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NCAA DIVISION I HEAD COACHES' EXPERIENCES WITH EATING DISORDERS
AND DISORDERED EATING IN FEMALE ATHLETES: A QUALITATIVE
ANALYSIS

by

CAITLYN PECINOVSKY

(Under the Direction of Daniel R. Czech)

ABSTRACT

In today's sport, NCAA Division I female athletes are under a constant pressure to reach an elite level of perfection in athletic performance, frequently adhering to the assumption that there is an inverse relationship between body size and performance level (Petrie & Sherman, 2007). Additionally, coaches have unrealistic expectations about weight and body image, which adds pressure on athletes to conform to certain weight or image driven standards. Perceptions that coaches hold about eating disorders and disordered eating present a set of risk factors that may increase the likelihood of female athletes developing maladaptive eating patterns (Scoffier, Maiano, & d'Arripe-Longueville, 2010). Thus, the purpose of the present study is to use a qualitative approach to assess the experiences, knowledge, and education that coaches at the NCAA Division I level possess about eating disorders and disordered eating in female athletes. Creating alternative and better intervention techniques for disordered eating and eating disorders in female athletes will be discussed.

INDEX WORDS: NCAA Division I Head Coaches, Eating disorders, Disordered eating, Female athletes, Risk factors

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CAITLYN PECINOVSKY

B.A., Baldwin-Wallace College, 2011

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Fulfillment of the Requirements for the Degree

MASTER OF SCIENCE

STATESBORO, GEORGIA

2013

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CAITLYN PECINOVSKY

Major Professor: Daniel R. Czech
Committee: Brandonn Harris
Trey Burdette

Electronic Version Approved:
May 2013

DEDICATION

I would like to dedicate this thesis to my amazing family, who have supported me throughout my life and got me to where I am today. To my parents and brothers, I owe you the biggest thanks. You fought my battle of anorexia along my side and never gave up on me—no matter how bad things got. Without your love, support, and perseverance, I am not sure that I would be here today. This thesis came to be because of the struggle I went through many years ago, and I just want you all to know how much I appreciate your faith in me. You believed in my strength, and because of you, I was able to overcome all odds and come to live a life full of purpose. This thesis is just another small victory I have achieved along this adventure.

To the rest of my family, friends, coaches, and teachers who know my story and have given me strength through the years, I dedicate this work to you as well. Had you not believed in me, I would never have believed in myself. Because of you I have realized my potential, and vow to never settle for mediocrity. I thank you for your inspiration and encouragement.

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CHAPTER 1

INTRODUCTION

Petrie and Sherman (2007) suggest that it is not common for female athletes to be diagnosed with the *Diagnostic and Statistical Manual of Mental Disorders IV-TR (DSM IV-TR)* criteria for an eating disorder (such as anorexia nervosa or bulimia nervosa), but it is becoming more common for female athletes to meet the criteria for exhibiting disordered eating patterns and behaviors such as "...body dissatisfaction or body image disturbance, excessive exercising to lose weight, binge eating, strict dieting and/or purging, low self-esteem, depression, and unrealistic beliefs about their weight" (Petrie & Sherman, 2007, p. 121).

While involvement in athletics can promote a healthy lifestyle, create positive outlooks on self-image, and instill motivational attitudes and a strong sense of work ethic in individuals, it can also present a set of additional risk factors that may increase the likelihood of female athletes developing disordered eating patterns (Reinking & Alexander, 2005). Female athletes are subject to "pressure from coaches, social comparison with teammates, team weigh-ins, performance demands, physique-revealing uniforms, and judging criteria" (Greenleaf, Petrie, Carter, & Reel, 2009, p. 489). All these factors can significantly affect the development and maintenance of an eating disorder or disordered eating.

When considering disturbances in eating patterns, it is important to distinguish between eating disorders and disordered eating. In the *DSM IV-TR*, The American Psychiatric Association (APA) has classified an eating disorder as a severe disturbance in eating behavior as well as body image (American Psychiatric Association, 2000). Often times the disturbance is found to be both perceptual (having a distorted perception of the body) and evaluative (concerned with a certain weight and size). Examples of *DSM IV TR* eating disorders are anorexia nervosa, which is

characterized by an obsession about weight, diet, and appearance and a feeling of “fatness,” and bulimia nervosa, which can be characterized by the bingeing and purging of meals and irregular weight loss and gain in (American Psychiatric Association, 2000). Eating disorders can result in major medical complications and even death when untreated. Disordered eating refers a “wide spectrum of maladaptive eating and weight control behaviors and attitudes...includes concerns about body weight and shape; poor nutrition or inadequate caloric intake, or both; binge eating; use of laxatives, diuretics, and diet pills; and extreme weight control methods, such as fasting, vomiting, and excessive exercise” (Bonci, Bonci, Granger, Johnson, Malina, Milne, et al., 2008, p. 80). Those with disordered eating typically have body image disturbances, are never satisfied with their weight, and often times do not recognize a significant change in weight, but their thoughts about weight are more infrequent than those who have a fully diagnosed eating disorder (Torstveit, Rosenvinge, & Sundgot-Borgen, 2008). Disordered eating is found to be more of a “bad habit” that is likely remit over time without therapy, whereas an eating disorder is considered an illness and requires the use of professional medical attention for successful treatment. Disordered eating also does not typically lead to health, social, school, and work related problems, while eating disorders significantly impact these areas of an individual’s life (American Psychiatric Association, 2000).

Female athletes are under a constant pressure to reach an elite level of perfection in athletic performance, and many female athletes have the misconception of following the assumption that there is an inverse relationship between body size and performance level (Sanborn, Horea, Siemers, & Dieringer, 2000). There is also this notion that coaches may have unrealistic expectations about weight and body image, which can add additional pressure on the athletes to conform to certain weight or image driven standards (Petrie & Sherman, 2007). For

example, some coaches expect athletes to maintain a certain weight, or they hold a belief that weight loss automatically leads to an improved performance (Petrie & Sherman, 2007).

Additionally, some sports contain a culture that praises athletes who have a thin body, as it is more aesthetically pleasing, and thus, there is constant peer pressure from the surrounding environment to use pathogenic weight control behaviors (Petrie & Sherman, 2007). In 1999, the National Collegiate Athletic Association (NCAA) conducted a study and revealed that 13% of female athletes had “clinically significant” pathogenic weight-control behaviors (Johnson, Powers, & Dick, 1999). These individuals have a tendency to exercise and train excessively, deny pain and injury, and commit themselves to obtaining an unhealthy and sometimes unattainable body image goal (Buchholz, Mack, McVey, Feder, & Barrowman, 2008). Because high performance female athletes have to undergo work-out routines that are typically of high intensity and taxing on the body, while following strict dietary plans, it is evident that there could be a high prevalence of disordered eating in female athletes that can quickly become dangerous if the proper precautions are not taken early on.

In an intervention study completed by Beals (2003), only 26% of athletic trainers and team physicians surveyed, perceived that their eating disorder screening process, which evaluated how well coaches could identify athletes with eating disorders, was successful in their program. An earlier study completed by Turk, Prentice, Chappell, and Shields (1999) also demonstrated this finding, as 38.4% of coaches were not aware of any literature on eating disorders available to them from the athletic department. However, one study reported that one-third of NCAA Division I coaches believed they had a keen awareness of eating disorder symptoms, and were thus identifying and treating female athletes with eating disorders, as well as engaging in weight monitoring or weight management with their athletes (Heffner, Ogles,

Gold, Marsden, & Johnson, 2003; Rockwell, Nickols-Richardson, & Thye, 2001). In a study that surveyed collegiate coaches and their knowledge base of eating disorders, less than half of the coaches reported ever taking an actual educational course about eating disorders (Turk, Prentice, Chappell, & Shields, 1999). That same study also found that only 38.3% of coaches had their teams attend a program about eating disorders in the past year, and a mere 23.9% made the attendance of this program mandatory (Turk, Prentice, Chappell, & Shields, 1999). Using this study as a framework, it leads one to question what role a coach should play in the identification and treatment of disordered eating and eating disorders in athletes, as well what they can do to prevent disordered eating and eating disorders and contribute to the intervention process. If these coaches have not received the proper education to accurately diagnose an eating disorder or disordered eating in an athlete, they are acting out of their area of competence and clearly endangering the athlete's well-being, which has serious repercussions in regards to the health and mental state of that athlete.

Coaches can have a significant influence over an athlete in regards to the expectations they set forth in their practice and competition environment, in addition to the type of weight management and training they require for each specific athlete (Scoffier, Maiano, d'Arripe-Longueville, 2010). Thus it is not surprisingly that several studies have indicated that the coach can be a significant risk factor for the development of eating disorders and disordered eating because of their constant pressure to keep body weight low and even the impact of their coaching style (Scoffier et al., 2010). It seems that athletes do not participate in weight control practices because they are dissatisfied with their bodies, but rather because they want to meet the demands of their specific sport (Torstveit, Rosenvinge, & Sundgot-Borgen, 2008). Coaches sometimes emphasize this "thin is going to win" philosophy that has influenced athletes to believe that they

need to restrict their food intake and control their weight if they want to be successful (de Bruin, Oudejans, Bakker, Woertman, 2011). Female athletes competing in aesthetic and endurance sports where their bodies are more exposed were found to have a negative perception of their body image because of the demand from their sport culture to fulfill a strict body type (de Bruin, et al., 2011).

Many times, these athletes are asked by their coaches to meet unrealistic weight goals in order to enhance performance, which greatly increases the chance of the development of disordered eating and eating disorders (Bonci, et al., 2008). Recently, coaches have been prompted against giving uninformed advice about weight loss, conducting mandatory weigh-ins in a practice setting, setting specific target weights for athletes, and applying external pressure on athletes to lose weight (Bonci, et al., 2008). One study even found that female athletes were greatly disturbed at how their coaches handled weight-loss and dieting situations, as they required weekly mandatory weigh-ins, assigned specific weight-loss targets for each athlete to meet, and continually pressured athletes to lose weight (Ryan, Lopiano, Tharinger, Starke, 1994). In a study completed on elite female swimmers, it was reported that 70% of the participants had been pressured by their coach to lose weight, and 36% of those participants found this pressure to have a significantly negative impact on their ability to reach performance goals (Benson, 1991). Swimmers in this study reported that coaches even punished them for not reaching weight loss goals. Ultimately, when the demands and stress involved with a coaching position combine with inadequate knowledge and education about eating disorders, coaches may become more likely to disperse careless comments about weight to their athletes (which prompts disordered eating), misinformation about weight control, and inappropriate actions that may endanger the health and well-being of their athletes (Bonci, et al., 2008).

Purpose of Study

The purpose of the present study was to describe the experiences, knowledge, and education NCAA Division I head coaches possess about eating disorders and disordered eating amongst their female athletes. A secondary purpose was to examine the types of intervention and prevention techniques NCAA Division I head coaches used for female athletes who had/have eating disorders or disordered eating, or had/have the potential to develop these maladaptive eating behaviors. This study sought to examine the procedures coaches used in working with these athletes with disordered eating and eating disorders (what worked and what did not work) in the hopes of being able to create alternative and better intervention techniques and strategies for dealing with disordered eating and eating disorders in female athletes.

CHAPTER 2

METHODS

The Humanistic Approach

The present study was conducted by collecting and examining the data through a humanistic approach, which is rooted in the phenomenological perspective. Moustakas (1995) describes the humanistic approach as one in which the primary researcher fully immerses himself in the participant's experience, listening intently and deeply, so as to understand that person's perspective and perception of the experience. Moustakas states:

“I do not select, interpret, advise, or direct...being in the world of the other is a way of going wide open, entering in as if for the first time, hearing just what is, leaving out my own thoughts, feelings, theories, biases...I enter with the intention of understanding and accepting perceptions and not presenting my own view or reactions...I only want to encourage and support the other person's expression, what and how it is, how it came to be, and where it is going” (Moustakas, 1995, p. 82-83).

