletic Director, Senior Women Administrator, and Head Athletic Trainer of each of the 115 universities. It should be noted that not all universities display contact information for all three athletic department positions, but each university did have at least one athletic department position listed and therefore contacted. If all three department positions had contact information provided on the school website, then all three athletic department personnel were contacted.

An example of the email that was sent to athletic department personnel can be seen in the Methodology section of chapter 3. For the universities that responded, the status of whether or not they have an official policy is found in Table 6.

TABLE 6: Indication of Currently Existing Policy or No Policy through Email Responses of FBS University Athletic Department Personnel (Y/N)

Responding FBS University	Currently Existing Policy
United States Air Force Academy	N
Arizona State University	N
University of Arkansas	N
Ball State University	N
Boise State University	Y
Brigham Young University	Y
University of California, Berkeley	Y
Duke University	N
East Carolina University	N
University of Florida	Y
Florida Atlantic University	N
University of Georgia	Y
Georgia Institute of Technology	Y
University of Hawaii	N
University of Houston	N
University of Idaho	N
University of Illinois	N
Kent State University	N
Louisiana State University	N
Louisiana Tech University	N
University of Louisville	N
University of Missouri	Y
United State Naval Academy	N
University of Nebraska	Y
University of Nevada, Las Vegas	N
New Mexico State University	N
University of North Carolina Chapel Hill	Y
Northern Illinois University	Y
Northwestern University	Y
University of Oklahoma	Y
Old Dominion University	Y
University of Oregon	N
Oregon State University	Y
Rutgers University	N
San Diego State University	Y
University of Southern California	Y
Southern Methodist University	N
Temple University	N
University of Tennessee	N
University of Texas Austin	Y

Table 6, continued

Texas State University	N
Texas Tech University	Y
University of Texas El Paso	N
University of Toledo	N
Tulane University	N
Virginia Polytechnic Institute	N
Wake Forest University	N
Western Kentucky University	Y
Western Michigan University	Y
University of Wyoming	N

The researcher waited until March 20, 2017 before analyzing the email responses. This means that athletic department personnel had approximately a month and a half to respond by email. Once all responses had been obtained, of the 115 schools that were contacted by email, 50 schools provided a response (43.5%), and 65 schools did not provide a response (56.5%). The status of policies is currently unknown for 65/128 FBS universities (50.8%). For the purpose of this study, it is assumed that the 65 schools who did not respond do not have an official policy specific to athletes with eating disorders. Of the 50 schools who provided a response, the researcher determined that 20 schools have an official policy specific to athletes with eating disorders, and 30 schools do not have an official policy.

Of the 30 universities that replied to the email and do not have an official policy, only a little more than half of the schools confirmed themselves that they do not have a policy. Twelve schools believed they had a policy specific to athletes, but after the researcher analyzed the policies, it was determined that the information provided by these schools fell short of a full policy. As discussed in chapter 1, an official policy must address multiple factors of disordered eating, such as prevention, recognition of signs and symptoms, and treatment of eating disorders in athletes. Schools that provided information that was limited to a couple sentences were not

sufficient to address multiple factors of managing eating disorders. Some schools even titled the information that they sent as “Eating Disorder Policy and Procedure,” but the information that was sent was limited to a couple sentences and was therefore not considered a full policy.

It is important to note that while these schools did not have a full policy, they did at least have some information or procedure in place that is better than not having anything. Five schools that did not have a full policy (University of Arkansas, Ball State University, University of Tennessee, University of Toledo, and University of Wyoming) still replied with either a flow chart detailing the steps that are taken when an athlete is identified as having an eating disorder, or detailed information about an eating disorder treatment team. Again, this information was not sufficient enough to be considered a full policy regarding athletes with eating disorders, but it is still useful and beneficial to athletes with potential disordered eating concerns. These at least acknowledge that there is a process in place to manage cases of disordered eating in athletes. However, information regarding prevention, risk factors, detailed information regarding referral and return-to-play procedures, etc. was lacking.

Many schools, either through the online web-search or athletic department email responses, provided screening paperwork that athletes fill out during their pre-participation physical as incoming first-year student-athletes. This paperwork would ask about prior history relating to emotional stability, mental health, and physical changes in diet and weight. While this screening is an important part of preventing eating disorders in the athletic environment, it is something that should be included in a prevention section of an eating disorder policy. Screening paperwork cannot be considered a full policy as it does not provide any guidance as to how to manage cases of eating disorders in athletes. Policies should at the very least detail the procedure following screening, such as how to initiate treatment once an athlete is identified.

Most schools that admitted to not currently having a policy mentioned that they do have a system in place, but they do not have anything officially documented explaining their system. For example, 12 of the 30 schools without a policy mentioned having an eating disorder treatment team within sports medicine (or a nutrition and performance committee) that would consult with athletes and provide treatment on a case-by-case basis. Although there isn't anything officially written to detail this process, athletes often have to sign contracts acknowledging their treatment requirements. While a university should have a treatment team specific to athletes with eating disorders, it would be even better if the management of treatment were standardized in written format so that management could be consistent and athletes could have something to refer to on their own.

The schools that do not have an officially written policy mentioned similar procedures that are outlined in existing policies, such as referring eating disorder concerns in athletes to the team physician or athletic trainer. However, these schools do not have anything or have very limited information in written format to document such procedures. These schools mentioned that, depending on the severity, athletes will be treated in the counseling center on campus and will be allowed to participate in sport activities. In more severe cases, athletes will be referred to health professionals outside of the university. While these schools claim to have a routine procedure, they don't have anything written to detail each step. A couple schools even mentioned that they create an athletic environment that makes student-athletes feel open and comfortable to come to coaches and sports medicine staff about their eating concerns. However, these schools did not mention the specific ways in which they attempt to create such a supportive environment, whereas written policies specifically address these details.

The reasoning that some schools gave as to why they don't currently have a policy is that they believe a policy would be too lengthy and constricting, and that each individual athlete should be treated on an individual basis. While each athlete has individual needs and should be treated on an individual basis, the researcher believes that a policy is still necessary to standardize the appropriate steps to recognize disordered eating and initiate treatment. The researcher does not believe that information regarding prevention, safety, and identifying risks in the athletic environment can be "too-lengthy." Treatment may need to be individualized, and thus the treatment section in a policy may only include an outline. However, the steps to prevention, safety, recognizing risks, and initiating treatment should be clearly written and carried out in a professional manner.

One school even admitted that they have had cases of coaches attempting to treat athletes themselves as opposed to referring them to health professionals. The researcher expects that this has happened at many universities, and is an example of why a written policy outlining the appropriate steps to identifying and managing disordered eating in athletes is crucial. The safety and overall well-being of an athlete should always be a university's top priority. It should be clear that a coach's job is to coach and serious medical concerns should only be placed under professional care, otherwise an athlete's health can be under serious risk. A policy detailing the appropriate means of prevention, recognition, and treatment should help athletic staff be clear on their role and competency in helping athletes receive the support they need. The school that admitted to this situation said that since realizing their coaches were taking treatment upon themselves, sports medicine has gotten counseling services more involved in athletic eating disorder treatment, but that they understand a policy would be even more beneficial.

Some schools without an existing policy claimed that they are currently in the process of writing a policy, but that they do not have anything official to be shared at the present time. These schools were not considered to have a policy in this study, but the researcher is hopeful that these schools and others are in fact in the process of developing a policy that can be used in the near future.

Many schools that the researcher considered to have official policies specific to athletes with eating disorders did mention in their email response that their policies are often updated and the steps to treatment are often tailored to individual athletes. It is understandable if policies are under constant revision, especially if the goal is to improve them so as to further protect the health of athletes. It is also understandable that the steps of treatment are not followed exactly as written in a policy, so long as treatment is conducted in a professional manner and the health and safety of the athlete is the primary focus. The point of having a policy is to provide a guide to managing cases of disordered eating. Athletic staff should follow protocol as much as possible, but should still recognize differences in individual cases. If health professionals find that something in a policy should be changed or tailored to an athlete's individual needs, the researcher believes this is perfectly appropriate.

It should also be noted that the federal academies, such as The United States Air Force Academy and The Naval Academy, shared that they do not have policies specifically addressing athletes with eating disorders, but they have extensive policies addressing eating disorders in the general student body. This is visible in Table 5, but it should be noted that it is difficult to compare the federal academies to the majority of FBS universities as it is generally mandatory for all federal academy students to participate in athletics either at the varsity or intramural level. As these policies were not tailored to collegiate athletics, they were not considered to be official

policies specific to athletes with eating disorders. However, it might be appropriate to say that the policies at these federal academies are sufficient for their unique student body.

The researcher would like to thank those universities who took the time to respond about the status of their policies. The researcher acknowledges that the majority of the university athletic personnel expressed that they understand the importance of having a policy, regardless of whether or not they currently have one. Many responses from universities who do not currently have a policy expressed interest in developing one in the future. The researcher hopes that these universities and others will seriously commit to developing a full policy to address the prevention, recognition, and treatment of athletes with eating disorders.

Qualitative analysis of existing policies

Once all of the currently existing policies had been collected and deemed adequate to be considered a full policy specific to athletes with eating disorders, the researcher read through and analyzed the policies and coded them into themes. After reading through all of the policies, the researcher found 16 major recurring themes. The themes can be seen below, organized from most often occurring to least often occurring:

1. Treatment/Intervention for Athletes with Eating Disorders (Theme A)
2. Eating Disorder/Multidisciplinary Sports Medicine Treatment Team (Theme B)
3. Health/Safety Recognition Introduction (Theme C)
4. Prevention of Disordered Eating in Athletics (Theme D)
5. Identification: Signs/Symptoms/Behaviors (Theme E)
6. Referral (Theme F)
7. Weighing/Body Composition Policy (Theme G)
8. Definitions (Theme H)

9. Goals of Policy (Theme I)
10. Return-to-Play/Athletic Participation (Theme J)
11. Screening for Disordered Eating in Athletes (Theme K)
12. Confidentiality/Waiver (Theme L)
13. Treatment Procedure/Flow Chart (Theme M)
14. Medical Consequences of Disordered Eating (Theme N)
15. Approaching Athletes with Disordered Eating (Theme O)
16. Causes/Risk Factors for Athletes (Theme P)

Once all schools had been assessed for major themes, the researcher then organized the information from each individual policy to match with the 16 major themes. An example of which schools contained each major theme is displayed in Table 7.

Two schools, University of California, Berkeley and San Diego State University, reported that they do have an official policy for athletes with eating disorders, but that their policy is currently being revised and is therefore not provided. The researcher of this study considered these two schools to have an official policy, but their policies were not included in the analysis section. For this reason, only 31 of the 33 schools who have an official policy are reported in Table 7.

A university was considered to have a major theme (marked as “X” in Table 7) if they had a section addressing that specific theme. For example, for a university to be considered to have Theme A, Treatment and Intervention, that university had to have a separate section clearly describing the detailed steps to treating an athlete with disordered eating. A university that had

TABLE 7: Analysis of Major Themes for FBS Universities with Official Policies for Athletes
with Eating Disorders

FBS University	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Appalachian State		X					X			X		X				
Boise State			X	X	X						X		X			
Bowling Green	X		X	X	X		X	X	X						X	
Brigham Young	X	X				X										
Clemson *				X	X			X					X	X	X	X
Florida	X		X	X	X		X			X	X					
Florida State*	X	X	X	X	X	X						X	X			
Georgia	X	X			X				X		X		X			
Georgia Tech	X	X														
Kansas	X	X	X	X	X		X	X								
Kentucky		X	X										X			
Missouri*	X	X	X	X	X	X		X		X		X		X		X
Nebraska	X	X	X	X		X	X				X					
North Carolina	X	X	X	X		X	X		X	X		X				
NC State	X	X	X	X	X		X	X	X					X		
Northern Illinois	X		X			X										
Northwestern	X	X	X	X							X					
Notre Dame	X	X	X			X		X	X	X						
Ohio State*	X	X	X	X	X		X	X	X						X	
Oklahoma*	X	X			X	X	X	X	X							
Old Dominion	X		X		X											
Oregon State*	X	X	X	X	X	X		X		X	X					X
Southern California	X	X	X	X		X										
Texas	X	X	X	X	X	X	X		X	X						
Texas A&M	X	X				X										
Texas Tech	X	X	X	X	X					X	X			X		
Vanderbilt	X	X	X			X										
Washington State	X	X	X		X		X	X				X				
West Virginia	X	X	X	X	X		X	X	X						X	
Western Kentucky	X	X	X	X	X		X	X	X							
Western Michigan	X	X				X				X		X				
Total Theme Recurrence	27	25	23	18	18	14	13	12	10	9	7	6	5	4	4	3

X: University policy contains this major theme

**: University policy is considered exceptional*

limited information, such as only a sentence reading “Treatment will be conducted by health professionals accordingly,” was not sufficient and not acknowledged in Table 7.

Although many of the 31 universities had sections clearly introduced by a title for each of the major themes, there were a few universities that did not clearly introduce each section throughout the policy. This required extensive analysis by the researcher to make sure that major themes were acknowledged appropriately. It should be noted that having a clearly introduced section, such as those identified by a title, is ideal and is exemplified in the most exceptional policies. However, just because a clearly labeled title was missing from some policies did not mean that beneficial and detailed information was missing from the policy.

Some policies were written in more of a paper format than in a section-by-section format. For these universities, the researcher had to carefully read through the policy to make sure that themes that were comprehensive and given their own space were acknowledged. For a theme to be acknowledged in Table 7, the policy had to make the theme clear, such as in a separated paragraph or in bullet-points in which only that one theme was discussed. A policy that discussed a theme in just a sentence or disorganized and scattered throughout the policy was not considered to have a sufficient section and was not listed in Table 7.

The exception of a theme being acknowledged in Table 7 without having its own separate section in a university policy was Theme B, Eating Disorder/Multidisciplinary Sports Medicine Treatment Team. The researcher believed it was important to acknowledge any university that mentioned having a treatment team specific to athletes with disordered eating. These universities had to describe the members of the treatment team and briefly describe the responsibilities of each member somewhere in the policy in order to be acknowledged in Table 7. Policies varied in regards to where this information was located. Some universities described the treatment team in

the prevention section, some in the treatment section, some in multiple sections, and about half of the universities had a clearly labeled separate section addressing the treatment team. The researcher believed this theme to be one of the most important aspects of an eating disorder policy specific to athletes as medical care of eating disorders in athletes should be conducted by people who are experienced with *both* eating disorders and athletes. This is a crucial factor for treatment of eating disorders in athletes and is an example of something that would not be included in an eating disorder policy created for the general student body. For this reason, the researcher considered this theme important enough to recognize in the analysis of major themes regardless of whether or not the theme was given its own identified section.

The range of number of themes included in each university policy was between 3-11 themes. The average number of major themes/sections per policy was 6.4. However, it is important to note that the number of major themes discussed in a policy does not directly reflect the overall quality of the policy. For example, one policy might not have addressed multiple themes, but what was addressed was very detailed and of high quality. Alternatively, another policy may have addressed multiple themes, but the details of each theme were not of as high of quality as the policy with fewer themes. It is difficult to compare policies of different structures because each have their own strengths and weaknesses. However, the researcher did take note of six exceptional policies that addressed multiple themes and also had detailed information for each theme. These policies were from Clemson University, Florida State University, The University of Missouri, The Ohio State University, The University of Oklahoma, and Oregon State University.

The layout of even these six exceptional policies was unique to each university. For example, Ohio State University's eating disorder policy clearly identified each major theme, and

the information under each theme was organized primarily into bulleted points and was not extensively wordy. In comparison, The University of Missouri had a very extensive athletics mental health policy that specifically addressed eating disorders over multiple pages. While this policy also clearly identified each theme, the information under each theme was written in more of a paper format with very detailed paragraphs. It is important to recognize that every policy is structured differently, and what might work for one university might not work for another. The exact layout of a policy is less important so long as the policy is clear, comprehensive in the information it provides, and utilized by the university.

The researcher would consider a strong policy to be one that addresses multiple major themes and provides detailed (but not necessarily wordy) information for each theme. It is also important to note that while it would be ideal if a policy contained information for each of the 16 major themes, a policy does not necessarily have to have separate sections for all 16 themes. For example, explanation for screening athletes for disordered eating might not need to be in its own separate section, but rather included in the prevention section of a policy. Including screening in one way or another is still expected. Similarly, explanation of appropriate referral might be explained in combination with the explanation of appropriate steps to treatment as the two are dependent upon one another. This might also be done with information regarding return-to-play. It is worth mentioning again that policies that were not identified as having a major theme in Table 7 may still have addressed that theme at some point in the policy, but what was addressed was not lengthy or clearly defined. For example, a policy may not have had a clear section dedicated to return-to-play, but that policy may have still briefly mentioned return-to-play at the end of their treatment section. While the researcher believes a theme such as return-to-play

should be well addressed, it may be okay to include it in the discussion of treatment so long as it makes sense in relation to the information that surrounds it.

Some schools also had a separate section for goals, but it may be appropriate for a university to mention the goals of a policy in an introduction section without having a completely separate section. Finally, many schools combined their definitions of eating disorders with their respective signs and symptoms under a larger section often labeled as “Identification.” Each university clearly labeled “definitions” versus “signs/symptoms” and are therefore acknowledged as having the separate themes in Table 7. However, the researcher acknowledges that universities may find it more beneficial to combine the two sections into one so that someone reading the policy can relate signs and symptoms to specifically defined disordered eating conditions as opposed to going back and forth between two different sections. An example of this can be seen below:

Identification of Disordered Eating in Athletes:

Anorexia Nervosa Definition: Restriction of energy intake relative to requirement...

Signs and Symptoms of Anorexia Nervosa: Weight loss, weakness, obsession with nutrition, high anxiety, bradycardia...

Bulimia Nervosa Definition: Recurrent episodes of binge eating followed by compensatory methods...

Signs and Symptoms of Bulimia Nervosa: Weight fluctuations, edema, swollen glands, extreme mood changes, secretive eating and disappearing after meals...

Some schools such as Clemson University did not have treatment/intervention or referral sections, but instead had a step-by-step procedure section or flow chart that outlined steps to

referral and treatment. These universities were marked as having Theme M (Treatment Procedure/Flow Chart) instead of Theme A (Treatment/Intervention), unless the university had both sections clearly defined and separated. The researcher believes that either could be acceptable, so long as the information provided is clear and comprehensive.

Theme G, Weighing and Body Composition Policy, was given its own theme in this analysis because many schools had a separate section addressing appropriate steps to testing an athlete's weight and body composition within the eating disorder policy. However, universities were also acknowledged in Table 7 for having this theme if they had a separate policy for Weight and Body Composition that was provided in the university email response. It is important to note that while it is good for an eating disorder policy to recognize appropriate steps to testing an athlete's weight and body composition, the guidelines for such testing may be extensive enough for a university to address in a separate policy. The analysis of Theme G (next section on the analysis of recurring patterns for each major theme) provides the recurring patterns from the weighing and body composition information from both eating disorder policies and separate weighing policies, but the weighing policies provided significantly more detail. For the purpose of this study, the researcher provides a summary but does not analyze the separate weighing policies in depth.