By using the humanistic approach the primary researcher focuses on “capturing and describing how people experience some phenomenon—how they perceive it, describe it, feel about it, judge it, remember it, make sense of it, and talk about it with others” (Patton, 2002, p. 104). It is important to note that the use of the humanistic approach requires for the individual to look at an experience retrospectively, as they should be reflecting on a past event because it is a “lived experience” (Patton, 2002). With the humanistic approach, the primary researcher must examine “what people experience and how they interpret the world,” as well as, “experiencing the phenomenon as directly as possible” (Patton, 2002, p. 106). Through an in-depth interview

process and the interpretation of data, the primary researcher was able to gain the primary essence of the lived experience, fully understanding the significance of the experience.

Bias Exploration and Bracketing

When using a qualitative methodology, it is important to identify the primary researcher as a part of the instrumentation in use and understand how her life experiences may relate to the chosen topic of study (Gearing, 2004). Gearing (2004), suggests that a type of bracketing be used in the interview in order to control for researcher bias in the proposed study:

“Bracketing, as in a mathematical equation, suspends certain components by placing them outside the brackets, which then facilitates a focusing in on the phenomenon within the brackets (p. 1430).”

Being able to “bracket out” personal experiences and beliefs assists in the collection of unbiased and valid data, as well as help the researcher refrain from using judgment when interpreting the interview following the questioning. For this study, bracketing was completed to control for the researcher’s internal suppositions pertaining to personal knowledge, experiences, beliefs, and assumptions about the subject matter. Prior to the start of the interview process with the collegiate coaches, the primary researcher was interviewed by an experienced qualitative researcher, in order to obtain the researcher’s knowledge and experiences in regards to female athletes with eating disorders or disordered eating, and her beliefs about how coaches respond to these athletes.

The following steps were conducted to complete the bracketing interview process: 1) emphasizing phrases and statements within the answers that relate directly to the phenomenon in question, 2) meanings are then interpreted, 3) sorting out important, “reoccurring features”, and

4) specifying a tentative definition that fits the “reoccurring features” located in previous steps (Patton, 2002, p. 408).

Athletics has been a large part of my life from a very young age. I started competing competitively in grade school and carried this passion to succeed throughout my grade school years, and into my high school and college years. A lot of my drive to succeed was accompanied by a desire for perfection though. Following very successful tennis and basketball seasons in high school, my strive for perfection engulfed my life. Entering my sophomore year of high school, I was diagnosed with anorexia nervosa and struggled with the disease for the following four years. Eating became just as big of a priority in my life as sports, and I was in a constant battle to overcome my irrational fear of food while trying to find a way to achieve a peak performance level so as to not let my team and coaches down. In those three remaining years I spent competing in high school, my coaches saw me more often than any of my doctors. Because I have had personal experience working with coaches who have athletes with eating disorders, it was necessary for me as the head researcher to bracket out my biases in regards to their experiences towards female athletes who have eating disorders and disordered eating.

When interpreting my bracketing interview, the following themes were recognized: prevalence of eating disorders, knowledge of eating disorders, education regarding eating disorders, and prevention. The first theme, prevalence of eating disorders, alluded to my recognition of eating disorders and/or disordered in myself and my peers during my athletic career. While it was a firsthand experience, it hints at the fact that eating disorders and disordered eating occur on all sporting teams, which cannot be backed without further research. Throughout many applied experiences working with teams and athletes, I have also seen this prevalence amongst the teams. Many of the encounters that I have had with athletes and

disordered eating were unknown to the coach. The second theme, knowledge of eating disorders has two subthemes. The first subtheme focused on the amount of knowledge I believed I possessed from my personal experience and the scholarly research I have studied. I know what I know because of what I went through and how much I have delved into the topic. The second subtheme has to do with my bias towards how much knowledge I believe coaches to have about this topic. From my personal experiences, both with my own eating disorder and my applied experiences working with athletes, I know that the knowledge coaches have is a bare minimum amount. Therefore, it is important to address that during my interviews I was trying not to lead them towards answers I might find socially desirable. The third theme explored education in regards to eating disorders and disordered eating. This theme identifies the education I have received from my schooling and the medical professionals I was in contact with through my own experiences. The education includes, but is not limited to, symptoms needed for diagnosing, inventions used for athletes with this disorder, different treatment methods used, and different preventative techniques. My biases towards education stem from what my “ideal situation” would be if I were able to educate coaches on the topic. The last theme identified was that of prevention. The idea of prevention is a personal opinion and an acknowledgment that coaches should be educated further on this matter. This idea of prevention is once again an ideal I wish to pursue and a topic I wish others to find as important and worth exploring further.

Participants

This study asked three male and three female (N = 6) NCAA Division I head coaches of female sport teams to share their experiences dealing with Division I level female athletes and disturbed eating behaviors in their sporting area. Both male and female coaches from a variety of sporting areas (tennis, basketball, softball, volleyball, swimming, and diving) were asked to

participate in this study and share their experiences. Coaches were contacted through email. In addition to participating in an interview with the head researcher, coaches were asked to complete the *NCAA Questionnaire for Collegiate Coaches of Female Student-Athletes* in order to gain additional knowledge about the coaches and a brief history of their experiences with female athletes and eating disorders and disordered eating. At the time of the study, all coaches were still coaching at the NCAA Division I level, and had previously been coaching for two or more years at this level.

Instrumentation

Researcher: The study completed was qualitative in nature. Because this was a qualitative study that imposed a semi-structured interview design to collect data, the primary researcher was the most important instrument. The primary researcher was responsible for conducting the interviews, interpreting the data that was collected, and deducing themes from that data.

Tape Recorder: Two separate tape recorders were used to record the interview responses.

Supplemental Instrumentation

In addition to the qualitative interview, coaches were asked to complete the *NCAA Questionnaire for Collegiate Coaches of Female Student-Athletes* in order to gain some insight to the coach's background in regards to his knowledge of disordered eating and eating disorders in female collegiate student-athletes. The questionnaire served as supplemental information to the analysis that was conducted by the researcher.

NCAA Questionnaire for Collegiate Coaches of Female Student-Athletes (Sherman, Thompson, Dehass, & Wilfert, 2005): This questionnaire, developed in 2003 by Sherman and colleagues consists of 31 items asking the coach about his beliefs, attitudes, and behaviors towards female student-athletes and their eating behaviors and diet related behaviors. The

questionnaire also delves into how the coach identified and responded to female-athletes he believed to have disordered eating patterns or an eating disorder. The questionnaire asked for the coach's gender, age, years of experience, sporting area, school they are currently coaching at, and coaching position (either a head coach or assistant coach). This questionnaire was conducted with high school coaches as a pilot study in order to assess reliability and validity, as well as ensure that the items and instructions were readable and easily understood.

Procedures

Participants were contacted through email and asked to participate in the interview. Prior to meeting for the interview, coaches were given an informed consent form and were educated further about the procedures and content of the study. Each consent form confirmed that the identity of each coach would be kept anonymous, and in addition, each coach would be given an alias so that their name would not appear on any document. The coaches were then interviewed in-person and independently from each other. The coaches were informed prior to the start of the interview that the session was being recorded for accuracy purposes and that if uncomfortable at any point of the interview, he or she could discontinue the interview without any repercussions.

After the interview had been completed, coaches were asked to fill out the *NCAA Questionnaire for Collegiate Coaches of Female Student-Athletes* (Sherman, Thompson, Dehass, & Wilfert, 2005) in order for the researcher to gain some demographic information from the coach, and in addition, have additional supplemental information to add to the interview the coach had just completed.

Interview Protocol

A semi-structured interview took place between the coach and the head researcher. A semi-structured interview is one in which the interviewer pre-determines a broad set of questions

and themes to address (Nicholls, 2009). Walker (2011) argues that this type of interview “offers a balance between flexibility and control while giving reassurance that the aims of the study can be achieved.” During the course of the interview, the interviewer can deviate from the specific questions that were formatted for the interview if more information is needed from the interviewee (Nicholls, 2009). If it was necessary to gain more information during the course of the interview, the researcher asked probing questions to the coaches in order to extract more detail. The broad set of questions created were open-ended so that coaches could respond by speaking through experiences and feelings about the issue at hand. The responses from each coach were kept confidential from the other coaches participating in the study. The following questions were asked by the head researcher:

- “From a coaching perspective, describe your experiences with female athletes and eating disorders and/or disordered eating”
- “What knowledge do you have about eating disorders and disordered eating?”
- “What kind of education have you received in the past regarding eating disorders and disordered eating?”
- “When thinking about your attitudes and beliefs towards female athletes with eating disorders or disordered eating, what comes to mind?”
- “Considering the discussion we just had, tell me about any other additional information or thoughts that you have about this topic”

Additional probing questions such as, “You mentioned this.....tell me more about that,” or “What did you mean by this...” were used at the head researcher’s discretion in order to obtain the necessary rich description needed for the interpretation of the interview. Additional questions

allowed for elaboration and clarification of their experiences so that the account was as accurate and detailed as possible.

Data Analysis

Jacelon and O'Dell (2005) describe the data analysis process of qualitative research in the following way:

“Data analysis in qualitative research is a creative process. As the instrument of data analysis, the researcher explores and reflects on the meaning of the data. In most qualitative traditions, the data analysis phase overlaps the data collection phase. As data analysis proceeds, the researcher moves back and forth between data analysis and data collection in order to create and explain the findings.”

Qualitative research operates around the idea of gaining the most complete and thorough understanding of an environment or population as possible. In order to do this, the researcher must follow the method known as “triangulation” in order to achieve completeness in understanding (Pearson, Parkin, & Coomber, 2011). By interviewing a variety of coaches and recording their unique accounts and experiences and interpreting the findings with a focus group, the researcher attempted to create a more holistic view of this issue so as to interpret it in its entirety. The present study was completed under the premise of using the qualitative research strategy known as a grounded theory. This strategy uses a deductive method, meaning the phenomenon is determined by “through identifying key concepts (concepts, strata, and problems) of that phenomenon and then classifying the relationship among these elements within that process (Toloie-Eshlaghy, Chitsaz, Karimian, & Charkhchi, 2001).” Ultimately, the purpose is to break down specific thoughts, feelings, and emotions of the topic and create a general concept.

Wu and Volker (2009) identified that qualitative research is used to “understand human experience in all its complexity and in all its natural setting (p. 2721).” The present study was analyzed by integrating the qualitative approaches adapted by Czech et al. (2004) and Patton (2002) as outlined below:

A. Approaching the interviews

- Transcribing the interview*
- Obtaining a grasp of the interview*

B. Focusing the data

- Grouping the text*
- Clearing the text*

C. Reduction

- Eliminating irrelevant, repetitive, or overlapping data*
- Verifying the elimination of the data*

D. Releasing meanings

- Forming categories*
- Identifying the themes*
- Describing the themes*

Approaching the Interview

Transcribing the interview: Each interview was audio recorded in order to obtain an accurate account of the interviewee’s story. Transcribing the interview involved listening to the interview and then transcribing the interview verbatim in order to create a text. Each participant had access to his or her transcript after the transcription had been completed.

Obtaining a grasp of the interview: In order to delve into the structure of the experience, the head researcher listened, read, re-listened, and re-read the interviews multiple times until there is a clear understanding of the text. It allowed the head researcher to see the interview as part of a bigger picture in conjunction with the other interviews that took place.

Focusing the Data

Grouping the text: This part of the process involved breaking down the text into meaningful units—ultimately turning sentences into bullet points. Hawthorne (1988) suggested the following steps when grouping the text:

- Decrease clutter (eliminate any part of the conversation not necessary for comprehending the text).
- Eliminate repetition (repeated statements should be omitted).
- Punctuate (condense run-on sentences as long as the meaning is not distorted. Change commas to periods where possible).
- De-emphasize the interviewer (the perspective of the co-participant should be evident throughout the protocol).
- Enhance readability (if deletion could cause confusion for words such as “it” or “that,” specify the references for those words).

Clearing the text: By clearing the text, the researcher was able to eliminate insignificant statements, such as “uh” and “um,” that were not essential to understanding the meaning of the experience relayed by the interviewee. Insignificant utterances were eliminated in order create smaller, concise, and more manageable transcripts that were still rich in meaning.

Reduction

Eliminating irrelevant, repetitive, or overlapping data: During the course of the interview, information was collected that was not necessary to the interpretation of the meaning. This information was eliminated from the transcription in order to enhance readability. The following process of summarizing the interview was suggested by Hawthorne (1988):

1. Identifying topics: Study the text and mark a clear beginning and ending to each topic.
2. Gathering related statements: Gather all responses that are relevant to a specific topic and group them together.
3. Editing: Without distorting the meaning, the researcher can shorten or combine for a more concise reading.
4. Removing additions: Delete marks such parentheses or brackets surrounding a text and insert them into the summary.

Verifying the elimination of the data: After the interview was transcribed, each participant received a copy of the document in order to read over and verify the truthfulness of the document and clarify any indiscretions.

Releasing meanings

Forming categories: Jacelon and O'Dell (2005) term this process of forming categories as 'coding.' By coding the researcher is using his/her knowledge and perceptions to fracture and organize the data by the ideas that are presented within the statements (Jacelon & O'Dell, 2005). This part of the process involved gathering a research team in order to begin to break down the structures of the summarized interviews. The research team was responsible for placing like phrases in ideas into meaningful clusters (categories) to be further evaluated.

Identifying the themes: Once the text is placed into categories, the research team must read and re-read the summaries until concise themes develop. Data was analyzed within the codes as well as between the codes to deduce common themes in the statements (Jacelon & O'Dell, 2005). Themes must be fully developed and consistent across interviewee responses. Each category should be represented and there should be a clear separateness between the

categories that show distinct differences. In this stage, it was crucial to look for patterns across the categories.

Describing the themes: Thick, rich description must come of the transcripts in order to have strong interpretation of the experiences the interviewees relayed to the researcher. Once themes have been identified, they are displayed in a clear and descriptive manner that conveys the essences of the experiences for each participant.

Reliability

Reliability refers to the consistency of the responses as they relate to the interpretation of responses. If something is repeatable, it is considered reliable. Goodrich (1988) suggests using the following questions to determine if the description of the data is true to the experience:

1. Do the descriptions capture the experience?
2. Does the structure match the co-participant's experience?
3. Does the structure emerge from the data? Do others see the description?

These questions were considered throughout the interpretation of the interviews and the develop of themes for the analysis of this study.

Validity

Validity of a qualitative analysis is determinant on whether a person reading the presentation of material experiences the description as accurate and revealing (Polkinghorne, 1989). If a person, as a reader, is able to follow the process of the study that has led to the conclusions and is able to accept these processes, then the conclusions can be considered valid. The reader might consider the following questions when trying to interpret validity in the present study:

1. Does the description give an accurate picture of the common features and the structural connections that are evident in the examples which have been collected?
2. Did the interviewer influence the contents of the descriptions to the extent that the actual experience is not truly reflected?
3. Are transcriptions accurate?
4. Were conclusions other than those offered by the researcher possible in the analysis?
Have any alternatives been identified and discussed for suitability?
5. Do the specific contents and connections in the transcripts provide evidence for structural description?
6. Is the structural description specific to one situation or does it hold for other situations?

In this study, validity was further increased by the use of triangulation. Patton (2002) describes triangulation as a process which uses a combination and application of various research methodologies that are brought together in order to focus on the same experience (Patton, 2002). Triangulation within this study included the use of a bracketing interview, a research team that assisted in the development of themes, the primary researcher, a personal journal of experiences, and an advisory committee that assisted the head researcher throughout the entire study. After the interviews had been transcribed, the documents were also given back to the participants so that they could verify their statements and clarify any indiscretions that they found. Reliability and validity was checked continually throughout the transcription and interpretation process in order to create the most valid and reliable account.

CHAPTER 3

RESULTS

At the time of the study, the three male and three female coach participants were all head coaches currently coaching females at the NCAA Division I level and all six participants had at least two years of experience coaching at this level. The purpose of this study was to use a qualitative approach to assess the experiences, knowledge, education, and attitude and beliefs head coaches at the Division I level had about female athletes who suffer from eating disorders and/or disordered eating. More specifically, the study aimed to unfold the perspectives these coaches had about eating disorders and disordered eating in female athletes at the Division I level, and how they, as coaches, handle such situations, whether their approach was appropriate.

The present study used a qualitative, semi-structured interview approach to gain a deeper understanding of the experiences these coaches have had with their female athletes and how knowledgeable they are in regards to recognizing, preventing, intervening when it comes to assisting a female athlete that is suffering from an eating disorder and/or disordered eating. At the time of the interviews, the participants were also asked to fill out the *NCAA Questionnaire for Collegiate Coaches of Female Student-Athletes* for supplemental information. After conducting, transcribing, and analyzing the interviews, as well as completing a thorough analysis and comparison of the given questionnaire, several themes surfaced, with some themes also containing a set of subthemes. The themes that surfaced from the interviews were constructed and separated by each main interview question that was asked. The themes that surfaced from the questionnaire were grouped together by the specific question that had been asked. This section contains the interview questions used, the themes and subthemes deduced from each interview

question and from the questionnaire, and quotes from the participants that serve to exemplify the significance of each theme and subtheme.

SECTION 1: Interview Questions and Responses

Question 1: From a coaching perspective, describe your experiences with female athletes and eating disorders and disordered eating.

Theme 1: Use of Secondary Sources for Intervention

All six of the participants interviewed alluded to the inclusion of a secondary source when they encountered an instance of an eating disorder or disordered eating on their team. Most participants confirmed that they would refer their athlete to an athletic trainer or a nutritionist if a problem arose, as it is out of their area of competence to handle to situation on their own.

Participants did not report being involved with the athlete after a referral was made, suggesting that interaction between the coach and athlete during the incident was limited.

“...if we saw them, we’d usually use our athletic trainer as the first line of offense—the first person to approach.” ... “Sometimes we’ve been fortunate enough to have a nutritionist be a liaison and then we could use that person to help.” (Participant 1)

“I don’t try to diagnose it, but I certainly have a feeling, an inkling when that’s going on, and we try to approach it as delicate as possible and then I send them to the proper resources...the first step might be to our athletic trainer...or a professional on campus...” (Participant 6)

“In all three of the situations we were in close contact with the athletic trainers...” (Participant 4)

“...we notice it so we will be able to address it, and I go to the trainers and have them deal with it. It is not something I am going to counsel someone on. It is really out of my realm. None of my coaches, that is not our area, it is the trainer’s area. And so any coach with any sense would not try to counsel their athletes on it if they understood it.” (Participant 2)

“I don’t think I should be the one being her life coach on eating. I would like to refer her to someone who has more expertise than me because I know that is not my expertise.” (Participant 3)

Theme 2: Prevalence of Eating Disorders/Disordered Eating in Division I Female Athletes

Research has indicated that 13% of female athletes had “clinically significant” pathogenic weight-control behaviors (Johnson et al., 1999). All six of the participants that were interviewed for this studied confirmed that they had witnessed an occurrence of an eating disorder in their time as a Division I head coach. The firsthand experiences of these coaches validates previous research and solidifies the incidence of eating disorders and disordered eating as significant and prominent in female athletes at this level.

“And so in my time maybe 7 or 8 athletes in 15 years.” (Participant 2)

“I think that there were 3 that we have dealt with. ...two being more fitness oriented and one actually being not eating properly.” (Participant 4)

“As far as disordered eating, again, a lot of it could be hidden from us and we would never know.” ... “I know some are very conscientious about what they put into their bodies and how they look and their appearance and all that stuff.” (Participant 5)

“I’ve been coaching, this is my ninth season, and I have had players during these nine years that have suffered from disordered eating.” ... “Usually I’ll have something every other year, like half of the years I’ve been coaching...” (Participant 6)

“I would say two that were for sure....there probably have been a couple of others.” (Participant 1)

“I know [insert specific sport players] who have had eating disorders before.” (Participant 3)

Question 2: What kind of knowledge do you have about eating disorders and disordered eating?

Theme 1: Lack of Knowledge

Five of the six participants revealed that their knowledge about eating disorders and disordered eating is very limited, most participants only knowing the basic symptoms of the disorders. The supplemental survey revealed that participants were not able to distinguish the differences between a full blown eating disorder and disordered eating. This lack of knowledge can lead to a lack of awareness in regards to the maladaptive eating patterns of their athletes.

“I know just the very basics.” (Participant 3)

“I know that a lot of times with anorexia that it a lot of times is a person who’s a perfectionist and who wants to have control.” (Participant 1)

“Not enough to be certified or to give proper advice, but enough to know when there’s a problem and when to seek help.” ... “I have taken some classes that have given me some knowledge about the different types of disordered eating...but at the same time I feel like my knowledge is fairly limited...” (Participant 6)

“I guess just things that I’ve read, things that have been discussed with the trainers, just warning signs, things like that to look out for. No formal education in terms of that.” (Participant 4)

“Not a whole lot.” (Participant 5)

Question 3: What kind of education specifically have you received in the past about eating disorders and disordered eating?

Theme 1: Lack of Education

This theme explores the notion that most coaches in general do not receive formal education on what an eating disorder or disordered eating is, how to handle a situation with an athlete if it occurs, and what to avoid talking about with female athletes in regards to eating behaviors, weight, and body image. Two of the six participants explicitly state that they have received absolutely no formal education regarding this topic since they began coaching at the Division I level. Four of the six participants divulged that this is a touchy subject that is avoided at all costs until it presents itself as a prominent issue on the team.

“It’s not something that we as coaches receive a lot of training on...” “...that sort of thing, it’s just not brought up. It’s not talked about. We as coaches don’t receive any information on how to handle that other than just me being close with those players and trying to help them the best way I know how...I really haven’t received any guidance on that.” (Participant 6)

“I would say like zero.” (Participant 3)

“None.” (Participant 5)

“Nothing in a coaching workshop, probably just general information that you would pick up.” ... “...it’s just one of those things you refer once you notice it or are even worried about it.” (Participant 4)

Question 4: When thinking about your attitudes and beliefs towards female athletes with eating disorders and disordered eating, what comes to mind?

Theme 1: Eating Disorders/Disordered Eating Beyond the Athletic Realm

When answering this question, four of the six participants referred to the development of maladaptive eating behaviors as being a reaction to an event or an emotion that went beyond the scope of the athletic arena. These participants were able to identify that eating disorders and disordered eating stemmed from issues from the athlete’s social, school, or personal life and were typically not a direct result of something that happened on the field of competition.