There were a number of schools that had a policy that was considered sufficient, but may still benefit from being updated. Schools with only a few major themes may have had detailed information for those themes, but may still benefit from addressing more of the major themes in greater detail. For example, a university may have provided extensive information on prevention, treatment, and referral, but could benefit from including information about recognizing signs and symptoms of eating disorders, determining return-to-play procedures, and information about how

to approach athletes with disordered eating. Attached in Appendix B is an example of a policy that may include sections that universities could adopt when updating their policies.

Return-to-play was mentioned at least briefly by almost every school. However, a university was only considered to have this theme in Table 7 if there was a clear separate section addressing return-to-play procedures. A university that mentioned athletic participation in only a sentence in the treatment section, for example, was not acknowledged in Table 7.

As mentioned, six universities were identified as having exceptional* policies. However, it should be acknowledged that it was difficult for the researcher to narrow the list of exceptional policies to only six schools, when in fact a number of schools had very well developed policies. For example, Bowling Green State University, The University of Florida, North Carolina State University, Texas Tech University, and West Virginia University all have very strong policies that were at some point considered for being listed as one of the most exceptional policies. However, for the purpose of outlining a few strong examples, only six universities were ultimately recognized (*). Each of the 31 policies that was analyzed had its own strengths, and it is important to acknowledge again that what might be beneficial for one university might be different for another. The researcher created and attached an example policy (Appendix B) and flow chart (Appendix C). These examples include what the researcher believes to be the most comprehensive and beneficial information provided by currently existing policies, regardless of whether or not the policies were recognized as exceptional. Therefore, any policy with a strong section was analyzed and referred to when designing the example policy.

Analysis of Recurring Patterns for Each Major Theme

Once the analysis searching for major themes was completed, the researcher then analyzed the information from each school for each major theme one at a time to find recurring

patterns. Universities differed in the amount of information they provided for each theme, so the researcher first summarized each theme that each university policy covered. The researcher then compared the summaries for each theme to recognize what patterns/details occurred most often. Between four to six recurring patterns were found for each major theme. The results from coding the themes and patterns can be seen below:

1. Treatment/Intervention (Theme A)

- a. *Pattern 1:* Once an athlete is identified as having ED/DE, the athlete should be referred to the multidisciplinary treatment team and/or sports medicine for diagnosis and development of a treatment plan
- b. *Pattern 2:* A treatment plan will be developed specific to the individual. Treatment may include consultation with a physician, dietitian, mental health professional, strength and conditioning coach, and any other professional the physician finds appropriate
- c. *Pattern 3:* Conditions of treatment may change, but the student-athlete is responsible for complying with physician recommendations. Regular/follow-up appointments with the treatment team and/or physician will likely be required
- d. *Pattern 4:* Medical leave and/or professional services outside of the university may be required by the team physician, but it is ultimately the team physician's responsibility to determine athletic participation status. The physician will inform the coach of a student-athlete's participation status

- e. *Pattern 5*: The physician may declare a student-athlete medically ineligible for participation if he or she refuses evaluation or is noncompliant with medical recommendations

2. ED/Multidisciplinary Treatment Team (Theme B)

- a. *Pattern 1*: Treatment team will consist of the following professionals: medical physician, licensed psychologist (preferably eating disorder specialist), registered dietitian/nutritionist, athletic trainer(s), athletics administrator/director, strength and conditioning coach. Policies often included lists of specific responsibilities for each individual
- b. *Pattern 2*: Outside referrals to specialists may be warranted in some circumstances. These specialists will become part of the multidisciplinary sports medicine treatment team
- c. *Pattern 3*: Treatment team will develop a comprehensive approach to treatment that helps the athlete receive the best care possible. The treatment team is responsible for education, treatment, and appropriate referrals
- d. *Pattern 4*: The treatment team will meet regularly with the athlete to determine treatment plans/goals based on individual needs
- e. *Pattern 5*: The treatment team will oversee student-athlete compliance with treatment requirements
- f. *Pattern 6*: Confidentiality will be strictly respected by the treatment team. Athletes must give consent for information to be shared outside of the

treatment team (including coaches and parents, with the exception of minors)

3. Health/Safety Recognition Introduction (Theme C)

- a. *Pattern 1:* Introduction advocates the development of a healthy lifestyle. Policy recognizes that eating disorders and disordered eating threatens the overall well-being of student-athletes
- b. *Pattern 2:* Recognition that manifestations of eating disorders reflect a complex interaction of biological, psychological, and sociological factors
- c. *Pattern 3:* Introduction gives a brief overview of physical and psychological medical consequences ranging from mild to severe
- d. *Pattern 4:* Acknowledgement that recovery is difficult and each student-athlete has individual needs and should be treated on an individual basis
- e. *Pattern 5:* Provided introduction to the multidisciplinary treatment team, referral process, and status of athletic participation
- f. *Pattern 6:* Acknowledgement that athletic staff should be aware of signs and symptoms of disordered eating, and should be aware of appropriate referral process and resources that are available to student-athletes

4. Prevention (Theme D)

- a. *Pattern 1:* Training and education on how to recognize the signs/symptoms and medical consequences of eating disorders should be made available to athletic personnel and student athletes

- b. *Pattern 2:* Screening for disordered eating symptoms and history should be conducted with incoming student-athletes. All student-athletes should have opportunities to meet with dietitian or nutritionist for assessment
- c. *Pattern 3:* Athletic staff/coaches should create a caring, confidential, non-judgmental, and supportive environment. Athletes should feel comfortable sharing their concerns with professionals and seeking help when needed
- d. *Pattern 4:* Athletic personnel should refrain from making diet/weight-centered comments, especially in relation to athletic performance
- e. *Pattern 5:* Acknowledgement of weighing/body composition policy that details the limitations to conducting weighing and body composition measurements. All measurements should be conducted by trained professionals (not coaches), and the frequency of measurements should be limited. If applicable, refer to the Weighting/Body Composition section/policy

5. Identification: Signs/Symptoms/Behaviors (Theme E)

- a. *Pattern 1:* Recognition on the importance of early identification. Early identification leads to early treatment/intervention and a higher chance of recovery
- b. *Pattern 2:* List of behavioral signs and symptoms of Anorexia Nervosa (AN), Bulimia Nervosa (BN), Binge Eating Disorder (BED), and Eating Disorder Not Otherwise Specified (EDNOS)
- c. *Pattern 3:* List of physical signs and symptoms of AN, BN, BED, EDNOS

- d. *Pattern 4*: List of psychological signs and symptoms of AN, BN, BED, EDNOS

6. Referral (Theme F)

- a. *Pattern 1*: Athletes can self-refer to their designated athletic trainer, team physician, team psychologist, or anyone else on the eating disorder treatment team
- b. *Pattern 2*: Coaches, teammates, or other third party individuals should contact the athletic trainer and/or physician about student-athlete disordered eating concerns. The athletic trainer/physician should gather specific information regarding the behavior of the student-athlete and then appropriately make a meeting with the athlete
- c. *Pattern 3*: Only health professionals are capable of diagnosing and treating eating disorders in athletes (physicians, psychologists, nutritionists, etc.). Coaches should be involved in prevention and identification only
- d. *Pattern 4*: Physician will determine appropriate referrals (psychologist, nutritionist, strength and conditioning coach, etc.)
- e. *Pattern 5*: Physician may refer an athlete to health professionals outside of the university; however, clearance for athletic participation is ultimately up to the team physician

7. Weighing/Body Composition Policy (Theme G)

- a. *Pattern 1*: Coaches and athletic department personnel should not discriminate based on weight or body composition

- b. *Pattern 2:* Coaches should contact athletic trainer/sports medicine about weight concerns; Coaches should not directly approach an athlete. Coaches should also not be involved in weighing/body composition testing; Testing should only be conducted by trained sports medicine personnel
- c. *Pattern 3:* Sports medicine personnel will work with an athlete to set weight/body composition goals specific to the individual, noting that each athlete has individual needs
- d. *Pattern 4:* Determining weight/body composition goals should only be done if it is deemed safe to attempt by sports medicine and only if it is deemed worth the difference in athletic performance
- e. *Pattern 5:* Frequent measuring and conversations regarding weight/body composition may be harmful. Weight/body composition measuring should be limited. Testing should be focused towards student-athletes' overall health and sport performance
- f. *Pattern 6:* Student-athletes have the right to their own body weight testing information. Student-athletes should have the right to refuse weighing and body composition testing

8. Definitions (Theme H)

- a. *Pattern 1:* List of the Diagnostic and Statistical Manual, Fifth Edition (DSM-V) definitions of Anorexia Nervosa, Bulimia Nervosa, Binge Eating Disorder, and Eating Disorder Not Otherwise Specified

- b. *Pattern 2*: Explanation of the difference between diagnosable eating disorders (ED) and disordered eating (DE)
- c. *Pattern 3*: Definition of RED-S and Female Athlete Triad
- d. *Pattern 4*: Explanation of Relative Energy Deficiency: energy availability, energy intake, exercise energy expenditure, and fat free mass

9. Goals of Policy (Theme I)

- a. *Pattern 1*: Provide a comprehensive protocol for prevention, identification, and treatment of disordered eating/eating disorders and their medical consequences
- b. *Pattern 2*: Provide medical, nutritional, and/or psychological services to student-athletes while respecting their privacy
- c. *Pattern 3*: Implement an effective multidisciplinary approach to refer, diagnose, and provide appropriate treatment plans. Collaboration should be between medical physicians, athletic trainers, mental health professionals, dietitians/nutritionists, coaches, and student-athletes
- d. *Pattern 4*: Establish a return-to-play protocol for student-athletes

10. Return-to-Play/Participation (Theme J)

- a. *Pattern 1*: A student-athlete diagnosed with an eating disorder/disordered eating may be restricted or prohibited from participating in athletics by a medical provider if:
 - i. The student-athlete's health is at risk with a certain level of continued sport participation

- ii. The student-athlete fails to comply with their treatment plan/signed health maintenance contract
- b. *Pattern 2:* The treatment team/sports medicine physician makes the ultimate decision on student-athlete participation status (even in cases of treatment occurring outside of the university)
- c. *Pattern 3:* If an athlete is not cleared to participate or is given minimal clearance, the physician should outline the conditions of safely returning-to-play, such as meeting specific medical standards and complying with treatment plan. An athlete may be asked to sign an agreement/contract acknowledging and accepting such conditions
- d. *Pattern 4:* The physician will discuss conditions for returning-to-play in situations such as medical leave of absence and/or summer/holiday breaks. The student-athlete will likely have treatment conditions to uphold over the time away from the university and will have to meet minimal medical clearance standards upon return

11. Screening (Theme K)

- a. *Pattern 1:* The team physician will conduct a pre-participation physical with incoming student-athletes and with returning student-athletes at the beginning of each fall semester
- b. *Pattern 2:* A medical history questionnaire should be given that addresses the athlete's physical, emotional, behavioral, and psychological history

- c. *Pattern 3:* Athletes displaying signs of disordered eating will be referred to sports medicine/physician/psychologist. Treatment/services will be determined upon individual cases
- d. *Pattern 4:* Weigh-ins, physicals and body composition testing should only be completed by medical professionals (not coaches)

12. Confidentiality (Theme L)

- a. *Pattern 1:* All details of a student-athlete's interaction with the treatment team will remain confidential. Only the student-athlete can elect to release information to outside personal (exception: minors' information will be shared with parental figures)
- b. *Pattern 2:* The physician or medical provider may require the student-athlete to sign a health maintenance contract outlining the conditions of treatment, athletic participation, and noncompliance consequences
- c. *Pattern 3:* Athletes may be asked to sign a waiver at the beginning of the academic year to allow medical information to be shared (only) within sports medicine personnel
- d. *Pattern 4:* Coaches may not be granted information on a student-athlete's medical condition unless the athlete consents, but the physician should still communicate the athlete's level of participation clearance to coaches

13. Treatment Procedure/Flow Chart (Theme M)

- a. *Pattern 1:* Identify athlete as having DE/ED when signs/symptoms are present. Person should inform the treatment team/sports medicine/athletic trainer

- b. *Pattern 2*: The student-athlete will meet with treatment team to develop a treatment plan. The plan should be specific to the individual athlete's needs
- c. *Pattern 3*: Set reasonable goals and clear conditions of treatment and athletic participation. Establish which health care professionals the athlete will meet with and how often meetings will be held
- d. *Pattern 4*: Athletes who do not meet goals or who aren't compliant with treatment plan may risk clearance for athletic participation

14. Medical Consequences (Theme N)

- a. *Pattern 1*: Description of physical medical consequences due to disordered eating
- b. *Pattern 2*: Description of psychological/behavioral consequences due to disordered eating
- c. *Pattern 3*: Description of performance consequences due to disordered eating
- d. *Pattern 4*: Acknowledgment that people with disordered eating often experience multiple medical consequences at once (physical, psychological, behavioral). Each condition alone is a serious medical concern, but multiple conditions at once can create life-threatening situations

15. Approaching Athletes (Theme O)

- a. *Pattern 1*: In a calm, supportive, and respectful manner, tell the student-athlete about your specific observations and concerns. Allow athlete time to respond
- b. *Pattern 2*: Use “I” statements and avoid using “You” statements
- c. *Pattern 3*: Avoid giving simple solutions. Show the athlete that you are serious about your concerns
- d. *Pattern 4*: Don’t diagnose the athlete. Encourage athlete to seek professional help and refer to sports medicine if athlete denies your concerns

16. Causes/Risk Factors (Theme P)

- a. *Pattern 1*: Recognition that some sports place athletes at higher risk (individual and endurance sports; sports that emphasize appearance or weight requirements)
- b. *Pattern 2*: Recognition of predisposing risk factors (biological, psychological, sociocultural)
- c. *Pattern 3*: Recognition that frequent emphasis on body weight/composition and relation to performance increases risk (regular weigh-ins/body composition testing; frequent negative comments on body weight)
- d. *Pattern 4*: Recognition of risk for athletes who specialize in their sport at an early age and/or are involved in elite athletic competition

Many university policies included information that goes beyond what has been summarized in the above analysis. Information was acknowledged above if three or more policies included each respective pattern. A piece of information that was mentioned by only one or two universities was not included in the above analysis. Some pieces of information were also combined into one pattern if they were similar but stated differently between policies. For example, in Theme P (Causes/Risk Factors), some schools separately addressed the risk of specializing in sport at an early age, whereas others recognized specialization at both early age and elite levels. The analysis combines the two acknowledgements into one so as to keep the analysis as concise as possible.

Some policies seemed very similar, even word-for-word. The researcher expects that this is due to universities relying on the same resources to develop their policies, such as the NATA Position Statement (Bonci et al., 2008), the book *Eating Disorders in Sport* (Thompson & Sherman, 2010), the *Diagnostic and Statistical Manual for Mental Disorders, Fifth Edition* (APA, 2013), and the International Olympic Committee Consensus Statement (Mountjoy et al., 2014). The researcher found these policies to be comprehensive and acceptable, so long as they are tailored to individual athletes when cases of disordered eating come up.

The above analysis represents where the majority of universities placed each pattern, but some universities differed in where they provided certain information. For example, Screening is a separate theme in this analysis, but many universities included some information on screening in their policy's prevention section. Therefore, in the above analysis, screening is recognized both in its own theme (as it appears in policies that have a separate section addressing screening), as well as in its own pattern in Theme D, Prevention (as it appears in policies that mentioned screening only in the prevention section).

A number of universities, such as The Ohio State University and Bowling Green State University, had multiple themes (although not all 16 themes), and the information provided for each theme was detailed and sufficient, but not extensive. Instead, these universities referenced resources in which athletic staff or athletes could refer for more detailed information if they desired. For example, Ohio State's policy references multiple sources, one being the NATA Position Statement by Bonci et al. (2008) that provides extensive information about eating disorder risk factors, preventing risk in the athletic environment, information on medical consequences, and suggestions for managing disordered eating treatment in athletes. Universities might find it more beneficial to have a policy that clearly outlines the university's position and procedure for managing eating disorders in athletes, but that also references more detailed information that does not relate to the university specifically (risk factors, medical consequences, etc.). In this way, a university might have a policy that is sufficient for the purpose of managing eating disorders in athletes, but not provide overly extensive details. The researcher believes it is still crucial for universities to recognize things such as risk factors and medical consequences, but it may not be necessary to recognize such factors in depth directly in a policy. A university may instead choose to briefly introduce things like risk factors and medical consequences in a health and safety introduction, and then provide references of where staff and athletes could find more information.

Discussion of Each Theme and Recurring Patterns

(A) Treatment/Intervention for Athletes with Eating Disorders

Twenty-seven university policies had a clearly identified section relating to the treatment and intervention of eating disorders in athletes. Very few universities did not include a treatment section, but some universities instead had a step-by-step procedure or flow chart to acknowledge

the standard steps of treatment. The researcher believes that a clearly identified section that provides detailed information regarding what steps to take once an athlete is identified is the most important section of an athletics eating disorder policy. Regardless of the level of preventative measures that are taken by a university, there will likely still be some athletes who develop disordered eating behaviors. A university should be prepared to address these situations and should have a written procedure to follow so that treatment actions are consistent. However, it is important to note that treatment should be individualized to an athlete's specific needs, and so a treatment section that is overly detailed may not be realistically beneficial. An ideal treatment section would include the clear steps that are taken following identification of disordered eating, which may begin with the proper referral procedures. Acknowledgement of which professionals will be involved in treatment should be provided in the treatment section. The university may choose to explain the roles of these professionals in detail in the treatment section, or it may choose to briefly mention the health professionals involved in treatment and expand on their roles in a separate section addressing an athletics eating disorder treatment team.

The treatment section should include information on who conducts evaluation and diagnosis of athletes, who is involved in treatment and referral, and the possible forms of treatment that will be provided depending on the athlete's situation (psychotherapy, nutritional counseling, consultation with a strength coach, consultation with a physician, prescription medication, etc.).

The treatment section may also choose to discuss return-to-play, either by fully explaining athletic participation guidelines or by introducing the discussion and following up more in depth in a separate section. The treatment section should also include guidelines for managing compliance, noncompliance, and follow-up evaluations. Finally, a treatment section

may include explanation of treatment requirements for situations such as medical leave and school holidays.

Overall, the treatment section is a part of an athletics eating disorder policy that the researcher believes to be extremely important. This section can be uniquely designed to address the treatment steps that will apply to athletes but may not apply to the general university student body. For example, introduction to an eating disorder treatment team that works specifically with athletes and introduction to athletic participation status can only be given in a policy specific to athletes.

(B) Eating Disorder/Multidisciplinary Sports Medicine Treatment Team

The majority of university policies (25) included explanation of some sort of eating disorder treatment team that specifically treats athletes. Treatment teams differed in titles, such as Nutrition and Performance Committee, Multidisciplinary Sports Medicine Treatment Team, and Athletics Eating Disorder Treatment Team. Overall, the teams mainly consist of a medical physician, a mental health psychologist and/or psychiatrist, a registered dietitian or nutritionist, a strength and conditioning coach, and athletic trainers. Almost every school alluded to the idea that these health professionals are experienced with both athletes and eating disorders, but some schools did not specifically state that the health professionals were familiar with both. For example, athletic trainers and strength and conditioning coaches work with athletes on a regular basis, but they do not necessarily have expertise in managing eating disorders. Similarly, psychologists, nutritionists, and physicians may be educated in eating disorders, but not have specific expertise in working with athletes. It is the expectation that any health professional working in conjunction with Sports Medicine is aware of the specific needs of athletes, but future studies may look into the actual expertise of the health professionals working with athletes.

A few schools did specifically mention that their health professionals who are part of the eating disorder treatment team are only part of the team if they both work with athletes and have specialized training in eating disorder treatment. The researcher believes it is crucial for every health professional treating athletes with disordered eating to be experienced in both athletics and eating disorders, as both have specific needs that need to be addressed. Furthermore, the athletic environment influences disordered eating just as disordered eating influences an athlete's experience in their athletic environment. Professionals need to be well experienced with this interaction.

Policies should also explain the specific roles of each health professional who is part of the athletics eating disorder treatment team. The role of the physician may be very different from the role of the psychologist, and a policy should clearly explain these differences and the competencies of each professional. A policy may also acknowledge that not every member of a treatment team will be involved in every eating disorder case. The terms of treatment and who is involved should be specific to the situation of individual athletes.

Policies should explain the conditions of confidentiality within the treatment team and explain the situations in which confidentiality may need to extend beyond the treatment team. The policy should also explain the level of communication that exists between treatment team members, such as through regular weekly meetings.

Explanation of an eating disorder treatment team may not necessarily need to be given its own section, so long as the treatment team and each team members' responsibilities are explained in detail at some point throughout the policy. It would likely be easiest to give the treatment team a separate section, but some policies that were assessed successfully acknowledged the treatment team in both the prevention and treatment sections.

Ultimately, a treatment team should be part of an athletics eating disorder policy because treatment for athletes with disordered eating may look different than treatment of the general student body. At a minimum, a treatment team should be used to determine the appropriateness of participating in athletics, while still recognizing that athletics are a large part of an athlete's life and simply removing the athlete from athletics may be triggering. This is an example of why professionals who treat athletes with disordered eating need to be experienced with both athletes (understanding athletic identity) as well as eating disorders.

(C) Health/Safety Recognition Introduction

Most university policies (23) began with some sort of health and safety introduction. These introductions often introduced the causes of disordered eating, the general and athletic risk factors, the medical consequences, and acknowledgement that recovery can be a difficult process. The researcher believes that a health and safety introduction can be used to introduce such factors that relate to disordered eating in athletes without providing overly extensive information. Universities may then choose to attach or provide information for resources that can be referenced separate from the policy. These resources may go into more detail about things such as risk factors, medical consequences, recovery outlook, etc.

Some universities also included the purpose and/or goals of the policy in the introduction section. The researcher believes that this is also appropriate as it clearly explains the existence of the policy without requiring a separate section.

The researcher believes that an introduction section should be part of any athletics eating disorder policy as it has the potential to explain the purpose of the policy, introduce the most important aspects of the policy, and provide an introduction to things that might not be explained in depth throughout the policy but are still crucial to recognize (such as risk factors and medical

consequences). Introduction sections of currently existing policies vary in length and detail, but this is okay so long as the introduction section relates to the policy that follows. For example, a policy that explains medical consequences in depth throughout the policy may not need recognition in the introduction section, but a policy should introduce medical consequences in an introduction if that is the only space where medical consequences are acknowledged (and should also provide outside references for others to find more detailed information).

(D) Prevention of Disordered Eating in Athletics

Of the university policies that were analyzed, 18 specifically addressed preventative measures to be developed in the athletic environment. These measures began with information about how the university would train and educate athletic staff and athletes about the risk factors and medical consequences of disordered eating. Two universities spoke in depth about educational resources, such as pre-participation workshops, coaching seminars, and physical resources that would be dispersed to athletes. However, most universities only mentioned education without explaining what that education entails. The researcher recommends that policies be specific in regards to what sort of educational opportunities will be provided to both athletic staff and athletes.

Many policies also talked about screening, although most universities included a separate section addressing screening. The researcher believes that information on screening for disordered eating in athletes at the beginning of the academic year can be included in the introduction section without being given its own separate section. Athletes may be screened for emotional stability, medical history (physical and psychological), and past and current behaviors related to food and weight.

A very important preventative measure that most universities talked about in their prevention section was the development of an athletic environment that is supportive and non-judgmental. Policies with strong prevention sections talked about the risk factors within the athletic environment and what coaches and athletic staff can do to help decrease these risks. These strategies included refraining from commenting (especially negatively) about weight/body composition, refraining from relating weight/body composition to performance, developing open communication with athletes so that they feel comfortable sharing concerns with professionals, and acknowledging that athletes are individuals and should be treated with respect. The researcher believes that having strategies such as these written in a policy helps a university commit to actually creating such a supportive environment.

Finally, some universities talked about weighing athletes in the prevention section. The researcher believes this is appropriate if the policy discusses the limitations and risks of weighing athletes, and how either refraining from weighing athletes or only weighing athletes infrequently for medical purposes and by medical professionals should prevent disordered behaviors. Universities should consider expanding on this topic in a full policy separate from the eating disorder policy as the risks and guidelines to weighing athletes are extensive.

The researcher believes that a prevention section is one of the most important sections for a university to include in an eating disorder policy specific to athletes. Considering the unique environment of athletics and the risk factors associated with the athletic environment, a policy should offer specific strategies to prevent disordered eating that would be different from prevention in the general university student body. The goal of a policy should be to keep athletes safe, and the goal of the prevention section should be to make safety more realistic. If a

university successfully follows through with its specified prevention strategies, there is potential for disordered eating behaviors to be stopped before they become serious medical concerns.

(E) Identification: Signs/Symptoms/Behaviors

Identification of disordered eating is an important step in treating athletes. An athlete must be appropriately identified as being at risk and/or displaying maladaptive behaviors before referral and treatment can occur. Of the policies that were assessed, 18 had specific sections that described identifying disordered behaviors. Most of these sections provided an introduction to the importance of recognizing symptoms in order to begin appropriate treatment and stop maladaptive behaviors before they increase in severity. All of the policies included examples of behavioral, psychological, and physical signs and symptoms of anorexia nervosa (AN) and bulimia nervosa (BN). Most policies included examples of binge eating disorder (BED) and eating disorder not otherwise specified (EDNOS) as well. Policies differed in their presentation of signs and symptoms of eating disorders. Some policies provided extensive explanations in paragraph format for each of the eating disorders, but the majority listed signs and symptoms in bullet points. The researcher believes that both are adequate, but bulleted points that are less wordy might be more visually appealing.

A few policies also included the signs and symptoms of disordered eating in relation to performance (fatigue, dehydration, injuries, decreased endurance/strength, etc.). This kind of information would be a great addition to currently existing policies that don't yet address signs of disordered eating in relation to athletic performance. It can sometimes be difficult for coaches and athletic staff to notice certain behavioral and physical signs of disordered eating without seeing the athlete outside of the athletic environment, but coaches especially should be aware of

changes in performance. Coaches may be more likely to identify disordered eating if they notice changes in performance and are aware of the possible relation to disordered eating.

Overall, there are signs and symptoms to eating disorders that can be visible in any person, but there may be additional signs that are visible in the athletic environment. A policy should at the very least briefly acknowledge these signs and symptoms, but may choose to either expand on these signs in the policy or attach resources that explain signs and symptoms in more detail.

(F) Referral

About half (14) of the policies that were assessed included a separate section to address referral procedures. Policies included information on how athletes can self-refer, teammates and coaches can refer other student-athletes, and the appropriate steps for professionals to refer student-athletes to other health professionals. These sections made it clear that confidentiality should be maintained and the athlete should be approached in a respectful way. Only health professionals could be responsible for evaluating and diagnosing disordered eating in athletes (not coaches, teammates, third parties, etc.).

Every policy with a referral section mentioned that the physician is ultimately responsible for referral decisions and return-to-play decisions, regardless of what health professionals outside of the university are involved. Even policies without a separate referral section made it clear that the physician is ultimately responsible for referral and return-to-play decisions.

It is important to note that not every policy had a specific section for referral, but almost every policy mentioned referral at some point. Some universities included referral as part of the prevention section, others the treatment section, and others in a combined section with return-to-play. The researcher does not believe that a separate section for referral is necessary, but

information on the appropriate steps to referral, confidentiality guidelines, and who makes the ultimate medical decisions should be included somewhere in the policy. This information is really important for athletes because athletes most likely want to continue to participate in athletics, and appropriate referral will lead athletes to appropriate treatment, which ideally will help athletes achieve a state of health that will allow them to continue athletics. Without clear guidelines on referral, an athlete may risk not getting the treatment that he/she needs and therefore not reaching a better place of health.

(G) Weighing/Body Composition Policy

Universities differed in terms of whether or not they had a separate section to address weight measurements within the eating disorder policy or in a separate policy altogether. The Results show that 13 policies addressed weight, but this includes policies that addressed it both within the eating disorder policy as well as the universities whose athletic personnel sent a separate weight management policy. The researcher expects that there are some universities who also have a separate policy to address weight and body composition but that were not included in the online search or in responses from athletic personnel. Future studies might look into how many universities have a weight management policy that is separate from an eating disorder policy, and whether or not the existence of one makes it more or less likely to have the other as well.

There were some universities that responded by email that sent a weight/body composition policy thinking that it was an eating disorder policy, but as the contents of an eating disorder policy are very different from those of a weight/body composition policy, these schools were not considered to have an official policy for eating disorders in athletes (unless both separate policies were sent).

In the analysis of the weighing/body composition theme, the researcher summarized information that was provided in eating disorder policies with sections regarding weight management, as well as separate policies for weight management that universities emailed. However, the information provided in separate weight management policies were significantly more extensive than the sections in eating disorder policies. The researcher suggests that the guidelines to appropriate weight management are so extensive that a separate policy should be developed rather than attempting to include all of the information in an eating disorder policy. However, for the purpose of this study and providing an example, the researcher still included the summary of weight management sections in the Results. The researcher also included a *brief* example in the example eating disorder policy (Appendix B).

Policies that address weight management should clearly outline the conditions in which conducting weight and body composition testing is appropriate and beneficial to an athlete's health. Most policies acknowledged that frequent testing can put too much emphasis on weight, and some universities suggested that weight/body composition testing be avoided altogether (except in the case of medical physicals). All policies that talked about weight management noted that coaches should never weigh athletes and that all testing should be done by trained sports medicine personnel. If athletes or coaches have concerns about weight in relation to health and/or performance, they should seek professional help rather than take on concerns themselves. Policies also acknowledged that each athlete has a specific body type and personality, and so weight measurements should be conducted considering individual differences both in terms of body composition and the effects of weight measurements on an athlete's psychological health.

A policy may choose to briefly acknowledge the conditions and potential consequences of weight measurements in an eating disorder policy (such as in the prevention section), but the

researcher suggests that this section should be detailed enough to deserve its own separate policy.

(H) Definitions

Twelve policies included clearly identified definitions of disordered eating. Policies differed in the extent of definition explanation. For example, some policies included just the definition, while other policies included the definition as well as explanation of behaviors of that eating disorder and the physical and psychological consequences (separate from signs/symptoms section). All universities with a definitions section defined anorexia nervosa and bulimia nervosa, but most also defined binge eating disorder and eating disorder not otherwise specified. The researcher believes that at a minimum, policies should include definitions of these four eating disorders.

Some policies also included explanation of the difference between disordered eating and diagnosable eating disorders. While this information may not need to be explained exactly in a definitions section, it should be noted somewhere in the policy that an athlete does not have to have a diagnosed eating disorder to be at risk for disordered eating and serious health consequences. Policies may choose to attach resources explaining the differences between the two in more detail, but should at least acknowledge that the university takes both seriously as both can have severe impacts on an athlete's mental health, physical health, and athletic performance.

A few universities also included information on Relative Energy Deficiency (RED-S) and the Female Athlete Triad. The researcher does not consider detailed explanations of these conditions to be necessary to include in a written policy, but policies should at least provide resources of where athletes and athletic personnel can read more about RED-S and the Triad.

(I) Goals of Policy

Ten of the 31 policies assessed included a separate section to address the goals of the athletics eating disorder policy. Examples of goals of the policies include: providing a comprehensive protocol for prevention and treatment of disordered eating in athletics; provide medical, nutritional, and psychological resources; and implement an eating disorder treatment team and return-to-play guidelines. The researcher does not believe that a separate section outlining goals is required in a policy, but the purpose of the policy should be made clear somewhere in the policy (such as in the introduction section). However, a separate goals section might make it easier for athletic staff and athletes to clearly identify what the policy intends to provide. At the very least, a policy should make it clear that it is designed to support the overall health and safety of student-athletes.

(J) Return-to-Play/Athletic Participation

Of the university athletics eating disorder policies that were assessed, only nine included a separate section to address return-to-play procedures for student-athletes. The researcher expected that more universities would address this theme as it likely the ultimate goal of a university to have athletes who are healthy and capable of participating successfully in athletics. This is also a section of an eating disorder policy that can only be addressed in a policy that is specific to athletes; a policy intended for the general student body cannot be expected to address athletic participation in cases of disordered eating.

The policies that did include a separate section to address return-to-play guidelines tended to have very detailed information on the appropriate steps of referral for treatment and who ultimately makes the decision on whether or not an athlete is safe to participate in athletics. Policies made it clear that the treatment team and sports medicine physician are responsible for

overseeing all treatments an athlete will undergo. The team should be responsible for determining progress and the overall health of a student-athlete. Policies acknowledged that even in cases in which an athlete seeks professional care outside of the university, the university physician is still responsible for clearing an athlete for sport participation. Policies also detailed whether or not there is opportunity for athletes to be partially cleared, the conditions of clearance in cases such as medical leave and/or school holiday, and the conditions of treatment that continues even when an athlete returns-to-play. Whether or not a coach is informed of treatment conditions depended on the individual university, but most policies described the process of keeping information confidential within the treatment team, with the exception of the team physician informing the coach of an athlete's status of athletic participation. Finally, all policies acknowledged the conditions in which an athlete will be removed from athletic participation, which included an athlete who is not medically safe to participate, as well an athlete who does not comply with treatment requirements.

The researcher believes that a section addressing athletic participation is crucial for an athletics eating disorder policy to include. There were a number of policies that did not include a separate section but still briefly mentioned return-to-play in their treatment sections. While this is better than nothing, and while it might be okay to include return-to-play guidelines in the same section as treatment, the details and guidelines regarding safe athletic participation should be extensive and clear. Universities should be careful to not briefly summarize return-to-play guidelines if they choose to include it in conjunction with another section.

Although there may be some exceptions, it is most likely that athletes do not want to risk their ability to participate in athletics. Universities should be sensitive to this and design a procedure that looks out for both the interests and the safety of the athlete. Of all the themes that

should be included specifically in an athletics eating disorder policy, return-to-play is potentially the most important. Ultimately, universities should be concerned with the overall health and safety of their student-athletes. However, it is understandable that universities want to return athletes to participation as soon as possible. A written policy that specifically addresses safe participation of athletes with eating disorders may help guide medical professionals and athletes so that both goals of safety and participation can be achieved.

(K) Screening for Disordered Eating in Athletes

Seven universities included detailed information regarding screening of athletes for disordered eating behaviors within the eating disorder policy. However, there were a few university policies that did not include a separate screening section but still mentioned screening somewhere else in their policy (most commonly the prevention section). There were also a number of universities for which screening paperwork was found either in the online search or provided through email responses. Although this was not researched in this study, it is possible that most universities do in fact screen for eating disorders, at least in incoming first-year student-athletes.

Information that policies provided on screening included who conducts the screening (most often the physician), what the screening includes (assessment of physical, psychological, and emotional history), and current assessments of physical body composition and mental stability. The universities differed in how often they screen. Some universities screen only incoming student-athletes, others screen every athlete at the beginning of the academic year, and some routinely screen athletes throughout the year who have been identified as “at-risk.” The researcher believes that information regarding university procedures for screening athletes with eating disorders should be included somewhere in the policy (such as in the prevention section),

but that screening might not require its own separate section. Information on screening might also be included in a separate weight management and body composition policy.

(L) Confidentiality

Six policies included a separate section that addressed confidentiality in relation to managing cases of disordered eating in athletes. These policies provided guidelines in regards to who is able to discuss medical information of a student-athlete (usually limited to the treatment team), and how athletes can give consent to share medical information to coaches, parents, and other outside parties. Some policies mentioned a contract that athletes would have to agree to before undergoing treatment and being cleared to participate in athletics. This contract would outline who is involved in an athlete's treatment and able to see medical documents, the information that will be shared with coaches, parents, etc., and conditions of treatment and noncompliance. Athletes may choose to not sign a contract or share their medical information, but athletes might then be at risk for athletic participation.

While most university policies did not include a separate section to address confidentiality, most universities still mentioned confidentiality throughout the policy. For example, a university may have mentioned confidentiality in the referral, treatment, and/or return-to-play sections without providing a separate section. The researcher believes this is fine so long as universities are clear in regards to who has access to an athlete's medical information, as well as the say that an athlete has in terms of sharing their medical information.

(M) Treatment Procedure/Flow Chart

Five university policies included a flow chart or treatment procedure separate from a written treatment section that outlined the steps of referral, treatment, and (usually) return-to-play. The researcher found these to be good additions to policies because they provided a clear

visual of the steps that are taken after an athlete is identified as engaging in disordered eating. However, some university email responses provided only a flow chart, which is not detailed enough to be considered a full policy, and likely not detailed enough to even take the place of a written treatment section. The researcher found these flow charts to be a clear resource that can be added to a policy, but information should be provided somewhere in a written policy that provides more detailed information. An example of the difference would be a written policy that describes the referral process in depth, whereas a flow chart simply states “athlete is referred to physician.” Policies do not have to include a flow chart, but one might be a beneficial addition for the purpose of providing a visual to support detailed policy guidelines.