“Insecurity...” “I would assume there’s something about that person that they are usually pretty deeply unhappy with.” ... “I feel like a lot of them don’t see their appearances as they really are...” (Participant 5)

“I feel like the disorder in general is more of a life thing for them...” ... “I know there is negative ramifications that outweigh the sport.” (Participant 3)

“...some kids it is a symptom of another problem, a much deeper problem than eating. It is not about eating, there is something in their life that is out of control and so they are trying to control that...I mean that is what eating disorders really are—it is a symptom of something else. Therefore there are more problems—the more problems you have the harder it is to play, so it becomes a big cycle that can really get out of control. And then, they can become unreliable because then you don’t know—it is a pretty powerful thing when they slip over that cliff. Can you

catch it in time? You hope, but it is just a sign of something much bigger and deeper.” (Participant 2)

“I just think about the pressure of looking a certain way and trying to be in this stereotype...Everyone’s body is so different, but they’re expected to be this [refers to a specific famous player] look alike every time they take the court.” ... “...they get real caught up in comparing themselves with other females their age...” (Participant 6)

Question 5: Considering the discussion we just had, tell me about any other additional information or thoughts that you have about this topic.

Theme 1: Coach to Athlete Communication about Eating Behaviors

One of the most popular themes amongst the participants was the idea of using selective terminology when discussing weight, body image, and eating patterns with their female athletes. Five of the six participants spoke in terms of using a more positive, non-accusatory approach when assessing a possible eating disorder incident. Participants wanted to explain the idea of weight gain and weight loss with their athletes in a non-threatening manner, trying to minimize the ill effects that can protrude from conversations about eating and staying healthy.

“It gets tricky when sometimes you have to tell kids that they need to get leaner in order to perform better...”...“Trying to figure out how to approach that...the terminology like to use ‘lean’ and to talk about the kind of food you eat before you play—the food that is going to fuel your body well. I try not to talk in terms of weight, even when we need to talk about dropping some. We’ll call it ‘lean up...’...“...tell a kid she needs to get a little leaner...” (Participant 1)

“...I don’t accuse them of it or make them feel bad about it...as a coach I try to spin it around in a positive light.” ... “I try to turn it back onto wanting them to be the best player they can be and the best teammate they can be.” (Participant 6)

“We try to never focus on weight and we talk about fitness and we talk about taking care of our bodies...that includes your diet to an extent—hydration, sleep, and all of those things. We try to come at it from a well-rounded point of view as opposed to ‘you’re too heavy’ or ‘you need to not eat that.’...“Anything we can do to divert attention from weight and just try to focus more on the overall goal of being fit.” (Participant 4)

“I mean, you can teach them to eat healthy, model behavior, and put them in situations where they will eat better just by what restaurants you choose and things like that so you inadvertently make them eat better, but I think if you start monitoring it then you are getting yourself into a situation.” (Participant 2)

“...we try to educate them if we see a lack of performance or people just getting really shaky or really dizzy. We do try to make them understand that what they eat or what they don’t eat or when they eat—it will really affect them not just in the [mentions sporting arena] but in mood and all that stuff as well.” (Participant 5)

Subtheme 1: Topics to Avoid with Female Athletes

Falling under the theme of communication with female athletes about eating behaviors, all participants agreed that there were certain areas of conversation that should be avoided when talking with female athletes. Discussions in which the female athlete’s self-esteem about body image and weight might be diminished should be approached in an appropriate manner by the coach. Coaches of female athletes must be sensitive to the population they are dealing with making sure to not introduce unnecessary or unrealistic thoughts into the minds of their athletes.

“...not that guys don’t have eating disorders, but it is harder for them to understand why females have eating disorders...you shouldn’t talk to them about weight and things like that because you get too much into that.” (Participant 2)

“Because I think off hand comments like joking around about something—even if you think a player wouldn’t be affected by it—with females it affects them. We technically internalize everything. I just think that you don’t mess around with joking, sarcasm, at all if it comes to body type stuff.” (Participant 1)

“I discourage dieting during the season.” ... “If we’re doing testing it is on a watch and looking at their speed and their time increases. It is not done by seeing how much arm flab they have...that gets embarrassing and it gets a competition between teammates...” (Participant 6)

“We do not want to bring any unnecessary attention to something and have one of our players think that we think negatively of them in terms of body type, image or even ability to play due to weight.” (Participant 4)

“We talk to them on a regular basis about taking care of themselves, getting good sleep, all of that stuff, watching what they put into their bodies. I think a lot of

them take that as ‘coach thinks I’m fat,’ and that’s not the intention whatsoever.” (Participant 5)

“...I don’t think I should be her life coach on eating, I would like to refer her to someone who has more expertise than me because I know that is not my expertise.” (Participant 3)

Theme 2: Eating and Performance Inverse Relationship

Research has presented that some coaches hold a belief that there is an inverse relationship between body size and performance. This theory denotes that if athletes are at a lower body weight, their performance will increase. Athletes who have a high body weight will have a decrease in performance. Three of the six participants in this study shed light on this theory in their statements.

“Our sport, if you are tiny, that is a good. You can spin faster.” (Participant 3)

“It’s not a sport like running or gymnastics where size as far as being too big will get you in trouble.”...“In other sports I think you can get away with it, you know, like running, when you are lighter you can run faster.” (Participant 2)

“Obviously with people in a bathing suit all the time it is under a magnifying glass. We just tell them that is you eat well and swim fast then you will become ultimately happy.” (Participant 5)

Theme 3: Approaches for Prevention and Need for Future Precautions

Participants made it very clear that there was much room for improvement in regards to the precautions and preventive forces that could be set in place to deter maladaptive eating patterns amongst female athletes. All participants had an opinion or suggestion as to what could be done to curb the issue with eating disorders and disordered eating not only in their athletes, but in athletes across the globe. While prevention seemed to be a key theme amongst the

participants, none of the participants have been extremely proactive in preventing the issue from happening on their team. Rather, the response has been mainly reactive in nature.

“I think talking early in the season about general nutrition things...we had someone who was certified in nutrition do a food log with all of the girls...” ...
“to try and see what they were putting in their body and so then they could have more educational discussions with that person.” (Participant 1)

“I discourage dieting unless it is supervised being done by a nutritionist.”...“I do not do body composition testing with my team.” (Participant 6)

“We keep our dietary rules pretty simple: We drink water, we don’t eat fried foods, and we avoid cream sauces.”...“We’re not counting calories. We’re not doing weigh-ins. We’re not sending you over to have your body fat checked and things like that.” (Participant 4)

“I mean you can teach them to eat healthy; model behavior and put them in situations where they will eat better just by what restaurants you choose and things like that...but I think if you start monitoring it them you are going to get yourself into a situation.”...“It would be nice, if we had more nutrition counseling in general with the athletes. It would be very helpful. I don’t think there is enough here, but they need to hear it from a different voice than the coach and a certified nutritionist would be the way to go.” (Participant 2)

“...our approach is more educational than ‘you can’t eat this, or you have to eat this.’ It’s very much giving them the information to hopefully make the decisions.”...“...we’ve got it done on the individual basis with the food log and that sort of thing...”...“I think it starts with education and not just with basic nutrition, but body image as well. Education is the first and foremost thing that we try to get across to them.” (Participant 5)

“...if I see a girl that I what her figure is and like three weeks later she has lost ten pounds I might talk to her and say ‘Hey, what’s up? How’s life going?’ and try to get her to open up and talk.” (Participant 3)

Table 1: Themes from Interview Portion

Questions	Themes
From a coaching perspective, describe your experiences with female athletes and eating disorders and disordered eating	Use of Secondary Sources for Intervention Prevalence of Eating Disorders/Disordered Eating in DI Female Athletes
What kind of knowledge do you have about eating disorders and disordered eating?	Lack of Knowledge
What kind of education specifically have you received in the past about eating disorders and disordered eating?	Lack of Education
When thinking about your attitudes and beliefs towards female athletes with eating disorders and disordered eating, what comes to mind?	Eating Disorders/Disordered Eating Beyond the Athletic Realm
Considering the discussion we just had, tell me about any other additional information or thoughts that you have about this topic	Coach to Athlete Communication about Eating Behaviors <i>Subtheme: Topics to Avoid with Female Athletes</i> Eating and Performance Inverse Relationship Approaches for Prevention and Need for Future Precautions

SECTION 2: Responses from the NCAA Questionnaire for Collegiate Coaches of Female Student Athletes

Theme 1: Improving Education

Question: *What type(s) of assistance, information, education, or training would be most helpful to you in terms of identifying and managing your athletes with disordered eating?*

All of the participants gave the following responses when asked this question:

- Have consultants come to campus to speak with athletic staff

- Have speakers come to campus to talk with athletes

Four of the six participants gave an additional response of:

- Have information on referrals to appropriate eating disorder resources

This question indicates that participants are aware that education on this matter can be improved and it identifies what they personally would find most helpful for the given situation.

The theme of including secondary sources for treatment resurfaces here, supporting the importance of having a competent athletic training staff on hand to help prevent and intervene with eating disorders and disordered eating.

Theme 2: Eating Disorder and Disordered Eating Identifiers

Question: *As a coach, what criteria or information do you use most frequently to determine if a student-athlete in your program is engaging in disordered eating or has an eating disorder?*

All six of the participants responded with the following:

- Eating disorder symptoms (i.e. induced vomiting, weight loss, restricted eating, etc.)

This theme is interesting, as it was reported in the interview portion of the study that two of six participants stated that they had received zero education regarding eating disorders and disordered eating, and four of the six participants mentioned knowing only the basics of the disorder. It prompts the question of how these coaches know how to identify eating disorder by ‘eating disorder symptoms’ if they are not knowledgeable about what those symptoms really are.

Theme 3: Primary Referral

Question: *When a student-athlete is in treatment for an eating disorder, what person has the most input into the decision to train and compete while the student athlete is still symptomatic?*

Three of the six participants responded to this question with:

- Athletic Trainer

The other three participants responded to this question with:

- Mental health professional

This theme is very important as there seems to be conflicting views on who should be the primary source of referral for an athlete with an eating disorder and who should determine when an athlete is able to return to play. If a coaching staff places a treatment team together, what is the proper chain of command in regards to determining the progress and treatment of the athlete? This contradiction supports the need for Division I institutions to have a certain protocol in place for treating athletes with eating disorders and disordered eating.

Theme 4: Lack of Knowledge about Amenorrhea

Subtheme 1: Definition of Amenorrhea

Question: *Some female athletes experience amenorrhea (loss of menstrual cycle). Check the response that best reflects your thinking regarding amenorrhea. Amenorrhea is:*

Four of the six participants gave the following response:

- Not normal and requires a medical referral

Subtheme 2: Awareness of Loss of Menstrual Cycle

Question: *Are you aware when your athletes have missed a menstrual cycle for more than 3 consecutive months?*

Five of the six participants responded to this question by answering, “No.”

Question: *Have you ever talked with an athlete about her amenorrhea?*

Four of the six participants responded to this question by answering, “No.”

Subtheme 3: Handling a Case of Amenorrhea

Question: *Have you ever referred an athlete for a medical evaluation due to amenorrhea?*

Five of the six participants responded to this question by answering, “No.”

This theme once again provides contradictory statements from the participants, as four of the six participants reported amenorrhea being a serious medical issue needing medical attention, yet only one participant reported knowing that an athlete had amenorrhea and only 2 participants reported ever talking to an athlete about it. This theme once again supports the research that

coaches have a lack of education and awareness when it comes to eating disorders and disordered eating in their athletes.