(N) Medical Consequences of Disordered Eating

Only four policies included a separate section to address the medical consequences of disordered eating. However, many policies with introduction sections briefly discussed medical consequences. Whether or not a university chooses to include a separate section for medical consequences or chooses to introduce them in an introduction section depends on the university’s needs and structure of the overall policy. Both options may be acceptable, so long as it is clearly stated in the policy that disordered eating often results in serious medical consequences that put the overall safety of a student-athletes at risk. Universities may choose to introduce this reality and provide a few examples of medical consequences in a policy introduction, but instead of going into a detailed explanation of medical consequences, a policy might provide references that give in depth explanations. Athletic staff and athletes can choose to refer to those resources if they are interested.

Of the policies that did include a medical consequences section, these policies included descriptions of the physical and psychological consequences of disordered eating. A couple

policies even included detailed descriptions of the consequences that relate to athletic performance. It would be ideal if athletes and coaches took the overall health of an athlete seriously, but it may be more realistic that some athletes or coaches are primarily interested in how disordered eating influences athletic success. Including information on the consequences of disordered eating in relation to performance might help athletes and athletic staff take disordered eating more seriously. Policies might also acknowledge that disordered eating can lead to one or more medical consequences, but any negative effect on an athlete's health should be taken seriously regardless of the perceived severity.

(O) Approaching Athletes with Disordered Eating

The researcher believes it is important for athletics policies to address the appropriate methods of approaching athletes with disordered eating. However, only four policies that were assessed included a separate section to address this. Some universities mentioned approaching athletes in a respectful way at some point within their policy, but the majority of policies did not address approaching athletes at all. The researcher suggests that currently existing policies be updated and policies to be developed in the future to include this section.

Since disordered eating is a very sensitive and personal issue, policies should address the manner in which athletes should be approached. The four policies with this section talked about having the person with the best rapport with the athlete approach the athlete. This person should be respectful, clear with their concerns, avoid simple answers to their concerns, and let the athlete know that they are there for support, not judgement. Athletes should not be made to feel that their place on their athletic team is threatened if they admit to struggling with disordered eating. Athletes with disordered eating should be encouraged to seek professional help, but current policies do not recommend that coaches or teammates pressure the athlete. If an athlete

denies another's concern, that person might consult with an athletic trainer or physician and let the professional take appropriate action from there.

The researcher does not believe that policies need to include lengthy sections addressing how to approach an athlete with disordered eating. However, at the risk of an athlete not receiving help because someone else is too afraid or confused on how to initiate a conversation, a policy should include examples of how someone with concerns might approach an athlete with disordered eating. This is another section of a policy that is specific to athletes with eating disorders and would not have a place in a general policy intended for the entire university student body.

(P) Causes/Risk Factors for Athletes

Only three university policies included a section that was specific to the risk factors of disordered eating in athletic populations. There were some policies that introduced risk factors in their introduction section, which may be sufficient so long as resources for more detailed information is referenced; however, there were a number of policies that did not address risk factors at all. This is concerning because in order to realistically prevent disordered eating, universities need to acknowledge the potential causes and risks that exist in athletic environments. Without this acknowledgement, athletic staff and athletes might not know where prevention is being directed. This is another section that is unique to athletics eating disorder policies and cannot be addressed in a general student-body policy.

Policies that addressed risk factors included examples of specific sports that place athletes at a higher risk for the development of disordered eating (such as endurance, weight-category, individual, and appearance-related sports). The policies also acknowledged that environments and/or athletic staff that encourage win-at-all-costs mentalities can put pressure on

athletes to do everything in their power to succeed, regardless of the implications on their health. Finally, policies recognized that coaches, athletic staff, and teammates who frequently comment on weight in relation to performance (and weight in general) may put athletes at higher risk of being self-conscious of their own body composition, and therefore risk for disordered eating. Some policies also recognized either in this section or elsewhere, that there are general risk factors (biological, environmental, sociocultural) that athletes are also exposed to.

It is important for policies to recognize risk factors in the athletic environment so that athletic staff and athletes can be more aware of things that influence maladaptive behaviors. Acknowledging risk factors (such as high-risk sports) can also clarify where prevention strategies need to be most seriously implemented.

Development of Example Athletics Eating Disorder Policy

An example of a standard policy that could potentially be adopted by universities without a policy is provided in the appendix section (See Appendix B). This example policy combines information from what the researcher believes to be the best athletics eating disorder policies that currently exist. Material was taken either verbatim or with some editorial modification from the schools listed in each section (Appendix B). Some information was also taken from The American Psychiatric Association (2013), Bonci et al. (2008), Brown (2014), Hill et al. (2012), Levine and Smolak (2006), and Thompson and Sherman (2010).

The example policy outlines what the researcher found to be the most comprehensive and beneficial information from all of the policies analyzed. It should be noted, however, that this example policy is very detailed and lengthy, and a university does not need to include all of this information to have a well-designed policy. At a minimum, a university should recognize the threat of disordered eating to an athlete's health and outline the appropriate steps to prevent and

treat disordered eating. The example is purely to provide an example, but it is okay for a university to reference other documents (such as for risk factors, medical consequences, or weighing guidelines) rather than include everything in one policy. The researcher recognizes that it's possible that too much detail can take away from the purpose of the policy, which should be to provide clear guidelines for managing cases of disordered eating in athletes. Universities may reference the example policy and adopt sections that they find most beneficial to their athletics departments.

The example policy is organized in a similar way to currently existing policies. For example, the policy begins with a Health and Safety Introduction, followed by Goals, Definitions, etc. It is not in order of what themes were most prevalent in currently existing policies (as themes are presented in the Results section). Not all of the patterns in the major themes that are listed in the Results section will exist under the same theme of the example policy, but all recurring patterns are addressed at some point throughout the example policy in what the researcher deemed as the most appropriate sections. The Results section took note of which themes contained which patterns, but for the purpose of avoiding too-much repetition, the example policy attached in the appendix will attempt to address each pattern only once in the most appropriate section. For example, screening is only mentioned in the Prevention section of the example policy; screening is not given its own separate section. Additionally, referral is referenced in the above analysis as a pattern under the theme for Treatment/Intervention, but in the example policy, referral is addressed in detail in its own section rather than in the Treatment section.

The researcher also included an example flow chart in Appendix C. The researcher did not directly reference any specific university when developing this flow chart, although there are

a few universities that currently have a flow chart. The researcher instead developed the chart to clearly summarize the typical steps of referral, treatment, and return-to-play. The chart does not provide detailed information that would be more appropriate in a written policy treatment section, but it may still be beneficial for universities or students who would like to look at a clear and concise step-by-step procedure.

Universities may choose to develop separate policies for managing body weight and body composition. Many schools that had an official policy for athletes with eating disorders also had a separate policy addressing weighing athletes and conducting body composition measurements. Furthermore, there were a number of universities who did not have policies for eating disorders but did have policies specifically addressing weight and body composition measurements. Although it is ideal to have a policy specific to eating disorders, it is still a good starting point for a university to at least have a body weight/composition policy. The above analysis provides the major patterns that were provided in both eating disorder policies that acknowledged body weight measurements in a separate section, as well as the major points provided in full body weight/composition policies that were attached in addition to eating disorder policies. A summary of this is included in the example policy, but the researcher recommends that a university develop a separate policy for body weight/composition testing as guidelines for appropriately managing weight concerns in relation to performance may be too extensive to include directly in an eating disorder policy.

The example policy may serve as a good starting point for discussion for the 95 universities that do not currently have an official policy to address athletes with eating disorders. The policy may also serve as a good reference for the 33 universities who currently have a policy but may consider updating or revising certain sections.

Analysis of Demographic Data

This study compared schools that have a policy specific to athletes with eating disorders and schools without a policy on the following university demographic variables: size of the undergraduate student body; number of athletes; athletic revenue; athletic expenditure; male and female performance in the Capital One Cup; and whether or not the university is a private or public institution. Data on whether or not a school is a private or public institution and the size of the undergraduate student body were found in the *Profiles of American Colleges 2017* (Barron, 2016). Data on the number of student athletes (male, female, and total) were found on the Equity in Athletics Data Analysis website (U.S. Department of Education, 2016). Demographic data for the institution (whether or not it's a private or public institution), the size of the undergraduate student body, and the number of athletes are displayed in Table 8.

Data on athletic revenue and athletic expenditure were found in USA Today's report on *2014-2015 NCAA Finances* (Berkowitz et al., 2015). Success in the Capital One Cup in terms of male and female Cup standing and Cup points was found in the Complete Standings offered on the Capital One webpage (CapitalOneCup, 2016). The Capital One Cup Complete Standings can be seen in Appendix A. Data for athletic revenue, athletic expenditure, and success in the Capital One Cup are displayed in Table 9.

Separate samples t-tests were run to identify the relationship between demographic data and the existence of an athletic eating disorders policy. T-tests were conducted for the size of the undergraduate student body, the athletic revenue, the athletic expenditure, the number of student athletes, and performance in the Capital One Cup. The t-tests with 95% confidence intervals were used to calculate statistically significant differences among these demographic variables between the FBS universities that do have a policy (33), and the FBS universities that do not

TABLE 8: FBS University Demographic Data: Institution, Size of Undergraduate Student Body, Number of Total Athletes, Number of Male Athletes, and Number of Female Athletes

FBS University	Private/Public Institution	Undergraduate Student Body	Total Athletes	Male Athletes	Female Athletes
US Air Force Academy	Public	4,470	746	562	184
Akron	Public	15,175	432	258	174
Alabama	Public	23,945	632	293	339
Appalachian State	Public	14,837	462	279	183
Arizona	Public	29,804	480	282	198
Arizona State	Public	41,828	520	293	227
Arkansas	Public	18,565	490	252	238
Arkansas State	Public	4,348	928	704	224
US Military Academy	FSA	4,348	928	704	224
Auburn	Public	19,738	487	254	233
Ball State	Public	15,597	443	236	207
Baylor	Private	13,946	549	229	320
Boise State	Public	12,034	391	205	186
Boston College	Private	9,192	716	336	380
Bowling Green	Public	13,214	410	227	183
Buffalo	Public	18,452	521	286	235
Brigham Young	Private	27,339	629	345	284
California, Berkeley	Public	26,320	931	538	393
California State	Public	17,150	445	212	233
California, Las Angeles	Public	25,434	2010	107	103
Central Florida	Public	37,596	463	226	237
Central Michigan	Public	19,411	465	262	203
North Carolina Charlotte	Public	18,983	397	256	141
Cincinnati	Public	20,788	465	278	187
Clemson	Public	14,834	465	261	204
Colorado, Boulder	Public	24,808	340	184	156
Colorado State	Public	20,888	280	201	79
Connecticut	Public	17,677	659	325	334
Duke	Private	6,250	713	403	310

TABLE 8, continued

Eastern Michigan	Public	13,071	682	386	296
East Carolina	Public	18,317	460	259	201
Florida International	Public	24,001	390	202	188
Florida	Public	4,136	512	285	227
Florida Atlantic	Public	15,593	424	247	177
Florida State	Public	29,211	505	279	226
Georgia	Public	25,806	552	260	292
Georgia Southern	Public	15,872	393	240	153
Georgia State	Public	18,964	388	237	151
Georgia Tech	Public	13,668	442	291	151
Hawaii	Public	11,638	492	249	243
Houston	Public	23,973	398	239	159
Idaho	Public	7,400	305	172	133
Illinois, Urbana-Champaign	Public	31,516	456	274	182
Indiana, Bloomington	Public	31,728	698	371	327
Iowa	Public	19,972	638	327	311
Iowa State	Public	35,991	406	225	181
Kansas	Public	17,191	435	211	224
Kansas State	Public	17,935	494	237	257
Kent State	Public	20,660	374	187	187
Kentucky	Public	19,178	516	324	192
Louisiana State	Public	22,811	448	253	195
Louisiana Tech	Public	10,464	320	191	129
Louisiana, Lafayette	Public	1,200	414	257	157
Louisiana, Monroe	Public	4,894	323	191	132
Louisville	Public	12,412	624	306	318
Marshall	Public	8,272	360	201	159
Maryland, College Park	Public	25,027	511	301	210
Massachusetts, Amherst	Public	21,098	624	337	287
Memphis	Public	12,323	390	252	138
Miami, Florida	Private	10,291	402	209	193
Miami, Ohio	Public	16,023	515	275	240

TABLE 8, continued

Michigan	Public	26,497	867	455	412
Michigan State	Public	34,714	735	374	361
Middle Tennessee State	Public	18,912	369	245	124
Minnesota	Public	29,168	750	388	362
Mississippi	Public	17,365	392	237	154
Mississippi State	Public	15,004	359	219	140
Missouri	Public	25,178	572	357	215
US Naval Academy	FSA	4,525	1,094	765	329
Nebraska, Lincoln	Public	18,817	596	356	240
Nevada, Reno	Public	14,950	371	188	183
Nevada, Las Vegas	Public	17,340	406	230	176
New Mexico	Public	16,340	486	283	203
New Mexico State	Public	10,668	404	206	198
North Carolina Chapel Hill	Public	17,645	771	418	353
North Carolina State	Public	21,821	514	329	185
North Texas	Public	22,467	422	162	160
Northern Illinois	Public	16,352	410	242	168
Northwestern	Private	8,278	487	237	250
Notre Dame	Private	8,450	710	413	297
Ohio	Public	17,392	401	232	169
Ohio State	Public	41,116	1,050	576	474
Oklahoma	Public	18,123	591	288	303
Oklahoma State	Public	18,074	496	292	204
Old Dominion	Public	15,358	527	295	232
Oregon	Public	18,630	474	245	229
Oregon State	Public	18,493	499	275	224
Pennsylvania State	Public	39,294	827	458	369
Pittsburgh	Public	17,887	511	282	229
Purdue	Public	28,213	533	304	229
Rice	Private	3,910	365	226	139
Rutgers	Public	33,392	615	317	298

TABLE 8, continued

San Diego State	Public	25,088	546	236	310
San Jose State	Public	26,822	433	202	231
South Alabama	Public	8,708	375	243	132
South Carolina	Public	21,646	559	272	287
South Florida	Public	24,050	472	265	207
Southern California	Private	18,208	577	308	269
Southern Methodist	Private	6,160	444	221	223
Southern Mississippi	Public	11,393	339	204	135
Stanford	Private	7,019	829	444	385
Syracuse	Private	14,566	605	308	297
Texas Christian	Private	8,586	456	256	200
Temple	Public	24,916	508	264	244
Tennessee	Public	20,178	539	277	262
Texas, Austin	Public	37,083	563	301	262
Texas A&M	Public	43,532	577	310	267
Texas State	Public	27,369	373	217	156
Texas Tech	Public	21,061	423	259	164
Texas, El Paso	Public	20,033	304	167	137
Texas, San Antonio	Public	13,538	368	235	133
Toledo	Public	13,536	381	185	196
Troy	Public	8,951	432	284	148
Tulane	Private	6,752	328	186	142
Tulsa	Private	3,359	423	220	203
Utah	Public	16,787	417	238	179
Utah State	Public	17,091	506	258	248
Vanderbilt	Private	6,822	346	186	160
Virginia	Public	15,816	767	413	354
Virginia Tech	Public	23,653	574	374	200
Wake Forest	Private	4,803	387	255	132
Washington	Public	24,209	632	334	298
Washington State	Public	21,384	513	258	255
West Virginia	Public	20,532	504	299	205
Western Kentucky	Public	17,459	434	263	171
Western Michigan	Public	15,416	357	207	150

TABLE 8, continued

Wisconsin, Madison	Public	28,569	780	396	384
Wyoming	Public	8,272	454	257	197

FSA: Federal Service Academy

have a policy (95). In addition to the schools that were confirmed to not have a policy through athletic personnel email responses, this study also considered the schools who did not provide an email response to be counted as schools without a policy. Therefore, for the analysis of the demographic data, the schools that are known to not have a policy (30) were grouped with the schools who did not provide an email response (65). The mean, standard deviation, and p-value results of these t-tests are shown in Table 10.

P-values that are greater than .05 indicate that the results are due to random chance. P-values that are less than .05 indicate that results are not due to random chance and that there is a significant relationship between the two data sets. The researcher can say with 95% confidence that results are significant for p-values less than .05, and 99% confidence for p-values less than .01.

From the results of this study, there does not appear to be a significant difference ($p = .267$) between the size of the undergraduate student body between schools with a policy ($M(SD) = 19,817.7(8,923.3)$) and schools without a policy ($M(SD) = 17,835(2,688)$). It is therefore expected that size of an undergraduate student body does not have a strong relationship to the existence of an eating disorder policy specific to athletes. Furthermore, the t-tests conducted for the number of student athletes also reported nonsignificant results. The total number of athletes between schools with policies ($M(SD) = 539.9(148.7)$) and schools without policies ($M(SD) = 497(156)$) produced a p-value above .05 ($p = .171$). The number of male athletes at schools with

TABLE 9: FBS University Demographic Data: Athletic Revenue, Athletic Expenditure, and Performance in the Capital One Cup

FBS University	Athletic Revenue (\$)	Athletic Expenditure (\$)	Men's Cup Standing	Men Cup Points	Female's Cup Standing	Female's Cup Points
US Air Force Academy	50,191,669	43,481,337	81	5	63	4
Akron	31,771,467	34,070,009	21	30		
Alabama	148,911,674	132,354,913	7	65	28	25
Appalachian State	29,695,016	30,648,792				
Arizona	87,135,331	80,706,045	18	36	54	7
Arizona State	84,440,040	83,873,516	95	2	56	6
Arkansas	114,172,847	97,106,539	25	29	26	34
Arkansas State	29,211,785	29,211,785			45	10
US Military Academy	41,202,176	37,210,925				
Auburn	124,657,247	115,498,047	99	1	22	38
Ball State	22,800,600	25,495,662				
Baylor	106,078,643	106,078,643			29	24
Boise State	43,858,018	44,227,893				
Boston College	27,232,643	21,853,965	52	11	39	17
Bowling Green	21,824,966	21,823,070				
Buffalo	32,181,552	31,909,540				
Brigham Young	59,032,406	54,418,408	49	12		
California, Berkeley	85,539,904	94,016,545	28	27	14	51
California State	39,073,736	41,535,096				
California, Las Angeles	96,912,767	96,912,969	16	42	21	42
Central Florida	51,455,603	47,647,475				
Central Michigan	27,862,443	28,491,818				
North Carolina Charlotte	33,124,557	28,573,920				
Cincinnati	52,536,185	51,717,370				