Table 2: Themes from Questionnaire Portion

Questions	Themes
What type(s) of assistance, information, education, or training would be most helpful to you in terms of identifying and managing your athletes with disordered eating?	Improving Education
As a coach, what criteria or information do you use most frequently to determine if a student-athlete in your program is engaging in disordered eating or has an eating disorder?	Eating Disorder and Disordered Eating Identifiers
When a student-athlete is in treatment for an eating disorder, what person has the most input into the decision to train and compete while the student athlete is still symptomatic?	Primary Referral
<p>Amenorrhea Questions:</p> <p>Some female athletes experience amenorrhea (loss of menstrual cycle). Check the response that best reflects your thinking regarding amenorrhea. Amenorrhea is:</p> <p>Are you aware when your athletes have missed a menstrual cycle for more than 3 consecutive months?</p> <p>Have you ever talked with an athlete about her amenorrhea?</p> <p>Have you ever referred an athlete for a medical evaluation due to amenorrhea?</p>	<p>Lack of Knowledge about Amenorrhea</p> <p>Subthemes:</p> <ul style="list-style-type: none"> -Definition of Amenorrhea - Awareness of Loss of Menstrual Cycle -Handling a Case of Amenorrhea

CHAPTER 4

DISCUSSION

The results of this study displayed several themes and subthemes that support a lack of education and awareness amongst Division I head coaches when it comes to dealing with female athletes and eating disorders and disordered eating. The major themes that surfaced in the interview portion of the study included the following: use of secondary sources for intervention, prevalence of eating disorders/disordered eating in Division I female athletes, lack of knowledge, lack of education, eating disorders/disordered eating beyond the athletic realm, coach to athlete communication (subtheme: topics to avoid with female athletes), inverse relationship theory, and approaches for prevention and need for future precautions. In addition, the questionnaire portion of the study revealed the following themes: improving education, eating disorder and disordered eating identifiers, primary referrals, and lack of knowledge about amenorrhea (subthemes: definition of amenorrhea, awareness of loss of menstrual cycle, handling a case of amenorrhea).

The results from this study begin to unveil a need for more education and an increase in awareness levels for coaches at the Division I level in regards to eating disorders and disordered eating in female athletes. The results also denote contradictions in the thought processes and actions coaches take when having to deal with maladaptive eating patterns—in theory, these coaches do not necessarily always practice what they preach. There seems to be a discrepancy in the protocol to follow when dealing with an eating disorder case, as well as a discrepancy in what these coaches think they know about these maladaptive eating behaviors.

In this section, the results of the study will be examined with previous research revolving around eating disorders and disordered eating in female athletes and how these scenarios are

typically dealt with in the athletic realm. This section will also include implications and a direction for future research, delimitations, and conclusions based on the findings in the study.

Use of Secondary Sources for Intervention and Primary Referral

All six of the participants supported the theme of using secondary sources for interventions when trying to help their female athletes deal with eating disorders or maladaptive eating behaviors. Through both the interview portion of the study and the questionnaire portion, participants mentioned using athletic trainers, nutritionists, and mental health professionals when intervening and trying to prevent eating disorders from happening with their athletes.

Participants revealed a great discrepancy when asked who should be the first contact in this situation and who should determine the playing status of an athlete as she progressed through the stages of an eating disorder. Cogan (2005) states that once an athlete is approached by the coach about her maladaptive eating patterns, it is more beneficial to give the athlete a referral to a professional that has experience with eating disorders—preferably a clinical psychologist or a counselor. This is interesting, as at one point or another in the interview portion of the study, all six participants mentioned using the athletic trainer as the first line of defense when dealing with an eating disorder on their team. In fact, during the interview portion, none of the coaches mentioned having an athlete seek out the help of a mental health professional for treatment purposes—this information was only exposed in the questionnaire.

Arthur-Cameselle and Baltzell (2012) completed a study with collegiate athletes who had recovered from eating disorders, and the athletes in this study revealed that they would have preferred it if their coaches had referred them to a professional—either a physician, a psychologist, or a nutritionist. Participants in Arthur-Cameselle and Baltzell's stated that athletes who had progressed to a severe stage of an eating disorder need to receive an evaluation because

it will be too hard for the athlete to stop on her own. This leads one to question why the participants in the present study would verbalize using the athletic trainer as the primary referral, not a mental health professional. This idea supports the research completed by Beals (2003) which concluded that only 26% of athletic trainers and team physicians surveyed, perceived that their eating disorder screening process, which evaluated how well coaches could identify athletes with eating disorders, was successful in their program. Coaches do not seem to know the proper protocol when identifying and referring athletes with eating disorders. While some athletic trainers might be competent on the subject, research reveals it is preferred by athletes to be referred to a medical or mental professional, not an athletic trainer.

Turocy et al. (2011) states that “the health care team should be in place to help athletes and active clients address disordered eating behaviors and to assist in providing accurate and appropriate advice” (p. 332). Due to this contradiction of responses from the participants in the present study, it is important to address a need for an established “health care team” for athletes who are competing at the Division I level. Maybe both athletic trainers and mental health professionals should be on this health team, but coaches should know who the athletes would prefer as the primary referral, and who should have the responsibility of tracking the progress of the athlete and determining when she should return to play. Cogan suggests that a treatment team should consist of “a sport psychologist or therapist, a dietician or nutritionist, a trainer, and a physician (2011, p. 523).” Cogan does not suggest having the coach as part of the treatment team, and this finding was consistent with the results of the present study, as all six participants reported diagnosing eating disorders as being beyond their realm of competence. Greenleaf and colleagues (2009) suggests that college athletic departments might benefit from partnering with college health professionals to provide assistance to athletes who may be struggling with

maladaptive eating behaviors. The health professionals are more likely to be able to recognize both clinical and subclinical eating disorder symptoms and where to start addressing the issue.

The themes of using a secondary source for intervention and identifying the primary source of referral, support the research denoting that coaches should not be directly involved in the intervention and treatment of an athlete with an eating disorder. The themes also bring to light a discrepancy across the board in regards to who should be the primary referral. This detail is something to consider and fosters a need to address colleges and universities about their protocol in place for treating with athletes with eating disorders and disordered eating.

Prevalence of Eating Disorders/Disordered Eating in Division I Female Athletes

Previous research denotes that 13% of female athletes had “clinically significant” pathogenic weight-control behaviors (Johnson, et al., 1999). Black and Burckes-Miller (1988) reported that in a sample of college female athletes, 14.7% fasted, 7.3% had self-induced vomiting, 4.5% used laxatives, and 4.2% used diuretics to control their weight. Although the prevalence rate of eating disorders may be considered low, research by Greenleaf and colleagues (2009) reports that more female athletes are meeting subclinical levels of disordered eating symptoms, which are precursors for developing full blown eating disorders. Because these symptoms are not considered clinically significant, they can go unnoticed by coaches. One can see this research reflected in a statement by Participant 5:

“As far as disordered eating, again, a lot of it could be hidden from us and we would never know.” ... “I know some are very conscientious about what they put into their bodies and how they look and their appearance and all that stuff.”

Symptoms of an eating disorder can be easily hidden, especially when athletes are involved. Personalities of athletes are typically perfectionistic—they already work hard, exercise, and go to the extreme when it comes to trying to reach an elite performance level. The present

study reveals prevalence rates that are very similar to previous research though, as all six of the participants knew of specific examples during their time as coaches when an athlete experienced a bout with an eating disorder. This theme exposes the nature of eating disorders in Division I female athletes, disclosing that cases might be more prevalent than once thought. And although not all female athletes might adhere to the standards that meet a clinically significant diagnosis for an eating disorder, participants in this study revealed that some maladaptive eating patterns may be hidden from view, and the prevalence may be higher than they are able to report.

Greenleaf and colleagues (2009) explains the importance of educating college health professionals on the prevalence of eating disorders in female athletes so that these professionals can provide assistance to these athletes. Because the participants in the present study were from a variety of different sports, it is evident that eating disorders and disordered eating do not just occur in those sports that are aesthetically pleasing. Contact sports, team sports, individuals sports, and endurance sports alike all show prevalence rates of eating disorders and disordered eating in their sports. The maladaptive eating patterns are not confined to one or two specific sporting areas. These results are consistent with previous research as it has been suggested that there is no relationship between sport type and eating disorders, and eating disorders occur consistently across all sports (Greenleaf et al., 2009). This heightens the need for awareness of eating disorder symptoms as all female athletes are at risk.

Lack of Knowledge and Eating Disorder and Disordered Eating Identifiers

Participants in the present study revealed not knowing a lot about eating disorders and disordered eating. At least four of the participants said that they only knew the basics and had never received formal education about the signs and symptoms to look for, beyond what they had learned in a high school level health class. Only one of the participants reported having extensive

knowledge about eating disorders and disordered eating and had been exposed to the issue multiple times. In the interview portion of the study, participants seemed confident when talking about their experiences dealing with athletes with eating disorders, but where does this confidence stem from, as their knowledge base seems to be lacking significantly.

In a study that surveyed collegiate coaches and their knowledge base of eating disorders, less than half of the coaches reported ever taking an actual educational course about eating disorders (Turk, Prentice, Chappell, & Shields, 1999). This research is reflected in the statement made by Participant 4:

“I guess just things that I’ve read, things that have been discussed with the trainers, just warning signs, things like that to look out for. No formal education in terms of that.”

Five of the six participants in this study did not feel confident about their actual knowledge about eating disorders and disordered eating, but yet, still felt as if they would be (or had been) able to deal with an eating disorder instance properly. This is consistent with a previous study that reported one-third of NCAA Division I coaches believed they had a keen awareness of eating disorder symptoms, and were thus identifying and treating female athletes with eating disorders, as well as engaging in weight monitoring or weight management with their athletes (Heffner, Ogles, Gold, Marsden, & Johnson, 2003). It is interesting to note that while these coaches express a lack of knowledge in regards to identifying and being able to intervene with eating disorders and disordered eating, they do so anyways.

All participants in the present did study express the use of secondary sources when it came to needing a referral, but their lack of knowledge in general is concerning. Arthur-Cameselle and Baltzell (2012) address this in their study, as over three-fourths of the athletes interviewed believed that it was appropriate for a coach to confront an athlete about maladaptive

eating behaviors “in certain circumstances.” This statement about confrontation is important to this theme, because if coaches do not have proper knowledge of what an eating disorder looks like, it is unclear how they would be able to confront an athlete about it. Participants in the mentioned study stated that “most of the time, coaches are the only ones that see us consistently from day to day...” (Arthur-Cameselle & Baltzell, 2012, p. 4). This research exposes the importance of the role of the coach in identifying eating disorder symptoms in their athletes. While athletic trainers and mental health professionals are ideal referrals once a problem occurred, research suggests that coaches should be the first to identify a problem at this level because they are the ones seeing an athlete on a day to day basis. The lack of knowledge reported in this present study is concerning though, as it leads one to question how a coach can accurately identify eating disorder symptoms and get the proper help if they are not aware of what to look for.

Greenleaf and colleagues (2009) found that the most frequently used technique to control weight among women was exercise. Excessive exercise has been linked to maladaptive eating behaviors and eventual eating disorders (Cogan, 2005). It is hard for coaches to distinguish when an athlete is being committed and dedicated to training and when an athlete is exhibiting signs of an eating disorder. Thompson and Sherman (1999) question in their research whether coaches can identify if an athlete is being a “good athlete” or if she is masking anorexic, restrictive behaviors. Thompson and Sherman say that both athletes and women with eating disorders share the characteristics of “persistence, perfectionism, and drive to excellence,” so it might be difficult to distinguish between the two (Thompson & Sherman, 1999; Yates, 1996). Gaining more knowledge about identifying eating disorders and characteristics that might lead to eating disorders may help sport stakeholders make such a distinction.

Knowledge of eating disorders is extremely important for coaches. If coaches are more knowledgeable about the topic, they will be more confident in the suggestions they give out to their athletes, the vocabulary they use with their athletes when talking about weight and dieting, and how to appropriately talk about nutritional needs (Turk, Prentice, Chappell, & Shields, 1999). Coaches who have low levels of accurate knowledge about this topic (like some of the participants in the present study) might be more apt to offer incorrect information to their athletes that can be detrimental to their performance or promote maladaptive eating behaviors (Turk, Prentice, Chappell, & Shields, 1999). Increasing the knowledge base for these coaches can not only prevent eating disorders from happening, but enhance the overall performance of their athletes during competition.

Lack of Education and Improving Education

These themes are an essential component to the present study, as the results reveal a significant lack of education about eating disorders and disordered eating from at least four of the six participants. When asked about what education they had received in the past, two of the participants explicitly said they had received absolutely no education on this topic. The lack of education was summed up accurately in a statement by Participant 6:

“It’s not something that we as coaches receive a lot of training on...” “...that sort of thing, it’s just not brought up. It’s not talked about. We as coaches don’t receive any information on how to handle that other than just me being close with those players and trying to help them the best way I know how...I really haven’t received any guidance on that.”

The participants in the present study noted that the topic of eating disorders was one that was avoided at all costs and only talked about if a specific situation occurred. A previous study completed by Turk, Prentice, Chappell, and Shields (1999) supported this finding, as 38.4% of

coaches were not aware of any literature on eating disorders available to them from the athletic department. This same study reported that only 8.7% of participants reported that videos on eating disorders and disordered eating had been made available to them by the athletic department and additionally, only 37.7% of participants said that education literature was available to them. These statistics, and the results from the present study, are interesting as in 1989, the NCAA was asked to supply every NCAA-affiliated school with educational materials about eating disorders (Turk, Prentice, Chappell, & Shields, 1999). Considering that mandate was set in place about twenty-four years ago, it is astonishing that in the present day, these guidelines are not followed, not only by the coaches at these NCAA-affiliated schools, but also the NCAA organization itself. There seems to be a large miscommunication between the NCAA, the colleges and universities in its organization, and the coaches who oversee athletes on a day to day basis.

With prevalence rates of disordered eating and eating disorders being so great, why is the NCAA not enforcing standards it had set in place years ago to deter the occurrence of eating disorders in its female athletes? Previous research provides evidence that if coaches are better educated and more confident in their knowledge about eating disorders and disordered eating, they will be more likely to use proper preventative approaches on their teams as well as provide appropriate weight management strategies when working with their athletes. In a study completed by Arther-Cameselle and Baltzell (2011) the athletes interviewed were amazed at how little their coaches knew about eating disorders, despite how frequently eating disorders show up in the media. The authors of that study suggest coaches should become educated on eating disorders in order to increase awareness (Arther-Cameselle & Baltzell, 2011). It seems that there is a strong need to improve education about eating disorders so that coaches can effectively

recognize when an athlete might be suffering, and also, so that the coach knows the difference between an athlete that is a hard worker and an athlete that is practicing maladaptive eating behaviors. The participants in this study and research from previous studies indicate that there is a lack of education in regards to this topic and educating coaches on identifying the signs and symptoms of an eating disorder might be the most helpful approach when discussing preventative strategies.

Eating Disorders and Disordered Eating Beyond the Athletic Realm

Previous research discusses unique pressures female athletes face in their sporting environment that heightens the risk for developing an eating disorder (Greenleaf et al., 2009). Female athletes are subject to “pressure from coaches, social comparisons with teammates, team weigh-ins, performance demands, physique-revealing uniforms, and judging criteria (Greenleaf et al., 2009). These unique circumstances can contribute to the development of subclinical symptoms of eating disorders that can eventually turn into full blown eating disorders. But research also denotes that additional pressures, such as the transition into college, increased responsibilities that come with maturation, and a perceived loss of social support, can increase levels of stress and anxiety in athletes and increase the likelihood of these athletes developing pathogenic eating behaviors (Greenleaf et al., 2009). Thus, female athletes are affected by the following: the demands of the sport; the transition into the college environment; and the general sociocultural stereotypes that promote a lean and thin body type (Greenleaf et al., 2009). Taken together, these demands increase the chance of a female athlete developing maladaptive eating behaviors, and also leads one to believe that the maladaptive eating behaviors stem from something that is outside of the athlete’s sport environment. Four of the six participants in this study talked in depth about how they view the development of an eating disorder stemming from

something that is beyond the athlete's performance in their sporting environment. These participants see maladaptive eating patterns coming from athletes who are not happy with themselves and have a distorted view of their bodies not because of something the coach has said, but because of something society has said.

Participant 2 states:

“...some kids it is a symptom of another problem, a much deeper problem than eating. It is not about eating, there is something in their life that is out of control and so they are trying to control that...I mean that is what eating disorders really are—it is a symptom of something else.”

Athletes are exposed to sociocultural pressures to be thin—one of the main emphases in the media today is the need to be fit and lean (Cogan, 2005). It is hard to pick up a magazine today that does not have an ad in it about the newest fad diet or a spread of pictures on a woman who exemplifies the “ideal” model of fitness. The participants in this study believe that the media and society lends a hand in how athletes view themselves, regardless of their training for their specific sport. This theme exemplifies that maladaptive eating behaviors do not merely stem from the pressures of the coach or the demands of the sport—but these two dynamics are large risk factors. It does seem that the symptoms start on a much deeper level, supporting previous research that advocates for coaches providing more emotional support for their athletes (Arthur-Cameselle & Baltzell, 2012).

In a study conducted by Arthur-Cameselle and Baltzell (2012), athletes who were interviewed reported that the first step in treating an eating disorder should be finding the root of the problem. The athlete stated: “...getting to the root of the problem, because you can put band-aids on it, but if it's bleeding from somewhere big, then it's not going to stop (Arthur-Cameselle & Baltzell, 2012).” It is important to note that participants in this study recognize that eating disorders start from somewhere within and that it is necessary to pull back the layers of the

problem with an athlete if the problem is to be solved. Coaches need to identify what might be causing these pathogenic eating behaviors and communicate with the athlete effectively—these steps are intertwined with the themes of gaining more knowledge and education about eating disorders in order to help the athlete appropriately.

There is also this idea of “control” that plays a large role in the development of an eating disorder, not just in athletes, but in the general population as well. Coaches, teammates, and athletic trainers should learn to delve into the aspects of an athlete’s life that are “out of control.” If an athlete feels as if she needs to control something that is out of control, disordered eating patterns might develop. In a study completed by Patching and Lawler (2009) women who had recovered from eating disorders reported that if “they could achieve a sense of control over their food intake and their exercise regimes, then this would generalize to a sense of control over their lives; and, ultimately this would lead to a stronger sense of self.” This idea can be applied to athletes in the sense that athletes might feel as if they have no control over sport demands, pressure from coaches, pressures from parents, and environmental pressures, and therefore, they try to control their food and training in order to, in a way, remember who they are. Females like to feel in control of their lives. Unfortunately, for female athletes, especially Division I female athletes, many aspects of life are out of their control. Playing time, practice schedules, game schedules, teammates, and even the school the athlete attends might be a decision that was placed upon them by another individual. Thus, they find a need to control something in their lives, and this is where maladaptive eating patterns might start. Relinquishing the control athletes might get from restricting foods for healthier options is a tall task and one that coaches must refer to mental health professionals.

Another important aspect of this theme to report is that during the interview portion of the study, the male and female coaches responded to this question in different tones and discussed taking different approaches when talking with athletes. The male coaches spoke in more reserved, relaxed tones, saying things like: “I might talk to her and say, ‘Hey, what’s up? How is life going?’ And try to get her to open up and talk.” The male coaches seemed a bit more uncomfortable when responding to how they might approach an athlete, as opposed to a female coach. The female participants seemed to be more aware of the sociocultural influences their athletes might be under and how this can affect what diet the athlete tries or where her self-consciousness comes from. One of the female participants stated:

“I think the pressure and the stereotype of the player...you’re supposed to have these fit bodies...I know from my players, they want to be as skinny as their sorority friends or their friends on campus and be this little bitty thing...”

The female coaches seemed to key into the stereotypical female ideal and were able to identify with their athletes in regards to how they might feel about their body in comparison to other athletes and non-athletes. The male coaches, while they agreed that a problem stems from something other than sport were not inclined to talk about the other pressures female athletes might endure, which further supports the previous research from the need of more education so that male and female coaches alike are able to recognize the role society plays in a developing eating disorder and how to approach an athlete about these “deeper” issues.

Coach to Athlete Communication about Eating Behaviors with the Subtheme: Topics to Avoid with Female Athletes and Eating and Performance Inverse Relationship

A major theme that rose from the interview portion of the study was how a coach was to communicate with an athlete when talking about eating behaviors. Throughout the interview, participants brought up specific topics that they believed should be avoided with female athletes.

Participants expressed avoiding weigh-ins with their teams, not measuring body fat, using words like “lean” or “healthy,” and not singling out an individual on the team unless it is in a private setting. Previous research is consistent with the views of these participants, as Cogan (2005) suggests keeping in mind the following when working with female athletes and eating disorders to reduce the risk (p.248-249):

- De-emphasize weight; weight monitoring by coaches is unnecessary and detrimental
- Eliminate group weight-ins—one of the most destructive forms of monitoring
- Eliminate unhealthy subculture aspects
- Treat each athlete individually, especially when dealing with weight
- Offer guidelines for appropriate weight loss
- Control the contagion effect; teams can develop norms about dieting that can become “contagious” causing widespread negative consequences amongst all team members

Additionally, research has reported that coaches might benefit from emphasizing sport skill instead of body weight when talking about trying to achieve performance goals. Many female athletes have the misconception of following the assumption that there is an inverse relationship between body size and performance level (Sanborn, Horea, Siemers, & Dieringer, 2000). Some coaches may have unrealistic expectations about weight and body image, which can add additional pressure on the athletes to conform to certain weight or image driven standards (Petrie & Sherman, 2007). For example, some coaches expect athletes to maintain a certain weight, or they hold a belief that weight loss automatically leads to an improved performance (Petrie & Sherman, 2007). Three of the six participants interviewed referred to this inverse relationship theory, acknowledging their belief that smaller bodies can lead to a better performance. Athletes are aware that being smaller in their sport might be a benefit, but they do not find it beneficial for a coach to point that out to them (Arthur-Cameselle & Baltzell, 2012).

Participants in this study promoted the use of appropriate vocabulary when talking with their athletes, trying to phrase comments in a more positive than accusatory light. One participant reported:

“I try to spin it off in a positive light...I don’t accuse them of it or make them feel bad about it”... “I want them to be the best player they can possibly be and I try to do it as an encouraging thing...and try to also turn it into a team thing”.... “I try to turn it back on wanting them to be...the best teammate they can be and how we can prepare.”

Statements like the one above are consistent with current research, as athletes express that if an athlete needs to have extra workouts, the coach should turn it into a team thing so that it turns into a team effort and not a single person is isolated (Arthur-Cameselle & Baltzell, 2012).

One of the participants in the present study mentioned the need to be sensitive to this issue, not only because it is a touchy subject, but also because the coach is dealing with females. Ultimately, coaches need to avoid negative comment about body shape and weight, team weigh-ins in which athletes are likely to fall into social comparisons with their teammates, and additional workouts or diet plans that single out only one athlete. If a coach communicates with his or her athletes appropriately, the message is more likely to be effective and not detrimental. It is more important to provide support for a struggling athlete than be negative and accusatory, as the consequences can be harmful.