TABLE 9, continued

Clemson	83,534,371	82,855,674	5	72		
Colorado Boulder	67,852,236	65,273,311	40	18	38	18
Colorado State	38,451,203	38,781,340				
Connecticut	72,155,789	72,062,423			8	69
Duke	91,688,202	91,174,723	99	1	13	55
Eastern Michigan	33,956,233	33,956,234				
East Carolina	48,918,305	49,352,531				
Florida International	28,613,452	30,483,759				
Florida	147,105,242	125,384,443	12	53	11	65
Florida Atlantic	30,919,633	29,794,361				
Florida State	120,822,522	111,386,681			10	66
Georgia	116,151,279	96,559,307	56	10	12	61
Georgia Southern	21,144,354	20,172,581				
Georgia State	28,982,441	27,586,906			63	4
Georgia Tech	77,202,758	74,979,077				
Hawaii	43,116,142	47,061,787	89	3	29	24
Houston	44,815,210	45,437,942	56	10		
Idaho	19,950,964	19,248,132				
Illinois, Urbana- Champaign	85,998,659	87,163,188	36	20		
Indiana, Bloomington	88,362,421	88,330,530	63	8	63	4
Iowa	105,969,545	109,214,651	48	13		
Iowa State	75,283,516	75,209,309				
Kansas	91,860,673	92,207,877	21	30	29	24
Kansas State	75,323,278	67,316,209			54	7
Kent State	25,908,848	26,291,980				
Kentucky	116,494,690	115,159,039	89	3		
Louisiana State	138,642,237	121,947,775	36	20	19	48
Louisiana Tech	22,209,912	21,849,418				
Louisiana, Lafayette	23,460,508	23,034,683				
Louisiana Monroe	12,953,419	12,801,041				

TABLE 9, continued

Louisville	104,325,207	101,624,437	68	7	70	3
Marshall	27,069,138	27,397,209				
Maryland, College Park	92,686,128	92,558,535	14	48	20	43
Massachusetts, Amherst	36,512,437	36,897,375				
Memphis	43,430,404	43,287,138	99	1	84	1
Miami, Florida	77,724,833	76,495,820	40	18	84	1
Miami, Ohio	33,119,460	32,756,388				
Michigan	152,477,026	151,144,964	52	11	22	38
Michigan State	108,687,274	108,283,151	28	27		
Middle Tennessee State	31,671,166	31,671,166				
Minnesota	111,162,265	111,162,265	77	5	17	50
Mississippi	87,602,519	82,399,898	69	6		
Mississippi State	75,400,407	69,493,395	95	2		
Missouri	91,217,778	86,859,158	63	8		
US Naval Academy	38,600,000	35,000,000	69	6		
Nebraska, Lincoln	102,157,399	98,023,037	63	8	7	77
Nevada, Reno	26,954,582	27,013,975				
Nevada, Las Vegas	45,015,536	44,935,234				
New Mexico	42,353,920	42,180,916	94	2.5	34	22.5
New Mexico State	26,986,841	26,874,116				
North Carolina Chapel Hill	89,128,256	89,080,843	2	108	4	80
North Carolina State	76,834,603	73,074,396	62	8.5	48	8.5
North Texas	31,312,298	31,268,741				
Northern Illinois	27,634,930	27,276,559				
Northwestern	70,028,074	70,028,074			76	2
Notre Dame	121,260,381	100,035,458	34	21	24	36
Ohio	28,709,413	27,110,443				
Ohio State	167,166,065	154,033,208	3	80	27	28
Oklahoma	134,269,349	123,017,251	4	73	4	80

TABLE 9, continued

Oklahoma State	95,931,739	93,144,396	18	36	49	8
Old Dominion	43,994,715	42,780,118				
Oregon	105,701,523	103,880,557	6	71	14	51
Oregon State	64,876,006	72,557,984			24	36
Pennsylvania State	125,720,619	122,271,407	27	28.5	3	83.5
Pittsburgh	70,527,488	70,527,488				
Purdue	75,637,694	74,420,334				
Rice	37,693,040	37,693,040				
Rutgers	70,558,935	70,558,935			29	24
San Diego State	49,011,745	53,607,909				
San Jose State	28,589,341	28,479,255				
South Alabama	28,101,936	25,123,468				
South Carolina	113,172,545	107,430,044	69	6	29	24
South Florida	45,479,012	46,860,830				
Southern California	105,919,366	105,919,366	32	22	1	96
Southern Methodist	55,349,010	55,349,010				
Southern Mississippi	23,972,589	24,546,909				
Stanford	109,670,730	109,668,805	1	126	2	90
Syracuse	87,175,761	67,291,194	11	59	4	80
Texas Christian	80,608,562	80,608,562	13	52	42	12
Temple	38,973,885	38,973,885				
Tennessee	126,584,033	113,413,325	39	19	63	4
Texas, Austin	183,521,028	173,248,133	17	38	9	67
Texas A&M	192,608,876	109,313,651	43	17	36	20
Texas State	34,508,786	33,908,581				
Texas Tech	79,979,481	76,525,961	44	15		
Texas El Paso	29,836,835	29,395,257				
Texas San Antonio	26,807,547	26,177,864				
Toledo	26,503,340	29,902,989				
Troy	27,056,669	27,056,669				
Tulane	41,004,900	41,004,900				
Tulsa	40,329,852	40,329,852				
Utah	62,441,552	58,734,014	77	5	58	5
Utah State	30,333,172	28,287,417				

TABLE 9, continued

Vanderbilt	70,661,736	68,615,451	69	6	42	12
Virginia	91,256,772	91,345,925	15	45	17	50
Virginia Tech	91,256,772	91,345,925	52	11		
Wake Forest	80,230,095	77,679,721	34	21	70	3
Washington	103,540,117	104,403,253	63	8	14	51
Washington State	54,112,604	67,386,939				
West Virginia	90,523,565	87,265,473	56	10	35	22
Western Kentucky	30,212,548	30,212,548				
Western Michigan	34,698,711	33,255,611				
Wisconsin, Madison	123,895,543	118,691,112			41	15
Wyoming	35,260,511	33,364,169				

If left blank, that school did not rank or accumulate points in the Capital One Cup (Appendix A)

TABLE 10: T-Tests Comparing Demographic Means of Policy and No Policy Schools

Characteristic	Policy Mean(SD)	NP/NA Mean(SD)	<i>p-value</i>
<i>Size of Undergraduate Student Body</i>	19,817.7(8,923.3)	17,835(2,688)	.267
<i>Athletic Revenue</i>	87,058,759.4(44,288,628.7)*	61,169,908(35,435,170)*	.001
<i>Athletic Expenditure</i>	81,387,391.9(35,846,899.9)*	59,354,723(33,601,579)*	.002
<i>Number of Student Athletes</i>	539.9(148.7) (T) 300.6(85.7) (M) 233.3(79) (F)	497(156) (T) 278(99.6) (M) 218(75.5) (F)	.171 .241 .334
<i>Success in Capital One Cup</i>	37.6(25.7) (MS) 31.1(30.1) (MP) 22.9(19.3) (FS) 46.2(28.7) (FP)	49(30.5) (MS) 23(25.1) (MP) 37(22.6) (FS) 28(24.9) (FP)	.153 .263 .029 .018

SD: Standard Deviation

NP: No Policy Schools; NA: No Answer Schools

T: Total; M: Male; F: Female

MS: Male Standings; MP: Male Points; FS: Female Standing; FP: Female Points

Means were significantly different at $p < .05$.

**Means were significantly different at $p < .01$ levels.*

policies ($M(SD) = 300.6(85.7)$) compared to schools without policies ($M(SD) = 278(99.6)$) also produced a p-value above .05 ($p = .241$). Finally, the number of female athletes at schools with policies ($M(SD) = 233.3(79)$) compared to schools without policies ($M(SD) = 218(75.5)$) produced a p-value above .05 ($p = .334$). Therefore, number of total student-athletes, male student-athletes, or female student-athletes does not appear to relate to whether or not a university has a policy for athletes with eating disorders.

According to the results of the t-tests, there is a significant difference in athletic revenue between schools with policies ($M(SD) = 87,058,759.4(44,288,628.7)$) and schools without policies ($M(SD) = 61,169,908(35,435,170)$) ($p = .001$). There is also a significant difference in the athletic expenditure between schools with policies ($M(SD) = 81,387,391.9(35,846,899.9)$) and schools without policies ($M(SD) = 59,354,723(33,601,579)$) ($p = .002$). According to the results of this study, there is a relationship between the existence of athletics eating disorder policies and high athletic revenues and expenditures.

The results are mixed in regards to performance in The Capital One Cup and existence of an athletics eating disorder policy. There does not appear to be a significant difference between the male standings of schools with a policy ($M(SD) = 37.6(25.7)$) compared to schools without a policy ($M(SD) = 49(30.5)$) ($p = .153$). However, there is a significant difference between the female standings of schools with a policy ($M(SD) = 22.9(19.3)$) compared to schools without a policy ($M(SD) = 37(22.6)$) ($p = .029$). Similarly, there does not appear to be a significant difference between the male points awarded to universities with a policy ($M(SD) = 31.1(30.1)$) compared to the points awarded to the universities without a policy ($M(SD) = 23(25.1)$) ($p = .263$); but, there is a significant difference between the female points awarded to universities

with a policy ($M(SD) = 46.2(28.7)$) compared to those awarded to universities without a policy ($M(SD) = 28(24.9)$) ($p = .018$).

The researcher then compared the number of universities that had a policy to those without a policy in terms of whether or not the institution is private or public (federal service academies were considered public universities). Of all FBS universities, 17/128 are private institutions (13.3%). Of the universities that do have a policy, 5/33 are private institutions (15.2%). Finally, of the universities without a policy (including schools that did not reply to the email), 12/95 are private institutions (12.6%). It appears that there is a slightly higher likelihood that a university with a policy is a private institution compared to universities without a policy; however, the difference in percentage of private institutions between policy schools and no policy schools is not large. The researcher cannot not confidently assume that there is a significant relationship between the existence of an athletics eating disorder policy and universities that are private institutions.

The researcher further assessed that 65/128 FBS universities (50.8%) belong to one of the Power Five Conferences. Power Five Conferences include the Atlantic Coast Conference (ACC), Big 12 Conference, Big Ten Conference, Pac-12 Conference, and Southeastern Conference (SEC) (Bennet, 2014). Of the schools with a policy specific to athletes with eating disorders, 23/33 are Power Five schools (70%). Finally, of the policies that were found online, 11/13 belong to universities that are part of the Power Five (84.6%). Power Five universities tend to be the most athletically competitive and financially enriched universities in NCAA athletics (Bennet, 2014). It may be that universities with more resources are at an advantage in terms of using those resources to develop support for student-athletes. It is possible that universities such as those in The Power Five are able to fund more sports medicine personnel to develop and carry

out mental health resources than universities who are not in The Power Five or otherwise financially advantaged. More research might examine this.

Discussion of Research Questions

The purpose of this study was to determine how many NCAA Division I universities currently have a policy specific to athletes with eating disorders, analyze existing policies for common themes, and determine any relationships between existing policies and demographic data. The study pursued these objectives through the following research questions:

1. How many FBS universities have official policies for the recognition and treatment of disordered eating in athletes?
2. How easily accessible are policies that currently exist?
3. What are the common themes that exist between current policies?
4. What is the relationship of having a policy specific to athletes with eating disorders and the size of the school, the athletic revenue, the athletic expenditure, the number of athletes, and whether or not the school is a private or public institution?
5. What is the relationship between schools that have an official policy and performance in the Capital One Cup?

The first research question was answered through the researcher's online search for policies and emails sent to University Athletic Directors, Senior Women Administrators, and Head Athletic Trainers. The researcher found a total of 33 university athletics eating disorder policies. These policies are written documents that contain multiple sections (major themes) regarding the management of disordered eating in collegiate athletes. The majority of the written documents contain multiple pages of information, but the range in length and format of policies varied.

Of all the FBS Division I universities, only 26% (33/128) are known to currently have a policy that is specific to athletes with eating disorders. In terms of risk management, universities have legal responsibilities to limit their liabilities that relate to athletic injury (Bickford, 1999). Eating disorders and disordered eating are forms of athletic injury, as is stated in multiple existing athletics policies. The steps that universities without a policy are taking in regards to prevention and management of eating disorders (and potentially other physical and mental health conditions) in athletes remains questionable. This study found that at least a quarter of FBS universities are taking obvious steps to address the serious issue of disordered eating in athletic environments through the existence of an athletics eating disorder policy. However, the researcher believes that 33 policies out of 128 universities is too small of a number. If universities have a legal and ethical responsibility to protect the safety and wellbeing of their athletes, they should take appropriate steps to address situations that threaten athlete safety and overall health. The researcher believes that a policy specific to athletes with eating disorders is such a step that can be made to thoroughly address prevention and management of disordered eating in athletic environments.

The response of universities who do not currently have a policy (30/50 responses) indicate that many universities have taken some steps towards addressing this issue. However, these steps are limited in one way or another, such as a university having a treatment team, but not having anything officially documented to detail the treatment team members' individual responsibilities or their process of referral. Other universities acknowledge on their athletics webpage or in their athletics handbook that disordered eating in athletes is prevalent and dangerous. However, this information is limited to acknowledgement; Information regarding prevention and support for those who need help is not addressed. While the researcher

recognizes that any form of acknowledgement is better than no acknowledgement, there is still a lot of important information that is missing and could be provided in a full policy.

Furthermore, for universities who have a “system in place” (as was indicated by some of the 30/50 no policy school responses), this system/procedure is not currently documented, and so it is difficult to say with certainty that prevention and management of disordered eating at these universities is provided in an appropriate, professional, and consistent manner. The researcher believes that having a thorough and physically documented policy would both provide important information necessary for prevention and management of eating disorders, as well as make it more likely that prevention and management is actually conducted consistently and appropriately. Lacking a written document makes it too easy for universities to not follow through with prevention and proper management. It also makes it easy for university health professionals to inconsistently manage cases of disordered eating. With nothing in writing, health professionals might not have a standard procedure to ensure that each athlete receives the same opportunities for support (although not necessarily the same treatments; this should be determined based on individual needs).

Of the 33 currently existing policies, 13 were found online. This result helps to answer the second question regarding the accessibility of athletics eating disorder policies. Of the currently existing policies, less than half (40%) could be found through the researcher’s individual web-search. According to the results of this study, only 10% of all 128 FBS universities have a policy that exists and can be found online. This result implies that athletes, prospective athletes, or other third parties interested in their university’s position on and the management of disordered eating in athletic environments may struggle to find such information through their own individual search. Interested parties may have to resort to contacting athletic

department personnel for the university's policy. Although this is an option, interested individuals may wish to first access a policy privately. This is discussed further in the General Discussion section.

Of the policies that were found online, only four policies were found through searching on the university home website (3% of all FBS universities), and only four policies were found through searching on the university athletic website (3% of all FBS universities). One university policy (Texas A&M University) was found on both the university home and athletic websites. This means that only seven universities (5.5% of FBS universities) had policies that could be found through a university-affiliated website. All 13 policies were found through a general Google search, but six university policies could only be found in a general Google search (not affiliated with a university website). According to this online search, it does not appear that FBS university policies specific to athletes with eating disorders are easily accessible on university websites, and are only slightly more accessible through a general Google search. It would be ideal if universities had policies specific to athletes with eating disorders that are easily accessible to interested parties. Policies found through university websites could help make accessibility more realistic.

Finally, of the 115 universities that did not produce a result through the online search, only 50 replied to the researcher's email response. This means that 65 universities (just over half of all FBS universities) did not respond, and so the status of whether or not they have a policy is technically unknown. If policies for any of these 65 schools exist, they are not considered to be easily accessible as the researcher could not find them through the online search. For the purpose of data analysis in this study, the 65 universities who did not respond to the researcher's email were considered to not have a policy. It is possible that some of these 65 schools do have a full

policy that is specific to athletes with eating disorders, but the researcher does not expect that this is the case. The researcher believes that if any of these 65 universities have a policy, the total number of universities with a policy is very small. The researcher believes this because if a university had an official policy specific to athletes with eating disorders, it is likely that the athletic personnel would be proud to respond that a policy exists (even if he/she does not share the contents of the physical policy). It is possible that the original email sent by the researcher did not reach its intended destination, and therefore the university could not contribute to the results of the study. The researcher attempted to avoid this by sending an email to three athletic department personnel (so long as all three had contact information listed on the athletics webpage).

The third research question asked about the content of currently existing policies. Although the length and structure of existing policies differed, all policies contained similar information. Some policies presented the information in clearly identified sections, while others presented it through more of an article/paper format. Regardless of the structure of the policy, the researcher was able to determine the most relevant themes of each policy. The researcher then identified 16 major themes that were present consistently throughout the entire policies that were analyzed. An in depth discussion of these themes is presented in the Qualitative Analysis of Existing Policies section, and even more specifically in the Discussion of Each Theme and Recurring Patterns section. The researcher also developed an example policy (Appendix B), which can be referred to for an idea of the major themes, patterns, and general information that were consistently presented in the 31 analyzed policies. The researcher also developed an example treatment flow chart (Appendix C) that can be used as a visual guide to the typical steps of referral, treatment, and return-to-play. Universities that do not currently have a policy on

athletes with eating disorders may choose to refer to these examples to develop their own policies. Universities that already have a policy might also consider reviewing the example policy to note any section that theirs is currently missing and might benefit from adding.

The researcher found the 16 major themes to be comprehensive in terms of prevention and management of disordered eating. The only section that was not a recurring theme throughout existing policies but might have a place in an athletics eating disorder policy would be an education section. Only one of the 31 university policies that were assessed included a separate section addressing education. While education can be appropriately addressed in a prevention section, a university might choose to develop extensive educational programs and resources to provide to athletic staff and athletes. If these resources are extensive, they might warrant their own section of acknowledgement and instruction in an athletics eating disorder policy.

The fourth research question addressed the relationship of universities with athletics eating disorder policies and demographic variables. The researcher attempted to answer this question by gathering demographic data on all of the FBS universities' undergraduate student body size, number of student-athletes (male, female, and total), athletic revenue, athletic expenditure, and institution (in terms of whether it is private or public). The researcher then separated the demographic variables into two groups: Universities with a policy and universities without a policy. The researcher calculated the means and standard deviations of each group for each demographic variable and used the information to conduct separate samples t-tests. The t-tests compared universities with a policy to universities without a policy, and resulted in p-values that indicated whether or not a relationship exists between the existence of a policy and demographic variables.

The results indicate that undergraduate student body size and number of student-athletes do not relate to whether or not a university has an athletics eating disorder policy. The researcher expected that policies might exist in universities with larger student bodies and number of athletes than universities with smaller populations due to a potentially higher need in larger populations. However, the results do not support this prediction. It may be that other variables influence the development of a policy, such as the number of disordered eating cases that universities have managed in athletic populations. Future research might look into this possibility.

The results did indicate a significant relationship between athletic revenues and expenditures with the existence of athletics eating disorder policies. On average, universities with a policy have higher athletic revenues and expenditures than universities without a policy. This may be due to the fact that higher athletic budgets provide more resources of support, such as sports medicine professionals who are specifically trained in the treatment of eating disorders. Universities with lower athletic budgets might not have the resources to fund specialist professionals who might take part in or advocate for the development of written policies.

Finally, the researcher determined that 12.6% of universities without a policy are private institutions, whereas 15.2% of universities with a policy are private institutions. The difference in percentages is likely due to chance, but there is the possibility that the small percentage difference between universities who have a policy and universities that don't indicate that private institutions are more likely to have an athletics eating disorder policy than public institutions. However, this relationship might also be due to other variables, such as whether or not private institutions have higher athletic budgets (which do relate to the existence of eating disorder policies).

The final research question that the study attempted to answer inquired about the relationship between universities who currently have a policy specific to athletes with eating disorders and their performance in the Capital One Cup. As defined in chapter 1, the Capital One Cup is a multi-sport award that acknowledges athletic success in NCAA Division I athletic programs (CapitalOneCup, 2016). The researcher conducted the same procedure to analyze this relationship as was done to analyze the relationship with demographic variables. Universities were separated into groups depending on whether or not they have a policy specific to athletes with eating disorders. The researcher then determined the mean and standard deviation for these groups in terms of Cup standings (overall placement) and accumulated Cup points for both male and female programs. The results indicate that there is a nonsignificant relationship between male athletic programs of schools with a policy and performance in the Capital One Cup. However, there is a significant relationship between universities who have policies and successful female performance. These results were true for both Cup standings and total accumulated Cup points. The results imply that universities who have a policy specific to athletes with eating disorders have female athletic programs that are more athletically successful (according to the Capital One Cup) than universities who do not have a policy. Although the reasoning for this is unknown, it may be that universities with highly successful female programs are more committed to supporting the health and safety of their athletes. It is also possible that highly successful programs encourage athletes to do whatever they can to improve their performance, and for some this may come in the form of altering diet and weight. If universities have experienced higher cases of disordered eating, they may feel the need to develop a policy to address such situations. Finally, there is the possibility that programs with a history of success simply want to continue their success. These universities may feel motivated to develop and

provide any resource that would address issues, such as eating disorders, that threaten this success.

General Discussion

Universities vary significantly in regards to the types and amounts of resources that are provided to student-athletes. These resources may include policies that relate to specific mental and physical health concerns. While some universities provide a number of beneficial resources to support the overall health and performance of student-athletes, there are others that might not. Sociocultural environments can also differ in that some universities develop athletic environments that are supportive and non-judgmental, whereas other universities develop environments that primarily focus on athletic performance at the expense of everything else. Variations in resources and athletic environments can make the difference between whether or not an athlete is healthy, safe, supported, and able to perform well.

One would hope that all universities value the health and safety of their athletes over athletic performance, but it is unlikely that all athletic personnel at all NCAA universities have such values. While it is unclear where every university's ethical values lie, all NCAA universities do at least have a legal obligation to protect the health and safety of their athletes. NCAA universities might face legal liability issues if they allow athletes to participate in sports if athletes are unsafe doing so (Bickford, 1999). Disordered eating compromises a person's overall health and can make it very difficult for a person to live life as effectively as someone with healthy eating behaviors (Hudson et al., 2012; Treasure et al., 2010). It is likely that athletes who engage in disordered eating will compromise their health to the point of serious injury or even death by participating in athletics without appropriate clearance from licensed health professionals (Bickford, 1999). Universities might avoid such unfortunate situations if they

develop resources to both prevent and appropriately manage cases of disordered eating. This might be done through written documentation that clearly defines the steps of prevention, identification, referral, treatment, and return-to-play conditions of athletes with eating disorders.

Division I FBS universities are known to be the most well-funded and athletically successful universities in the NCAA (Bennet, 2014; Wallace, 2010). The researcher expects that if any universities have an athletic policy specifically relating to eating disorders, it would be an FBS or Power Five university. This expectation is based on the higher funding and potential for health resources at these universities, as well as their assumed commitment to producing successful athletes (who need to be healthy in order to perform well). The results of this study show that just over a quarter of FBS universities currently have such a specific policy in place. This is not a high number of universities with policies. This further leads to the question of whether or not Division II, Division III, or other Division I universities are even less likely to have policies specific to athletes with eating disorders. Just because an athlete attends a university with a smaller athletic budget or less overall athletic success does not mean that the health, safety, and overall athletic experience of that athlete is any less important. Future research might look into the difference in prevalence of policies between universities with different demographic variables (such as athletic funding, size of undergraduate student body, number of student athletes/teams, and level of athletic performance).

Of the policies that currently exist, the researcher found that the purpose of policies varied somewhat. Most policies genuinely seemed to be designed to support the overall health and well-being of athletes. These policies focused on things such as creating a supportive and non-judgmental environment, making athletes feel comfortable and respected throughout treatment, and considering an athlete's desire to continue sport participation. However, there

were several schools that had policies that seemed more concerned with protecting the reputation of the university. These schools seemed to more quickly resort to removing the athlete from the sport environment without considering how treatment might make it safer for them to participate. They also did not seem to take responsibility for the culture of the athletic environment and how it might encourage maladaptive behaviors. The majority of policies were not like this; most policies seemed to be genuinely concerned with the safety and overall experience of their student-athletes, as well as concerned with their responsibility to prevent, identify, and treat athletes. Ultimately, the purpose of a policy should be for the best interests of the athlete.

As discussed in the Discussion of Research Questions section, only 40% of currently existing policies (10% of all FBS universities) can be found online. The researcher did not find it easy to access the majority of existing policies, and so it is difficult to say whether or not athletes, prospective athletes, parents, etc. could easily gain access to their university's athletics eating disorder policy on their own. Athletes and other third parties might be forced to consult with athletic department personnel regarding their university's position on athletes with eating disorders. Although this is an option, there may be some people who are nervous that reaching out to athletic personnel will bring attention to them, especially if they are engaging in disordered eating behaviors. It may be argued that this is not a bad thing, but the researcher suggests that university athletics policies should promote safe participation in athletics. A well-developed policy should advocate to those who read it that the university is committed to providing athletes the support they need so that they can continue to safely participate in athletics. An athlete might read their university's policy and find that the policy is not intended to judge them, but rather help them develop healthy behaviors and continue sport participation.

Although this was not part of the study, the researcher believes that athletes are less likely to refer to a policy or seek help at all if they first have to go through athletic department personnel. The researcher believes that athletes who do not know their university's position on disordered eating will assume that seeking help will automatically remove them from their sport. There is potential that an athlete who can easily access their university's policy in private can read that the university provides treatment opportunities that are designed to help the athlete safely continue participating in their sport. It is possible that this will encourage athletes to seek help, as opposed to not knowing the university's position, fearing the worst, and not seeking help at all. The researcher believes that an athlete should have access to all resources that might be beneficial to their health and they should not be afraid to seek them out.

There is also the potential situation in which a prospective athlete or parent is interested in whether or not a university has resources to support mental health issues such as eating disorders. Prospective parties might search for policies on their own to determine whether or not they feel safe and supported attending a certain university. Here again, universities could benefit from making their resources easily accessible.

Regardless of the reasons as to why athletes or other parties seek out a university's policy on athletes with eating disorders, the International Olympic Committee and mental health professionals suggest that programs still outline specific strategies for prevention, identification, and intervention of disordered eating in athletic environments (Mountjoy et al., 2014; Thompson, 2014). The IOC recommends that information to be included are as follows: education about eating disorders; risk factors in the athletic environment; prevention of disordered eating in athletics; strategies to increase emphasis to health and nutrition rather than weight; strategies to create an encouraging athletic environment; policies on approaching athletes who engage in

disordered eating; information on a medical treatment team to support athletes with eating disorders; and a guideline for conditions of return-to-play (Mountjoy et al., 2014). The study found this information to be present throughout the qualitative analysis of existing policies. The most exceptional policies* contained all of the recommended information and then some.

The researcher would like to acknowledge that it was encouraging to hear that seven out of the 30 responses from universities currently without a policy are interested in the results of this study. These university athletic personnel said that they are either considering or are in the very beginning stages of developing a policy specific to athletes with eating disorders. The researcher hopes that these universities and others do in fact develop policies related to specific mental health issues in the athletic environment.

Implications for Practice

The following implications for practice emerged from this study:

1. It is recommended that sport psychologists and other health professionals working with athletes in universities develop an eating disorder policy that clearly outlines the guidelines for working with athletes with eating disorders. Health professionals should be clear on their role in the prevention and treatment of disordered eating in the athletic environment.
2. Athletic staff, coaches, and athletes can benefit from more education about the risks and medical consequences of eating disorders. Universities should be proactive in developing and providing educational resources to all parties within athletics.
3. Universities should seriously consider making their athletics eating disorder policies easily accessible through their online athletic and home websites. Universities should show their dedication to providing a safe athletic environment. Easily accessible policies demonstrate that a university is prepared to manage cases of disordered eating.

4. University athletic departments would benefit from staffing trained health professionals who are experienced with both athletes and eating disorders.

Implications for Research

The following implications for research emerged from this study:

1. Researchers attempting to further the research of existing university resources related to athletes and mental health can benefit from methodology that involves a large sample size. If researchers intend to contact university personnel, researchers can also benefit from allowing extensive amounts of time for athletic personnel to respond.

2. Researchers can benefit from qualitative methods of research, such as interviewing university personnel and/or athletes about the existence of current resources and their effectiveness. However, researchers should be aware that analysis of such qualitative data may be extensive and time-consuming.

3. The researcher of the present study spent a significant amount of time determining whether or not documents sent by athletic personnel could be considered full athletics eating disorder policies. Research examining similar variables as the present study should be careful to develop clear definitions and/or standards for what does and does not constitute adequate data.

4. As in the present study, researchers examining athletes and/or eating disorders should make themselves familiar with the literature on both athletes and eating disorders, as well as athletes with eating disorders.

CHAPTER 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS FOR FUTURE RESEARCH

Summary

It is clear that disordered eating plays a significant role in the overall health and athletic performance of collegiate athletes. To address the question of whether or not universities provide support to protect the safety of their athletes, the present study sought to determine how many NCAA Division I universities have a policy that specifically addresses the prevention and management of disordered eating in athletic environments. The study searched for policies in the 128 FBS universities through an online web-search and by contacting athletic department personnel. The researcher found a total of 33 currently existing policies on athletes with eating disorders, 13 of which were found online.

The researcher then conducted a qualitative analysis of existing policies to determine the major themes that exist between them. Sixteen major themes were found throughout the analysis, including themes that related to prevention, risk factors, identification, treatment, referral, and return-to-play guidelines. Each theme was then analyzed in depth for specific information that was consistent throughout the policies. The researcher found between four and six recurring patterns for each of the 16 major themes. Policies ranged in the amount of major themes/sections and the amount of detailed information that was provided. Six universities were identified as having exceptional policies* that contained comprehensive information for the majority of the 16 major themes. Finally, the researcher developed an example policy to include information from the major themes that can be adopted by universities without a policy or added to currently existing policies.

The researcher then used descriptive statistics to assess the relationship between having an official policy for athletes with eating disorders and demographic variables. The results showed that there are nonsignificant relationships between existing policies and the size of a university's undergraduate student body and the number of student-athletes. However, the results demonstrated that higher athletic revenues and expenditures do relate to the existence of athletics eating disorder policies. The study also assessed athletic program performance in the Capital One Cup in relation to policies and found that there is a positive correlation between female athletic program success and the existence of athletics eating disorder policies. There was a nonsignificant relationship between policies and performance of male athletic programs. Although these are correlations, it is possible that universities with higher athletic budgets and successful athletic performance have the financial resources and motivation to develop policies that relate to specific health concerns in athletes. The researcher suggests that all NCAA universities demonstrate their commitment to safe athletic participation and overall health of their student-athletes by developing a policy specific to athletes with eating disorders.

Conclusions

The following conclusions were derived from the results of this study:

1. Currently, 26% of NCAA Division I FBS universities (33/128) have an officially documented policy specific to athletes with eating disorders. The majority of FBS universities do not have a full written policy relating to athletes with eating disorders.
2. Of the 33 policies that currently exist, 40% of them (13) can be found online. According to the results of this study, 10% of all FBS universities have policies that can be found through an online search (13/128).
3. Sixteen major recurring themes exist among current university policies relating to

athletes with eating disorders. The 16 major themes are:

- a. Treatment/intervention for athletes with eating disorders
- b. Eating disorder/multidisciplinary sports medicine treatment team
- c. Health/safety recognition introduction
- d. Prevention of disordered eating in athletics
- e. Identification of signs/symptoms/behaviors
- f. Referral
- g. Weighing/body composition policy
- h. Definitions
- i. Goals of policy
- j. Return-to-play/athletic participation
- k. Screening for disordered eating in athletes
- l. Confidentiality/waiver
- m. Treatment procedure/flow chart
- n. Medical consequences of disordered eating
- o. Approaching athletes with disordered eating
- p. Causes/risk factors for athletes

The themes are listed in order of most often occurring to least often occurring among existing policies.

4. Between four and six recurring patterns of information were found for each of the 16 major themes.

5. There is a positive correlation between athletic eating disorder policies and athletic

revenues and expenditures. The results of this study show that, on average, universities without an athletics eating disorder policy have lower athletic revenues and expenditures than universities with athletics eating disorder policies.

6. According to the results of this study, a correlation does not exist between eating disorder policies and the size of the university undergraduate student body. There also does not appear to be a correlation between a university having an athletics eating disorder policy and the university's number of male student-athletes, number of female student-athletes, or total number of student-athletes.

7. The results of this study show that, on average, a positive correlation exists between universities that have athletics eating disorder policies and successful female athlete/team performance in the Capital One Cup in terms of both female Cup standings and female Cup points. Performance in the Capital One Cup by male athletes/teams in terms of Cup standings and accumulated Cup points is not correlated with the existence of athletics eating disorder policies.

Recommendations for Future Research

The following recommendations for future research emerged from this study:

1. Although the researcher of this study believes that policies specific to athletes with eating disorders are beneficial for universities to develop, this study did not look into the actual effectiveness of currently existing policies. Future studies might assess whether or not universities actually refer to their policies. Studies might further analyze the extent to which policies have assisted athletes in eating disorder recovery and their return to athletic participation.

2. Considering that this study found only 40% of currently existing policies in the online

search, future studies might look into whether or not athletes and athletic staff are aware of existing policies. It is possible that policies exist without athletic staff and/or athletes knowing that policies exist. Researchers may choose to interview current or former student-athletes and athletic staff to determine whether or not they knew their university has/had an eating disorder policy specific to athletics, whether or not they knew where to access the policy, and whether or not they ever referred to the policy.

3. It would be beneficial to look into whether or not universities with an athletics eating disorder policy have experienced more cases of eating disorders in athletes than universities currently without a policy. Future studies might look into the relationship between cases of disordered eating and athletics eating disorder policies.

4. The present study looked into the prevalence of athletics eating disorder policies at NCAA Division I FBS universities. This is only one population of universities that belong to the NCAA. Future research might look into the prevalence of policies in NCAA Division II, NCAA Division III, or other NCAA Division I programs that are not in the Football Bowl Subdivision.

5. While the present study analyzed some policies that specified that the health professionals involved in treating athletes with eating disorders have specializations and/or certifications in the treatment of eating disorders, it is unknown whether all universities have sports medicine professionals who are well qualified to treat eating disorders. Future research might look into the competencies of university sports medicine professionals in relation to eating disorder treatment in athletic populations.

6. A study conducted by Hayden et al. (2013) found that less than 33% of FBS universities provide sport psychology services to their student-athletes, and only 18% of FBS universities have a sport psychology consultant on staff. It would be beneficial for future

research to assess the relationship between a university having an official policy for athletes with eating disorders and having an on-staff sport psychologist. It may be possible that the same universities who have an official policy are also the universities who provide sport psychology services.

7. It would be beneficial to understand the effectiveness of preventative measures that universities take to prevent disordered eating in the athletic environment. For example, future research might look into the extent that pre-participation screening for eating disorders accurately identifies disordered eating in athletes.

8. Many current policies address education as a measure for eating disorder prevention in the athletic environment. It would be beneficial for future research to look into what exactly universities consider to be “education,” the frequency with which universities provide educational resources and/or training, and the amount of information that athletic staff and athletes retain from educational training.

9. This study found a number of universities have an athletic weight management and body composition policy that is separate from an eating disorder policy. Future studies might look into how many universities have a specific policy separate from an athletics eating disorder policy that address weight management and body composition testing for athletes. Research might also look into whether having a weight management/body composition policy makes it more or less likely that a university also has an athletics eating disorder policy.

10. The present study looked into athletic policies that are specific to eating disorders, but it would be pertinent for future research to look into the existence of policies for other specific mental disorders (depression, abuse/trauma, addiction, etc.). It would be interesting to note

whether or not the existence of any athletic policy related to mental health makes it more or less likely that a policy specific to athletes and eating disorders exists.

11. It is currently unclear whether athletes are knowledgeable about the nutrition that their bodies require for participation in collegiate athletics. It is possible that athletes unintentionally cause harm to their bodies for the simple reason that they are not aware of the proper amounts of macronutrients, micronutrients, hydration, etc. that they need to fuel their bodies. It would be beneficial for future research to explore the extent of student-athletes' food literacy. Research may also explore the education that universities provide to athletes about general nutrition requirements that are not related to disordered eating.