Approaches for Prevention and Need for Future Precautions

One of the main purposes of this study was to observe what prevention techniques might already be in place in athletic organizations for eating disorders and what might need to be improved in regards to intervention strategies. This theme explores what some of the participants currently do to avoid eating disorders from happening on their team, but it also exploits the need for more to be done. All six of the participants spoke in some way about wanting to educate their

athletes on proper nutrition techniques to use, which can be done through the assistance of a nutritionist or dietician for the team. Unfortunately, most teams at the collegiate level do not have a full time nutritionist as part of their team, so coaches struggle with getting the message of proper nutrition across to their athletes and finding ways to make that information stick. Once again, this theme intertwines with the need for better education for coaches so that they are able to convey proper nutritional and diet advice to athletes when a nutritionist is not available. Ideally though, participants in the present study prefer to take an educational approach to teaching athletes how to eat and exercise properly. One participant said:

“...our approach is more educational than ‘you can’t eat this, or you have to eat this.’ It’s very much giving them the information to hopefully make the decisions.”...“...we’ve got it done on the individual basis with the food log and that sort of thing...”...“I think it starts with education and not just with basic nutrition, but body image as well. Education is the first and foremost thing that we try to get across to them.”

The educational approach is consistent with previous research, as athletes have reported that they wish coaches would address nutritional needs in team meetings, especially if it is a meeting that regards preparation for a competition (Arthur-Cameselle & Baltzar, 2012). Furthermore, Cogan (2005) reports that “The most helpful approach in educating athletes is to focus on health and performance rather than specific dieting or purging behaviors. Athletes are likely to pay attention to information about eating correctly if they realize it can improve sport performance (p. 247).” Participants in this study are correct in the desire to use a nutritionist or dietician to help athletes understand a proper diet. Cogan suggests having the conversation focus on healthy eating that is compatible with the energy they expend on their sport and emphasize that performance outcomes can decrease if too much weight is lost in an unhealthy manner (2005).

Some participants mentioned the use of food logs when trying to teach athletes how to maintain a proper diet. While food logs may be beneficial previous research suggests that food

tracking systems such as this should be discontinued if weight, eating, or psychological issues emerge within the athlete (Cogan, 2005). If done properly through a nutritionist though, food logging can be an effective way to educate athletes on the proper diet to maintain for preparation for a competition. Diets and weight loss (if warranted) should always be geared towards improving health and fitness in preparation for competition—not because an athlete is fat or too heavy to compete (Cogan, 2005).

Lack of Knowledge about Amenorrhea with the Subthemes: Definition of Amenorrhea, Awareness of Loss of Menstrual Cycle, Handling a Case of Amenorrhea

Amenorrhea is defined as “the abnormal absence of menstrual periods (Polotsky, 2010).” Typically amenorrhea occurs in normal weight women who have a significant reduction in weight from what their “normal” body weight might be (Polotsky, 2010). The *DSM IV-TR* includes amenorrhea in their main criterion for diagnosing females with anorexia nervosa. When disordered eating occurs, the body interprets an energy imbalance, as food intake does not match energy output (Cogan, 2005). The body interprets this as “starvation” and will shut down the reproductive system, causing the loss of one’s menstrual cycle (Cogan, 2005). Most coaches find this topic uncomfortable and choose not to discuss it with their athletes, yet it can be a serious medical issue if not explored by a medical professional. In this study, four of the six participants believed that amenorrhea was a serious condition that required a medical referral. Yet when responding to the subsequent questions, only one of the six participants reported being aware of an athlete who has lost her menstrual cycle. Additionally, only two of the participants reported ever talking to an athlete about losing her menstrual cycle. The most interesting note though, is that only one of the participants reported ever referring an athlete to a medical professional for

the loss of a menstrual cycle, which is contradictory to the belief that this is a serious issue that require medical attention.

The participants' answers reflect a previous study in which the same questionnaire was given. The study completed by Sherman et al. (2005) reported that 47.7% of coaches viewed it (amenorrhea) as "not normal and requiring medical referral;" only 23.2% of coaches indicated they would be aware of their athlete having missed three consecutive menstrual cycles; 42.7% of coaches reported that they had talked with an athlete about her amenorrhea; and 35.3% had referred an athlete with amenorrhea for a medical evaluation. The participants' responses in the present study are consistent with the responses from the previously conducted study, denoting that there is still a lack of knowledge and awareness of amenorrhea in female athletes

Previous research reports that tracking menstrual cycles might be a good indication of an athlete's health because amenorrhea occurs when a woman's body fat decreases too much. Only one participant in this study mentioned this dysfunction in the interview:

"With females it's so scary because having these eating disorders, it really messes up their period and their cycles of things and that has later on caused health issues and health concerns."

No other participants chose to tackle this issue, nor from what the questionnaire portion revealed, were they willing to discuss this topic with an athlete. This umbrella theme about amenorrhea is important, because according to the *DSM IV- TR*, one of the criteria needed to diagnose an individual with an eating disorder is amenorrhea (losing one's menstrual cycle for at least three consecutive months) (American Psychiatric Association, 2000). Polotsky (2010) reports that the most common causes of amenorrhea related to low body weight are eating disorders, stress, and participation in strenuous exercise. Two of those three aspects are issues athletes experience

every day; the third aspect—eating disorders—might be the producer of amenorrhea, exemplifying the need to track menstrual cycles with female athletes.

Limitations

Because this was a qualitative study involving a series of interviews between a few individuals, the sample size was small and purposive, and thus, the results are not necessarily generalizable to the entire population. This study could have yielded more results and insight on this topic if more individuals had been interviewed. The study also focused on coaches coaching at the NCAA Division I level, and there is a question as to whether different experiences might have been found had coaches from other levels of competition been interviewed as well. Would the protocol differ between a Division I coaching staff and a Division III coaching staff? The study also focused solely on female athletes competing at the NCAA Division I level—male athletes were not considered. It might be appropriate to look into the male population in future studies. The last limitation to consider is the use of only one interview between the primary researcher and the coach. While the additional questionnaire did add substance to the interviews, multiple interviews might have given the researcher more in depth data to examine. It would have also given the researcher the chance to re-ask questions that may not have been answered fully in the first interview.

Conclusions and Implications for Future Research

The present study examined the experiences Division I head coaches had with eating disorders and disordered eating in female athletes. The study assessed not only experiences, but also the education and knowledge the coach possessed, as well as his or her attitudes towards female athletes with eating disorders and/or disordered eating. Surfacing themes from the interview portion of this study consisted of: a) use of secondary sources for intervention, b)

prevalence of eating disorders/disordered eating in DI female athletes, c) lack of knowledge, d) lack of education, e) eating disorders/disordered eating beyond the athletic realm, f) coach to athlete communication about eating behaviors (subtheme: topics to avoid with female athletes), g) eating and performance inverse relationship, and h) approaches for prevention and need for future precautions. Themes that surfaced from the questionnaire portion of this study consisted of: a) improving education, b) eating disorder and disordered eating identifiers, c) primary referral, and d) lack of knowledge about amenorrhea (subthemes: defining amenorrhea, awareness of loss of menstrual cycle, and handling cases of amenorrhea).

Results of this study indicate that there is a lack of education and knowledge that coaches have about eating disorders and disordered eating, which is fairly consistent with previous research on the topic. While the results may have been consistent with previous findings, the topics addressed in this study demonstrate a need for further research on this topic and a proactive intervention pertaining to increasing the education that coaches at any level receive about eating disorders and disordered eating in their female athletes and how to treat such situations. It is somewhat of a negative problem that results about education, knowledge, and awareness were consistent with previous research—it means that strides towards primary prevention of eating disorders in athletes are not being made. It is important to take the information gained from this qualitative analysis and use the in depth look into the experiences coaches have had with eating disorders and disordered eating to see where obvious improvements need to be made within these teams and athletic organizations.

Thus, the biggest area of concern based on this study pertains to the severe lack of education and knowledge coaches at the Division I level have about eating disorders and disordered eating. Previous research has already indicated that education about eating disorders

is lacking throughout NCAA-affiliated programs. While some coaches do have the proper staff available to help with the identification and treatment of eating disorders/disordered eating, the fact that many participants in this study reported receiving no education on this topic is troublesome. Coaches from this study and studies past are not knowledgeable of what the eating disorder symptoms are and how to know if an athlete is struggling with disordered eating. Coaches reveal that problems like this are avoided at all costs and only brought to the surface when a case becomes severe. When it comes to eating disorders, especially in the case of anorexia, severe cases result in hospitalization. Not being able to identify pathogenic eating patterns early on puts athletes at severe medical and health risks.

Participants in this study were aware of the role that they play in diagnosing eating disorders, but past research has shown that this is not the case in all athletic programs. This too, is cause for concern for our athletes. It might be beneficial to develop regulations for coaches in regards to weigh-ins, weight policies, and dieting procedures on teams. While coaches should not be diagnosing and treating athletes with eating disorders on their own, previous research indicates that they should play a role in the identification of an eating disorder, as they see individual athletes on a daily basis. But the question is, how can we educate coaches on this topic and help them follow through with preventative measures set in place by their athletic organization?

There is an obvious need for an increase in education about eating disorders and disordered eating for coaches working with female athletes. Coaches seem to have a more reactive attitude when dealing with these situations than a proactive and preventative attitude. Attacking the attitude and approach a coach has about these situations might be an ideal place to start the prevention process. Another preventative effort that should be considered involves

bringing together a treatment team for dealing with eating disorder cases and establish a protocol of how to handle an athlete who is exhibiting maladaptive eating behaviors. Future research might include looking into what the most effective treatment team might look like when treating athletes and what role each treatment team member should play. It would also be beneficial to examine how coaches would learn best about eating disorders (including symptoms, identifiers, how to prevent disorder, what to avoid talking about, and techniques to avoid using) and how to implement this education into a coaching workshop or training seminar. Results from this study indicate that the topic of eating disorder behavior needs to be tackled first through preventative measures to deter maladaptive eating patterns from developing in the first place.

Based on the results of the study, it is evident that coaches at the Division I level do not have adequate knowledge about eating disorders and disordered eating and could benefit greatly from partaking in an educational program about prevention, intervention, and treatment of eating disorders and disordered eating. The combination of verbal description of experiences and self-report responses gives individuals great insight into the experiences, knowledge, and education head coaches at the Division I level possess about eating disorders and disordered eating. This information is beneficial to mental and medical professionals, coaches, members of the athletic staff, and school counselors alike, as all of these individuals will come in contact with a case of disordered eating in a female athlete at some point in time. The results can be expanded across all sporting areas, genders, and races. Since this topic affects a wide range of individuals, it is imperative that we as consultants and researchers take a proactive approach to attacking this topic and work towards a means of prevention and proper intervention.

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APPENDIX A

Research Question

What are the lived experiences of NCAA Division I head female sport coaches who have coached athletes with an eating disorder or disordered eating pattern?

Limitations

Because this is a qualitative study involving a series of interviews between a few individuals, the sample size was small and purposive, and thus, the results are not necessarily generalizable to the entire population. The study also focused on coaches coaching at the NCAA Division I level, and there is a question as to whether different experiences might have been found had coaches from other levels of competition been interviewed. The study also focused solely on female athletes competing at the NCAA Division I level—male athletes were not considered. It might be appropriate to look into the male population in future studies. The last limitation to consider is the use of only one interview between the primary researcher and the coach. Multiple interviews might have given the researcher more in depth data to examine and also given the researcher the chance to re-ask questions that may not have been answered fully in the first interview.

Delimitations

This study examined six head coaches (three male and three female) from Division I schools participating in the NCAA and their experiences with disordered eating and eating disorders in female athletes. Coaches from all sporting areas were considered (tennis, volleyball, softball, swimming, diving, and basketball). The researcher used the NCAA Questionnaire for Collegiate Coaches of Female Student-Athletes (Sherman, Thompson, Dehass, & Wilfert, 2005)

as supplemental material for the qualitative analysis. Interviews were interpreted by a team of highly qualified researchers who had ample experience in qualitative analysis.