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APPENDIX A
CAPITAL ONE CUP COMPLETE STANDINGS

COMPLETE CAPITAL ONE CUP STANDINGS

As of July 1, 2016

MEN'S CUP STANDINGS		WOMEN'S CUP STANDINGS	
School	Points	School	Points
1. Stanford	126	1. USC	96
2. North Carolina	108	2. Stanford	90
3. Ohio State	80	3. Penn State	83.5
4. Oklahoma	73	4. North Carolina	80
5. Clemson	72	4. Oklahoma	80
6. Oregon	71	4. Syracuse	80
7. Alabama	65	7. Nebraska	77
8. Coastal Carolina	60	8. Connecticut	69
8. North Dakota State	60	9. Texas	67
8. Villanova	60	10. Florida State	66
11. Syracuse	59	11. Florida	65
12. Florida	53	12. Georgia	61
13. TCU	52	13. Duke	55
14. Maryland	48	14. Cal	51
15. Virginia	45	14. Oregon	51
16. UCLA	42	14. Washington	51
17. Texas	38	17. Minnesota	50
18. Arizona	36	17. Virginia	50
18. Jacksonville State	36	19. LSU	48
18. Oklahoma State	36	20. Maryland	43
21. Akron	30	21. UCLA	42
21. Brown	30	22. Auburn	38
21. Kansas	30	22. Michigan	38
21. Richmond	30	24. Notre Dame	36
25. Arkansas	29	24. Oregon State	36
25. Denver	29	26. Arkansas	34
27. Penn State	28.5	27. Ohio State	28
28. Cal	27	28. Alabama	25
28. Michigan State	27	29. Baylor	24
30. Loyola-Maryland	24	29. Hawaii	24
30. Sam Houston State	24	29. Kansas	24
32. UC-Santa Barbara	22	29. Rutgers	24
32. USC	22	29. South Carolina	24
34. Notre Dame	21	34. New Mexico	22.5

34. Wake Forest	21	35. West Virginia	22
36. Illinois	20	36. Stephen F. Austin	20
36. LSU	20	36. Texas A&M	20

COMPLETE CAPITAL ONE CUP STANDINGS

As of July 1, 2016

MEN'S CUP STANDINGS		WOMEN'S CUP STANDINGS	
School	Points	School	Points
36. North Dakota	20	38. Colorado	18
39. Tennessee	19	39. Boston College	17
40. Colorado	18	39. Princeton	17
40. Illinois State	18	41. Wisconsin	15
40. Miami	18	42. Stony Brook	12
43. Texas A&M	17	42. TCU	12
44. Creighton	15	42. Vanderbilt	12
44. Northern Iowa	15	45. Arkansas State	10
44. Texas Tech	15	45. Columbia	10
44. Towson	15	45. Denver	10
48. Iowa	13	48. NC State	8.5
49. Brigham Young	12	49. Clarkson	8
49. Charleston Southern	12	49. Oklahoma State	8
49. Quinnipiac	12	49. Pepperdine	8
52. Boston College	11	49. Providence	8
52. Long Beach State	11	53. Penn	7.5
52. Michigan	11	54. Arizona	7
52. Virginia Tech	11	54. Kansas State	7
56. Columbia	10	56. Arizona State	6
56. Georgetown	10	56. Quinnipiac	6
56. Georgia	10	58. Brown	5
56. Houston	10	58. Murray State	5
56. West Virginia	10	58. Northeastern	5
61. Chattanooga	9	58. Sam Houston State	5
62. NC State	8.5	58. Utah	5
63. Indiana	8	63. Air Force	4
63. Missouri	8	63. Georgia State	4

63. Nebraska	8	63. Indiana	4
63. Pacific	8	63. Montana State	4
63. Washington	8	63. North Carolina A&T	4
68. Louisville	7	63. St. John's	4
69. Iona	6	63. Tennessee	4
69. McNeese State	6	70. Colgate	3
69. Mississippi	6	70. Dartmouth	3
69. Navy	6	70. Louisville	3
69. Princeton	6	70. Stetson	3
69. South Carolina	6	70. UC-Irvine	3

COMPLETE CAPITAL ONE CUP STANDINGS

As of July 1, 2016

MEN'S CUP STANDINGS		WOMEN'S CUP STANDINGS	
School	Points	School	Points
69. St. Cloud State	6	70. Wake Forest	3
69. Vanderbilt	6	76. Albany	2
77. Minnesota	5	76. Bemidji State	2
77. Murray State	5	76. Georgetown	2
77. UC-Irvine	5	76. Harvard	2
77. Utah	5	76. Long Beach State	2
81. Air Force	4	76. Northwestern	2
81. Cornell	4	76. UC-Santa Barbara	2
81. Harvard	4	76. Vermont	2
81. Montana State	4	84. Fairleigh Dickinson	1
81. Pepperdine	4	84. Memphis	1
81. Providence	4	84. Miami	1
81. St. John's	4	84. North Dakota	1
81. Yale	4	88. N.J. Tech	0.5
89. Dartmouth	3	88. New Hampshire	0.5
89. Hawaii	3		
89. Kentucky	3		
89. Portland State	3		
89. UMass-Lowell	3		
94. New Mexico	2.5		
95. Arizona State	2		

95. Mississippi State	2		
95. Vermont	2		
98. Penn	1.5		
99. Auburn	1		
99. Duke	1		
99. Loyola-Chicago	1		
99. Memphis	1		
103. N.J. Tech	0.5		
103. New Hampshire	0.5		

APPENDIX B

EXAMPLE ATHLETICS EATING DISORDER POLICY

Example Athletic Eating Disorder Policy

The following example of an eating disorder policy combines what the researcher believes to be the most important information covered in the athletic eating disorder policies that currently exist.

I. Introduction and Philosophy

1. The Department of Athletics advocates the development of healthy and responsible lifestyles for student-athletes, with the goal of long-term enrichment and enhancement of their lives
2. The Department of Athletics recognizes that manifestations of eating disorders reflect the interaction of biological, psychological and sociological factors in both the development of eating disorders and their treatment. Student-athletes may be at increased risk of developing patterns of disordered eating due to participation in elite intercollegiate athletics
3. The effects of disordered eating can range from mild to severe, depending on the extent of the disorder and the length of the time the individual has engaged in such behaviors
 - a. Medically, disordered eating can have short-term and long-term health consequences ranging from an increased risk of sport-related injury to death
 - b. Psychologically, individuals with eating disorders have an increased risk of depression and suicide. Eating disorders are often associated with low self-esteem, obsessive thinking, and feelings of isolation
4. Recovery from eating disorders can be a difficult process that takes time. In general, the greater the duration and frequency of disordered eating, the longer it will take for recovery to be successful
5. Body weight/composition is only one factor contributing to athletic performance, and there is not substantial evidence linking specific body weight/composition to superior performance in any sport
6. Each student-athlete has a unique body type that is largely influenced by genetics. The Athletic Department wishes to emphasize healthy personal improvement in nutrition, body composition, and fitness level, recognizing individual differences

University Policies Referenced in this Section: North Carolina State University & Ohio State University

II. Goals of the Disordered Eating Policy

1. Provide a comprehensive protocol for prevention, identification, and treatment of disordered eating/eating disorders and their medical consequences
2. Provide medical, nutritional, and/or psychological services to student-athletes while respecting their privacy
3. Implement an effective multidisciplinary approach to refer, diagnose, and provide appropriate treatment plans. Collaboration should be between medical physicians, athletic trainers, mental health professionals, dietitians/nutritionists, coaches, and student-athletes

4. Establish a return-to-play protocol for student-athletes

III. Definitions related to Eating Disorders

The following definitions are based on the criteria in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5):

1. Anorexia Nervosa

- a. Restriction of energy intake relative to requirement, leading to a significantly low body weight in the context of age, sex, developmental trajectory, and physical health. Significantly low weight is defined as a weight that is less than minimally normal or, for children and adolescents, less than that minimally expected
- b. Intense fear of gaining weight, becoming fat, or persistent behavior that interferes with weight gain
- c. Disturbance in the way in which one's body weight or shape is experienced, undue influence of body weight or shape on self-evaluation or persistent lack of recognition of the seriousness of the current low body weight

2. Bulimia Nervosa

- a. Recurrent episodes of binge eating. An episode of binge eating is characterized by the following:
 - i. Eating, in a discrete period of time (such as within any 2-hour period), an amount of food that is definitely larger than most people would eat during a similar period of time and under similar circumstances
 - ii. A sense of lack of control over eating during the episode (such as a feeling that one cannot stop eating or control what or how much one is eating)
- b. Recurrent inappropriate compensatory behavior in order to prevent weight gain, such as self-induced vomiting; misuse of laxatives, diuretics, or other medications; fasting; or excessive exercise
- c. The binge eating and inappropriate compensatory behaviors both occur, on average, at least once a week for three months
- d. Self-evaluation is unduly influenced by body shape and weight
- e. The disturbance does not occur exclusively during episodes of Anorexia Nervosa

3. Binge Eating Disorder

- a. Recurrent episodes of binge eating. An episode of binge eating is characterized by the following:
 - i. Eating, in a discrete period of time (such as within any 2-hour period), an amount of food that is definitely larger than most people would eat during a similar period of time and under similar circumstances
 - ii. A sense of lack of control over eating during the episode (such as a feeling that one cannot stop eating or control what or how much one is eating)

- b. The binge eating episodes are associated with three (or more) of the following:
 - i. Eating much more rapidly than normal
 - ii. Eating until feeling uncomfortably full
 - iii. Eating large amounts of food when not feeling physically hungry
 - iv. Eating alone because of feeling embarrassed by how much one is eating
 - v. Feeling disgusted with oneself, depressed, or very guilty afterward
 - c. Marked distress regarding binge eating is present
 - d. The binge eating occurs, on average, at least once a week for three months
 - e. The binge eating is not associated with the recurrent use of inappropriate compensatory behavior as in Bulimia and does not occur exclusively during the course of Bulimia or Anorexia
4. Other Specified Feeding or Eating Disorder/Eating Disorder Not Otherwise Specified:
- a. This category applies to presentations in which symptoms characteristic of a feeding and eating disorder that cause clinically significant distress or impairment in social, occupational, or other important areas of functioning predominate but do not meet the full criteria for any of the disorders in the feeding and eating disorders diagnostic class
 - b. Examples:
 - i. Atypical anorexia nervosa: All of the criteria for anorexia nervosa are met, except that despite significant weight loss, the individual's weight is within or above the normal range
 - ii. Bulimia nervosa (of low frequency and/or limited duration): All of the criteria for bulimia nervosa are met, except that the binge eating and inappropriate compensatory behaviors occur, on average, less than once a week and/or for less than three months
 - iii. Binge-eating disorder (of low frequency and/or limited duration): All the criteria for binge-eating disorder are met, except that the binge eating occurs, on average, less than once a week and/or less than three months
 - iv. Purging disorder: Recurrent purging behavior to influence weight or shape (such as self-induced vomiting; misuse of laxatives, diuretics, or other medications) in the absence of binge eating
 - v. Night eating syndrome: Recurrent episodes of night eating, as manifested by eating after awakening from sleep or by excessive food consumption after the evening meal. There is awareness and recall of the eating
5. Eating Disorder vs. Disordered Eating:
- a. Disordered eating is a descriptive phase, whereas an eating disorder is diagnosable as specifically defined by the American Psychological Association's DSM-V. Many people who display disordered eating behaviors may fit some criteria for an eating disorder, but it is possible to have disordered eating patterns that do not match exactly with the criteria for diagnosing an eating disorder

- b. It is important to note that whether or not an athlete is diagnosed with an eating disorder, any form of disordered eating is harmful to the health of the athlete. All forms of disordered eating should be treated; early treatment of disordered eating may prevent further problematic health concerns of a diagnosable eating disorder
 - c. For the purpose of this policy, the terms “eating disorder” and “disordered eating” may be used interchangeably as both are serious and will be managed in the same way
6. Relative Energy Deficiency (RED):
- a. RED is an imbalance of energy requirements compared to energy intake (EI). Energy availability (EA) is defined as energy intake minus exercise energy expenditure (EEE), divided by fat-free mass (FFM). Low EA can cause menstrual dysfunction and bone mineral loss. RED affects endocrine, immunological, and cardiovascular systems of the human body

University Policies Referenced in this Section: North Carolina State University, Ohio State University, & The University of Oklahoma

IIIIV. Behavioral and Physical Signs and Symptoms of Eating Disorders

1. The following lists serve as guidelines to recognize the signs of disordered eating and eating disorders. Any one symptom alone may or may not be a cause for concern, but multiple symptoms likely indicate a health problem
2. Careful observation and awareness of the signs and symptoms of disordered eating will help athletic staff to recognize a problem. The earlier disordered eating can be identified, the earlier it can be treated, and potentially, the easier the recovery process
3. Anorexia Nervosa Behavioral Signs and Symptoms:
 - a. Reports of feeling “fat/heavy” despite low body weight
 - b. Only consuming fat-free or low-fat foods
 - c. Obsessions about weight, diet, and appearance
 - d. Avoiding social eating situations, social withdrawal
 - e. Ritualistic eating behaviors
 - f. Obsession with exercise, secretly increasing workouts outside of practice
 - g. Feeling cold
 - h. Perfectionism followed by self-criticism
 - i. Seems anxious/depressed about performance and other events
 - j. Denial of unhealthy eating pattern
 - k. Anger when confronted with problem
 - l. Eventual decline in physical and school performance
4. Anorexia Nervosa Physical Signs and Symptoms:
 - a. Amenorrhea (lack of menstrual periods)
 - b. Dehydration (not related to workout/competition)
 - c. Fatigue (beyond expected)
 - d. Overuse injuries, stress fractures
 - e. Weakness, dizziness
 - f. Gastrointestinal problems

- g. Fine hair on arms and face (Lanugo)
 - h. Yellow tint to hands
 - i. Hypotension (low blood pressure)
 - j. Bradycardia (low heart rate)
 - k. Psychological problems such as high anxiety and depression
5. Bulimia Nervosa Behavioral Signs and Symptoms:
- a. Excessive exercise beyond scheduled practice
 - b. Extreme self-criticism
 - c. Depression and mood fluctuations
 - d. Irregular weight loss/gain; rapid fluctuations in weight
 - e. Low self-esteem
 - f. Erratic performance
 - g. Alcohol or other drug use
 - h. Binges/consuming large meals
 - i. Disappearance after eating
6. Bulimia Nervosa Physical Signs and Symptoms:
- a. Callous on knuckles/back of the hand
 - b. Dental and gum problems (bad breath)
 - c. Swollen parotid glands (at the base of the jaw)
 - d. Red, puffy eyes
 - e. Edema (bloating)
 - f. Frequent sore throats
 - g. Low or average weight despite eating large amounts of food
 - h. Electrolyte abnormalities
 - i. Diarrhea, constipation
 - j. Dry mouth, cracked lips
 - k. Psychological problems
7. Binge Eating Disorder Signs and Symptoms:
- a. Consuming large amounts of food without purging behaviors
 - b. Feelings of being out of control during binge episodes
 - c. Feelings of shame or guilt regarding binge eating
 - d. Eating when not hungry, eating to the point of discomfort, and/or eating alone
8. General Signs of Disordered Eating:
- a. Physical Signs:
 - i. Looking pale
 - ii. Perspiring excessively
 - iii. Extreme fatigue
 - iv. Sleep problems
 - v. Continual episodes of illness
 - vi. Extreme weight changes
 - b. Emotional and Psychological Signs:
 - i. Extreme mood changes
 - ii. Experiencing high levels of anxiety or panic attacks
 - iii. Irritability and/or agitation
 - iv. Unpredictable outbursts of anger
 - v. Rapid/pressured/confused speech

- vi. Racing thoughts
- vii. Sustained low mood
- viii. Elevated mood
- ix. Talking about feeling useless, worthless, or dying
- x. Frequent expressions of negativity or hopelessness
- c. Academic Signs:
 - i. Nonattendance to class
 - ii. Consistent failure to complete tasks or meet deadlines
 - iii. Poor academic quality
 - iv. Marked changes in concentration
 - v. Loss of motivation
 - vi. Neglect of personal responsibilities
- d. Behavioral Signs:
 - i. Avoidance of tasks
 - ii. Withdrawing socially or verbally
 - iii. Poor self-care
 - iv. Being excessively demanding of others
 - v. Unexplained physical aggression towards self or others

University Policies Referenced in this Section: Clemson University, The University of Missouri, North Carolina State University, Ohio State University, & The University of Oklahoma

V. Risk Factors for Athletes

1. While there are many beneficial aspects of being involved in collegiate athletics, it is important for coaches, athletic staff, and student-athletes to know that there are some risk factors for developing disordered eating. The more aware coaches, athletic staff, and student-athletes are of the risk factors, the more likely risks can be addressed and harm to student-athletes' health avoided
2. Social influences, an athlete's self-appraisal, and performance anxiety are expected to contribute to an athlete's dissatisfaction with his/her body
3. An athlete experiencing or exposed to some of the following risk factors does not guarantee that disordered eating will develop. However, the likelihood that disordered eating will develop increases as number of risk factors increases
4. General Predisposing Risk Factors:
 - a. Chronic dieting
 - b. Low self-esteem
 - c. Genetic predisposition
 - d. Family dysfunction
 - e. Perfectionism
 - f. History of physical and/or sexual abuse
 - g. Other traumatic life experience
 - h. Peer/family/cultural pressures to be thin
 - i. Lack of knowledge about healthy nutrition

- j. Unhealthy obsession with nutrition
- k. Co-morbid conditions and diagnoses such as obsessive-compulsive disorder, chronic anxiety, and borderline personality disorder
- 5. Predisposing Risk Factors for Athletes:
 - a. Drive to win at any cost
 - b. Identifying oneself only as an athlete
 - c. Sudden increase in training
 - d. Exercising through injury; Athlete refusing to report severity of injury
 - e. Athletes who over-train and/or under-nourish their bodies
 - f. Vulnerable periods of life (such as transitioning to college)
- 6. Environmental Risk Factors for Athletes:
 - a. Pressure to lose weight from parents, coaches, judges, roommates, teammates, and significant others
 - b. Sports that emphasize appearance or weight categories. Examples include: diving, gymnastics, bodybuilding, wrestling
 - c. Sports that focus on the individual rather than the entire team. Examples include: swimming, running, figure skating, gymnastics, dance or diving
 - d. Endurance sports. Examples include: track and field/cross country, swimming
 - e. High levels of sport specialization such as training for a sport since childhood and/or competing at the elite level
 - f. Inaccurate belief that lower body weight will improve performance
 - g. Requiring athletes to complete regular weigh-ins and putting a large emphasis on body weight/composition in relation to performance
 - h. Coaches who focus only on success and performance rather than on effort or the athlete as a whole person
- 7. Protective Factors for Athletes:
 - a. Positive social influence and support from teammates and coaches who have healthy attitudes towards size and shape
 - b. Creating a positive and person-oriented athletic environment. Coaches should avoid using coaching styles that are negative and solely performance-oriented
 - c. Coaches should emphasize factors that contribute to personal success (motivation, enthusiasm). Coaches should refrain from emphasizing body weight or shape in relation to athletic success

University Policies Referenced in this Section: *Clemson University, The University of Missouri, & Oregon State University*

VI. Health Risks Associated with Eating Disorders

1. People with disordered eating often experience multiple medical consequences at once (physical, psychological, and behavioral). Each condition alone is a serious medical concern, but multiple conditions occurring at once can create life-threatening situations

2. Many people either minimize or do not fully realize the health consequences associated with disordered eating. Early identification of disordered eating is crucial to minimize the harm caused to one's health
3. Health consequences of disordered eating can include:
 - a. Fatigue and weakness
 - b. Greater risk of obesity
 - c. Bone loss/early onset osteoporosis
 - d. Severe dehydration
 - e. Electrolyte and fluid imbalances
 - f. Cardiac issues, low heart rate, low blood pressure
 - g. Increased anxiety and depression, social isolation
 - h. Hormone disruptions
 - i. Gastrointestinal disturbances, ulcers, pancreatitis
 - j. Death in the most severe cases
4. Eating disorders, most specifically anorexia nervosa, have the highest death rate of any mental illness
5. An athlete with disordered eating may experience significant emotional and psychological stress in addition to their physical condition
6. Potential Impact on Performance from Anorexia Nervosa:
 - a. Abnormally slow heart rate and low blood pressure
 - i. The risk for heart failure increases as the heart rate and blood pressure sink lower and the condition remains undetected and untreated
 - ii. This can lead to a loss of endurance and/or slower times
 - b. Muscle loss and weakness
 - i. Increased incidence of muscle tears; slow recovery
 - ii. Glycogen depletion
 - iii. Negative VO₂ max (reduction in physical speed)
 - c. Fainting, fatigue, and overall weakness
 - i. Inability to practice or compete at expected levels
 - ii. Poor recovery
 - d. Bone loss that will eventually result in osteoporosis
 - i. Increased incidence of injuries/fractures
 - ii. Difficulty in recovering from injury
 - e. Severe dehydration that will eventually lead to kidney failure
 - i. Increased cardiovascular stress
 - ii. Increased susceptibility to heat illness
 - iii. Overall deterioration of performance
 - iv. Increased susceptibility to environmental changes; inability to warm-up
7. Potential Impact on Performance from Bulimia Nervosa:
 - a. Dehydration and sodium/potassium loss as a result of vomiting
 - i. Electrolyte imbalances that can lead to irregular heartbeats; cardiovascular stress; possibly heart failure, kidney failure, or death
 - b. Potential of gastric rupture during periods of bingeing
 - c. Inflammation and possible rupture of the esophagus from frequent vomiting
 - d. Muscles cramps and weakness

University Policies Referenced in this Section: Clemson University, The University of Missouri, North Carolina State University, & Texas Tech University

VII. Prevention

1. The Athletic Department should make serious effort to prevent the occurrence of disordered eating. Identification of disordered eating symptoms should occur before the symptoms become severe
2. This policy should be presented to all coaches and student-athletes at the beginning of the academic year. Student-athletes should also receive information about the multidisciplinary eating disorder treatment team
3. Incoming student-athletes will attend seminars with the eating disorder treatment team in which they are given education and referral resources about eating disorders and disordered eating prevention
4. The eating disorder treatment team will be responsible for educating athletic department staff on how to recognize and respond to signs and symptoms of disordered eating. Sports identified as high-risk sports may be given additional attention (such as swimming, gymnastics, running, crew, cheerleading, diving, figure skating, wrestling)
5. Awareness of risk factors, signs and symptoms of eating disorders, and the appropriate referral process is critical for all athletic staff members and student-athletes. Delayed identification may lead to increased severity of the disorder and resulting health consequences, as well as increased difficulty to initiate and successfully conduct treatment
6. Some athletes with disordered eating behaviors are able to perform well in training and competition temporarily before symptoms become severe. It can therefore be difficult for athletic staff to recognize disordered eating behaviors immediately. For this reason, extra care should be put in to preventing disordered behaviors and identifying them as soon as possible
7. The Athletic Department needs to create a non-judgmental/non-punitive environment so that athletes with eating disorders come forward to seek help and do not fear reprisals when they do
8. Student-athletes should always have access to university health professionals and services (physician, psychologist, dietitian, etc.) in the case that they wish to discuss any potential health concerns
9. Pre-Participation Physical Screening:
 - a. The purpose of the pre-participation screening is to identify at-risk athletes
 - b. Incoming student-athletes and previously identified at-risk student-athletes should be evaluated for disordered eating risk factors during the pre-participation physical. The physical should be conducted by the athletic physician at the beginning of the academic year
 - c. The pre-participation physical should address an athlete's physical, emotional, behavioral, and psychological history. The physical should include questionnaires about the athlete's history of stress fractures/injuries, the athlete's menstrual history (females), and the athlete's level of nutritional knowledge. The physician should also conduct routine height, weight, and

BMI measurements. All testing should be conducted by health professionals only (never coaches)

- d. The physician conducting the physical screening should ask questions regarding previous diagnoses and behaviors related to emotional stability and weight loss
- e. At the completion of the physical screening, the physician should review information and identify individuals who may be in need of follow-up care
- f. The physician will make appropriate referrals to members of the eating disorder treatment team, as well as health professionals outside of the university if necessary

10. Athletic Department Responsibilities:

- a. Create a caring, confidential, and supportive environment where the student-athlete is encouraged to seek help and does not risk jeopardizing their role on the team
- b. Educate coaches, administrators, academic advisors, and student-athletes on disordered eating and eating disorders. Education materials provided by the treatment team should include information to dispel myths on body weight, body composition, and performance
- c. Provide accurate and practical information on nutrition

11. Coaches

- a. Become educated in the signs, symptoms and dangers of disordered eating. Coaches of at-risk sports should be especially aware of signs and symptoms
- b. Report any concerns regarding disordered eating to the team physician or athletic trainer
- c. Do not conduct group weigh-ins or body composition testing. Do not address weight or other “problems” of a student-athlete in front of others; Keep concerns confidential
- d. Refrain from communicating that thinness leads to enhanced performance. Do not assume that weight loss will enhance performance. Refer to a health professional in terms of assessing the relationship between a student-athlete’s weight and sport performance
- e. Be aware that each athlete has individual personality differences and body types. Be aware that some athletes may be more sensitive than others to comments regarding weight. Understand that weight is a sensitive issue for many people
- f. Encourage student-athletes to discuss nutritional and body weight concerns with the physician, nutritionist, psychologist, or athletic trainer
- g. Be realistic when expecting athletes to perform to excellence. Do not emphasize perfection
- h. Be conscious of your own behaviors and act as a healthy role model

12. Sports Medicine Staff

- a. Coordinate during the screening process to identify athletes who may be at-risk for the development of disordered eating
- b. Speak openly with student-athletes about any apparent risk factors

- c. The multidisciplinary eating disorder treatment team and physician should work together to develop methods of monitoring the health of student-athletes without interfering in their regular routines
 - d. If athletes display disordered eating behaviors, do not immediately dismiss athlete from athletic participation except in dangerous circumstances. Consult with the athlete in private to discuss their health and potential treatments
13. Athletic Staff (Academic advisors, teammates, strength coaches, etc.)
- a. Be aware of the signs and symptoms of disordered eating. Be aware of the serious medical consequences associated with disordered eating
 - b. Recognize risk factors for athletes and within the athletic environment
 - c. Discuss any personal concerns or concerns about another student-athlete with the team physician or athletic trainer. Do not discuss concerns publically
14. For additional information, please refer to the NATA Position Statement: Preventing, Detecting, and Managing Disordered Eating in Athletes
<http://www.nata.org/sites/default/files/PreventingDetectingAndManagingDisorderedEating.pdf>

University Policies Referenced in this Section: *Clemson University, The University of Florida, Florida State University, & The University of Missouri*

VIII. Referral

1. The purpose of referral is to protect the health and safety of the student-athlete, to protect the safety of teammates, and to ensure safe athletic participation
2. Coaches, teammates, or other third party individuals should contact the team physician or athletic trainer about student-athlete disordered eating concerns. The physician/athletic trainer should gather specific information regarding the behavior of the student-athlete and then appropriately make a meeting with the athlete
3. A student-athlete may self-refer by contacting the team physician, psychologist, athletic trainer, or any member of the treatment team. If an athlete first approaches a staff member who is not on the treatment team, that staff member should appropriately contact the team physician/treatment team
4. Only health professionals are capable of diagnosing and treating eating disorders (physicians, psychologists, nutritionists, etc.) Coaches and other third party individuals should be involved in prevention and identification only
5. Once the athlete is referred to the physician/treatment team, the treatment team will evaluate the athlete's situation, determine appropriate treatment plans and goals, and determine return-to-play conditions. The team physician may make subsequent referrals to the team's psychologist, nutritionist/dietitian, athletic trainer, strength and conditioning coach, or any other health professional deemed appropriate
6. If necessary, the team physician may refer the athlete to specialized professional services outside of the university. In these instances, the athlete may be asked to sign a Release of Information so that treatment procedures and progress may be shared between all professionals working with the athlete
7. It is ultimately up to the team physician to determine athletic participation status
8. **Policies should include contact information for at least the team physician and athletic trainer, but ideally for all members of the eating disorder treatment team*

University Policies Referenced in this Section: Florida State University, The University of Missouri, & Oregon State University

IX. Treatment and Intervention

1. If a student-athlete is identified as engaging in disordered eating behaviors, that individual should be referred to the team physician/eating disorder treatment team
2. The physician will evaluate and diagnose the student-athlete's individual situation (as defined by the DSM-5) and will make appropriate referrals to other health professionals/other members of the eating disorder treatment team
3. The eating disorder treatment team will meet to discuss the student-athlete's condition. If the treatment team finds reason for intervention, they will develop specific treatment goals and treatment plans for the student athlete. Elements of a treatment plan may include:
 - a. Required visits with the physician, psychologist, and/or registered dietitian
 - b. Routine health monitoring
 - c. Referrals to more specialized care outside of the university
 - d. Assessment for medical clearance to continue sport participation
 - e. Any other intervention the physician deems medically or psychologically necessary
4. The student athlete may be required to sign a contract agreeing to the treatment conditions and requirements for continuing athletic participation
5. Ongoing treatment and reevaluation of the student-athletes medical condition will continue according to the treatment team's recommendations. Conditions of treatment may change, but the student-athlete is responsible for complying to physician recommendations. Even in cases of medical clearance, the physician may require routine follow-up appointments with health professionals
6. An athlete may give consent to share medical information with coaches and parents. If an athlete does not consent, the physician will only provide the coach with the level of clearance an athlete is given to participate in athletics (full clearance, details of partial clearance, or no clearance)
7. The physician may declare the student-athlete ineligible for participation on the following conditions:
 - a. The athlete's current state of health does not allow for safe athletic participation
 - b. The athlete refuses to comply with medical treatment conditions
8. Student-athletes are considered injured until given appropriate health clearance by the team physician
9. Medical leave and/or professional services outside of the university may be required by the team physician, but it is ultimately the team physician's responsibility to determine athletic participation status. The treatment team will discuss conditions of extended leave and make the conditions clear to the student-athlete
10. The treatment team will meet to discuss the appropriate treatment plan for student-athletes leaving the university for summer/holiday breaks. The athlete will be made aware of the treatment plan and will be asked to sign a contract acknowledging compliance and minimal health requirements that must be met before returning to athletic

participation at the university. It is likely that the student-athlete will be required to keep in regular contact with the university physician over any form of extended leave

11. A student-athlete may elect to withdraw from varsity athletics all together. In these circumstances, the eating disorder treatment team will meet with the athlete to discuss the importance of maintaining care outside of athletics. The treatment team will determine criteria for returning to athletics (if applicable), and will make the criteria clear to the student-athlete
12. This protocol is a framework. All athletes should be treated on an individual basis as all athletes have specific individual needs
13. **See attached flow chart for procedural guideline*

University Policies Referenced in this Section: The University of Missouri & Ohio State University

X. Eating Disorder/Multidisciplinary Sports Medicine Treatment Team

1. The eating disorder treatment team will use a multidisciplinary approach to treating eating disorders and disordered eating in student-athletes. The comprehensive approach to treatment helps athletes receive the best care possible. The treatment team will be responsible for identification, evaluation, consultation, treatment, and referral of athletes with disordered eating
2. The members of the treatment team will include: Team physician, mental health professional (preferably certified eating disorder specialist), head athletic trainer, team-specific athletic trainer, registered dietitian/nutritionist, psychiatrist (if available), strength and conditioning coach, and any other health professional the team physician deems appropriate. Coaches will be involved in the treatment team only if the student-athlete consents to sharing medical information with the coach
3. The treatment team is responsible for educating athletic staff, coaches, and student-athletes about the signs, symptoms, risk factors, and medical consequences of eating disorders
4. The treatment team should encourage student-athletes with concerns to contact any member of the treatment team. Coaches, teammates, or other third party individuals should refer to the team physician/treatment team about concerns of another student-athlete
5. The physician will serve as the director of the treatment team and will be responsible for making final decisions regarding treatment, referral, and athletic participation
6. The treatment team will meet regularly with the student-athlete to determine treatment plan and specific goals based on individual needs
7. Specific Team Member Responsibilities:
 - a. Medical Physician: Diagnoses eating disorder, develops treatment plan in conjunction with other members of the treatment team, oversees physical health of athlete, makes ultimate decision regarding athletic participation/restrictions
 - b. Psychologist: Diagnoses eating disorder, develops treatment plan in conjunction with other members of the treatment team, oversees proper mental health care services, facilitates referrals to more specialized care if necessary

- c. Dietitian/Nutritionist: Responsible for providing nutritional education to athletic staff and student-athletes, providing nutritional assessment of maladaptive eating behaviors, developing treatment plan in conjunction with other members of the treatment team, and facilitating referrals to more specialized care if necessary
 - d. Athletic Trainer: The team-specific athletic trainer should serve as the liaison between the treatment team, student-athlete, and coach. Athletic trainers should be directly involved in monitoring the student-athlete's behaviors and compliance with treatment conditions
 - e. Strength and conditioning coach: Serves as performance professional. Involved in determining the safety of athletic participation and conducting weight/body composition measurements
 - f. Coach: Involved with the treatment team only when athlete gives consent to disclose medical information to coach. Coaches should only take part in prevention and observing behaviors/compliance of student-athlete. Coaches should not make diagnoses or provide any form of treatment
8. Confidentiality must be strictly respected among members of the treatment team. An athlete may choose to consent to disclosing information to coaches and parents (except in the cases of minors <18 years old). The physician may only inform the coach of an athlete's clearance for athletic participation unless further consent is provided by the athlete
 9. Outside referrals to specialists may be warranted in some circumstances. These specialists will become part of the multidisciplinary treatment team. The student-athlete will be asked to sign a Release of Information to allow for medical information to be shared between the university treatment team and any outside health professionals working with the athlete. An athlete may choose not to sign a Release of Information, but the athlete may risk athletic participation as the team physician may not be certain of the treatment conditions or medical progress when an athlete is under another professional's care

University Policies Referenced in this Section: The University of Missouri & The University of Oklahoma

XI. Return-to-Play Requirements

1. The eating disorder treatment team will meet to discuss the student-athlete's condition and will determine the level of safety of returning-to-play. The team physician will make the ultimate decision regarding athletic participation, even when health professionals outside of the university are involved
2. The physician will communicate the conditions of athletic participation to the athlete. At a minimum, the physician will provide the coach with the student-athlete's level of participation clearance (full clearance, details of partial clearance, or no clearance)
3. If the physician and treatment team determines that it is not safe for an athlete to continue athletic participation, the athlete will be asked to sign a contract agreeing to the terms of treatment and medical requirements to be met in order to regain participation clearance
4. A similar contractual agreement will be developed in cases of medical leave and holiday breaks. Student-athletes will likely have treatment conditions to uphold over their time

away from the university and will have to meet minimal medical clearance standards upon return

5. An athlete may be required to continue ongoing treatment and reevaluation with the team physician/treatment team even in cases of full and partial participation clearance
6. The physician will clear an athlete to participate only when the athlete is considered healthy enough to safely participate in athletics, and the athlete has shown compliance with treatment requirements. Athletes who do not comply with treatment conditions may risk athletic participation

University Policies Referenced in this Section: Florida State University, The University of Missouri, & Oregon State University

XII. Approaching a Student-Athlete About Disordered Eating

1. When disordered eating is suspected, the coach or athletic trainer with the best rapport with the student-athlete should arrange a private meeting to speak with him/her
2. Using a calm and respectful manner, make specific observations and concerns clear when meeting with the athlete. Allow the athlete time to respond to your concerns
3. When speaking with the student-athlete:
 - a. Use “I” statements. (“I’m concerned about you because you refuse to eat lunch.” Or “It worries me to hear you vomiting.”)
 - b. Avoid “You” statements. (“You’re out of control. You’re too thin and you have to eat!”)
 - c. Avoid giving simple solutions (“If you’d just eat more, everything would be fine!”)
 - d. Affirm that acknowledging the problem will not jeopardize the athlete’s role on the team
 - e. Do not attempt to diagnose the athlete
 - f. Encourage the athlete to make an appointment with a professional (physician or psychologist). Offer to go with them if they prefer. Suggest that you will follow-up with them in one week to confirm that he/she has made an appointment
4. It is possible that the student-athlete will deny your concerns. It is also possible that he/she might get angry. Continue to encourage him/her to seek professional help and make sure that you present your concerns in a supportive and caring way
5. Acknowledge with the athlete that seeking professional help is not a sign of weakness, but rather a sign of strength and of taking one’s health seriously
6. If the student-athlete continues to refuse your suggestions to seek professional help, consult with the team physician/treatment team. It is possible that athletic participation will be restricted until the athlete seeks evaluation
7. If a teammate is concerned about another student-athlete, the teammate may choose to privately meet with the other athlete in a respectful manner to express concerns. A teammate should not expect immediate acknowledgement of a problem by the student-athlete. Teammates should have patience and communicate support
8. Teammates should make a member of the eating disorder treatment team (or athletic trainer) aware of their concerns if the student-athlete does not do so on their own
9. Teammates should not discuss concerns about another student-athlete with anyone except that student-athlete and when voicing concerns to a member of the treatment team

University Policies Referenced in this Section: Bowling Green State University, Clemson University, & Ohio State University

XIII. Confidentiality

1. All incoming student-athletes must sign a waiver during their physical that allows the release of medical information between professional members of sports medicine (physician, psychologist, dietitian, etc.)
2. All details of a student-athlete's interaction within sports medicine and the multidisciplinary eating disorder treatment team is to remain confidential
3. Student-athletes might be encouraged to sign a Release of Information to allow for the release of medical information outside of the eating disorder treatment team/sports medicine. The Release would allow information to be passed to parents, coaches, and/or outside health professionals the team physician deems appropriate
4. The team physician will provide coach only with the athlete's status of athletic participation unless the athlete gives consent to share more detailed medical information

University Policies Referenced in this Section: Florida State University & The University of Missouri

XIV. Body Composition and Weighing Policy

1. Coaches and athletic personnel should not discriminate based on weight or body composition. Body weight and composition are sensitive subjects and they do not always relate to sport performance
2. Coaches and athletic staff should create a supportive environment. Coaches should refrain from making comments related to weight and body composition, especially in relation to performance
3. All weight and body composition measurements should be conducted for the purpose of benefiting the student-athlete's overall health and sport performance
4. If sports medicine personnel believe that changes to an athlete's weight would be beneficial to his/her health and/or performance, sports medicine will work with the athlete to set weight and body composition goals that are safe and specific to the individual athlete. Athletic staff should note that each athlete has individual needs
5. Testing for weight and other body composition measurements should only be conducted by professional members of sports medicine. Coaches should not measure an athlete's weight or body composition
6. All testing should be done in private (no group testing or setting of group weight-related goals). Information about an athlete's weight/body composition is to remain confidential within sports medicine
7. Frequent testing may be harmful. Sports medicine professionals should refrain from weighing and taking body composition measurements more than once a semester.
8. Student athletes have rights to the results of their weight and body composition testing
9. Student athletes can choose to refuse weight and body composition testing

10. *Note: Many schools have a separate policy specifically addressing weight and body composition. The example in this section is a brief summary.

University Policies Referenced in this Section: Ohio State University & The University of Oklahoma

Other References:

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APPENDIX C

EXAMPLE ATHLETICS EATING DISORDER TREATMENT FLOW CHART

Example Disordered Eating Referral and Procedural Flow Chart