Assumptions

The researcher assumed that all participants answered the interview questions truthfully, honestly, and fully in regards to their experiences with female athletes and eating disorders and disordered eating (even if the behavior was misguided and was somewhat of a risk factor for the athlete). Because interviewees knew the purpose of the study, the researcher assumed that the participants did not prepare for the interview by doing research on eating disorders and disordered eating in female athletes prior to the interview. The researcher also assumed that participants did not provide the socially desirable answer when responding to questions.

Definitions

For this study, the researcher operationally defined the terms of disordered eating and eating disorders. In the *DSM IV-TR* (2000), The American Psychiatric Association classified eating disorders as a severe disturbance in eating behavior as well as body image. Eating disorders are illnesses and should not be left untreated, especially in elite female athletes. Disordered eating is defined as, "...body dissatisfaction or body image disturbance, excessive exercising to lose weight, binge eating, strict dieting and/or purging, low self-esteem, depression, and unrealistic beliefs about their weight (Petrie & Sherman, 2007, p. 121)." Disordered eating does not typically result in serious medical complications and has the capability of remitting on its own accord over time.

APPENDIX B

de Bruin, A. P., Oudejans, R., Bakker, F., & Woertman, L. (2011). Contextual body image and athlete's disordered eating: The contribution of athletic body image to disordered eating in high performance women athletes. *European Eating Disorders Review*, 19(3), 201-215.

Defines the differences between eating disorders and disordered eating especially in regards to female athletes. Researchers identify the relationship between body image and body dissatisfaction in female athletes and relate some of this disordered thinking to weight-related pressure from coaches. Coaches are seen as promoting a "thin to win" attitude in regards to their athletes, which tends to result in this pattern of disordered eating behavior. Researchers also contribute disordered thinking about body image to the demands of the sport the athlete is involved in. This study questions the view athletes have of themselves in their "athletic life" and in their "daily life" and found significant differences between the two opinions. A more negative light is shed on the "athletic life" body image than the "daily life" body image.

Coming from an intervention perspective, the present study used this study as support for the need to change a coach's attitude and treatment of female athletes. Promoting a "thin to win" attitude with female elite athletes can lead to the development of pathogenic weight loss. By changing this mindset, coaches might be able to promote a more positive atmosphere for the athlete, in turn, creating more positive body image.

"These results support the idea that athletes seem to be specifically driven towards dieting and pathogenic weight control due to the demands of their specific sport and beliefs that 'thin is going to win' (p. 212)."

“It seems as if most athletes have a functional orientation towards their bodies and interpret their bodies, and subsequent dieting behaviors as tools for successful performance (p. 212).”

“De Bruin et al. found that female gymnasts’ dieting behaviors were only moderately related to some but not all aspects of body image, while stronger relationships were found with sport-specific variables such as weight-related coach pressure. Rather than believing that ‘thin is beautiful’, gymnasts seemed convinced or persuaded that ‘thin is going to win (p. 202).”

Beals, K. A. (2003). Eating disorder and menstrual dysfunction screening, education, and treatment programs. *Physician and Sportsmedicine*, 31, 33-38.

Beals examines the education programs and screening processes that are implemented at NCAA Division I schools participating in the sports of cross country/track, gymnastics, and swimming/diving because these sports are shown to have the highest rates of eating disorders. The researcher explains the necessity of programs in the NCAA for the prevention, treatment, and education of eating disorders in athletes. Less than 41% of schools made education on eating disorders required by NCAA Division 1 coaches. The researcher also concluded that the screening for eating disorders was reported at 60% of the schools, but only 6% of these schools used a validated eating disorders questionnaire or a structured interview to obtain their information. Only 26% of the schools found the screening and education programs for eating disorders to be effective.

This study validates the immediate need for screening and education programs for coaches dealing with elite female athletes. Because screening programs for eating disorders are minimal across NCAA schools, there is a need to identify a baseline knowledge level that coaches at this level contain, and how that knowledge level can be increased effectively and efficiently, which is what the present study aims to do.

Bonci, C., Bonci, L., Granger, L., Johnson, C., Malina, R., Milne, L., Ryan, R., Vanderbunt, E. (2008). National Athletic Trainers' Association position statement: Preventing, detecting, and managing disordered eating in athletes. *Journal of Athletic Training*, 43(1), 80-108.

Because athletes rarely report symptoms of eating disorders and often times deny refuse treatment, researchers found that it is necessary to implement screenings and treatments by medical professionals to first, identify a case of disordered eating or an eating disorder, and second, treat the case in an effective and thorough manner. This article sought to educate coaches and athletic trainers on the knowledge needed to prevent, detect, and manage an eating disorder in athletes. The researchers also examine the need for treatment programs that are individualized to athletes, as all athletes will respond differently when confronted with the facts about their disordered eating behaviors.

The present study seeks to examine coaches' responses to female athletes with eating disorders. This article provides guidelines for the appropriate measures that need to be taken by coaches and athletic trainers when learning about eating disorders and trying to identify those disorders in their athletes. Often times eating disorders are inappropriately identified, or done so in a non-scientific approach, therefore the

incorporation of education and prevention programs is beneficial, especially for athletes who might be at risk for developing eating disorders.

“Disordered eating (DE) in athletes is characterized by a wide spectrum of maladaptive eating and weight control behaviors and attitudes. These include concerns about body weight and shape; poor nutrition or inadequate caloric intake, or both; binge eating; use of laxatives, diuretics, and diet pills; and extreme weight control methods, such as fasting, vomiting, and excessive exercise (p. 80).”

“Coaches are in a unique position to denounce unhealthy attitudes and behaviors that may trigger DE. However, they also juggle a combination of role demands and conflicts that are not always consistent with making decisions in the best interest of their athletes' health.... The more enlightened coaches are about nutritional issues, the more apt they are to follow nutritional guidelines, emphasize healthy eating habits rather than weight standards, and have a better understanding of why weight is such a sensitive and personal issue for athletes, particularly women (p. 101-102).”

Buchholz, A., Mack, H., McVey, G., Feder, S., & Barrowman, N. (2008). BodySense: An evaluation of a positive body image intervention on sport climate for female athletes. *Eating Disorders, 16*, 308-321.

Researchers necessitate the need to use multiple variables within an organization to change the sport climate that might increase an athlete's risk for developing an eating disorder—this includes targeting judging, coaches, parents, and the athletes themselves. This study examines how these different levels in the organizations might act towards the prevention of eating disorders. Researchers evaluated the responses of coaches, athletes,

parents, in order to create a prevention program worthy of use by athletic organizations. Athletes completed an eating attitudes questionnaire and parents completed a parental eating attitudes questionnaire in order to gauge the differences in the responses of the participants. Coaches were evaluated on their answers from a “Pressure to be thin” scale. Prior to the implementation of the prevention program, researchers deduced that coaches and parents played a large role in perception athlete’s had about their weight in a sport environment. Results indicated that the prevention programs created a more positive image in regards to pressure to be thin in the sport climate.

This study exemplifies the impact of a prevention program with athletes who are at risk for developing eating disorders. Prevention programs can assist athletes in changing their perceptions about the sociocultural influences affecting their perception of weight in the sport climate, as well as helping coaches and parents understand their role in the possible develop of an eating disorder. It mirrors the present study in regards to trying to change coaches’ behaviors in response to eating disorders and disordered eating.

“...authors also point out the similarity between traits of “good athletes” and characteristics of anorexic individuals, such that both groups will train/exercise excessively, deny pain or injury, and are selflessly committed to sometimes unattainable/unhealthy body composition goals (p. 310).”

Greenleaf, C., Petrie, T., Carter, J., Reel, J. (2009). Female collegiate athletes: Prevalence of eating disorders and disordered eating behaviors. *Journal of American College Health*, 57(5), 489-495.

This study assesses the prevalence of eating disorders and weight-control behaviors in female collegiate athletes. The researchers identify how the competitive sport environment plays a role in the development of maladaptive eating behaviors as it heightens the concern of body image and weight management for athletes. The researchers also explore the role the college environment plays in development of disordered eating as college sometimes produces more stress and anxiety, as well as adding a new pressure of responsibility to the individual. Because athletes are subject to their coach's expectations and the demands of the sport, the stress and anxiety that often accompany college students, and the sociocultural pressures that influence women to achieve a thin and lean body type, the researchers believe that athletes are at a higher risk for responding with a pathogenic eating disorder. The article also provides relevant statistics addressing the prevalence of disordered eating and eating disorders in female athletes.

Pertains to the present study as the researcher is exploring how female elite athletes might develop eating disorders and the commonality of eating disorders and disordered eating amongst college level athletes. This study lends support to the present study in regards to the immediate need for prevention programs for athletes who are at risk of developing disordered eating or eating disorders in the collegiate athletic setting. "The sports environment can heighten body- and weight related concerns because of factors such as pressure from coaches, social comparisons with teammates, team weigh-ins, performance demands, physique-revealing uniforms, and judging criteria (p. 489)."

“Clinical and subclinical eating disorders involve the use of specific disordered eating and pathogenic weight-control behaviors to manage emotions, weight, and body size (p. 489).”

“The pressures that college students face, along with general sociocultural pressures to achieve and maintain a thin, lean body, can create an atmosphere in which college women respond with pathogenic eating behaviors. For some female college athletes, such concerns and pressures may contribute to eating disorders or disordered eating behaviors (p. 490).”

Petrie, T. & Sherman, R. (2007). Chapter 9: Counseling athletes with eating disorders: A case study. *Handbook of Sports Psychology*, 3, 121-137.

This chapter looks at a case study with an athlete who has an eating disorder. The purpose of the chapter is to outline the types of problems that might arise when dealing with athletes with eating disorders and how to handle those problems appropriately and efficiently. The article delineates the reasons an athlete might be at risk for developing an eating disorder, and furthermore evaluates the sport and social climates that might be reinforcing the disturbed eating patterns. Researchers also examine how coaches' expectations, coaches' beliefs, participation in sports holding a weight requirement, peer pressure from teammates, and participation in a sport that normalizes disordered eating and excessive exercise, play a role in the development of risk factors for athletes.

This chapter gives several key strategies for treating athletes with eating disorders and reveals positive and effective ways for responding to athletes who are suffering from eating disorders or disordered eating. It provides a plethora of approaches for coaches to

take in regards to their behaviors and attitudes towards their athletes, and how they can change the sport climate to a more positive setting for their athletes.

“Athletes experience many of the same sociocultural pressures as non-athletes, such as U.S. society’s emphasis on thinness and unrealistic standards of beauty as portrayed through the media, which may influence people vulnerable to developing eating disorders (p. 122).”

“...evaluate the athlete’s sport and social environments to determine what factors are playing roles in reinforcing and maintaining the disordered eating behaviors....develop a plan to alter the athlete’s behavior by extinguishing maladaptive, dysfunctional, patterns and reinforcing new and healthier behaviors (p. 122).”

Reinking, M. F. & Alexander, L. (March 2005). Prevalence of disordered-eating behaviors in undergraduate female collegiate athletes and non-athletes. *Journal of Athletic Training*, 40(1), 47-51.

Identifies the increase of eating disorders and disordered eating amongst female athletes in the past decade, providing statistics that support a 500% increase over time. Establishes that while athletics might be a means to maintain a healthy lifestyle and enhance self-image, it also puts females at high risk for developing disordered eating patterns. Researchers found that the risk of developing an eating disorder is more prevalent in males than females. Also, those athletes participating in lean sports (cross country, track, gymnastics, swimming, diving, etc.) are more at risk than those participating in non-lean sports because of the “be thin to win” mentality.

Because of the increasing rate of eating disorders and disordered eating in female athletes, it is beneficial to examine what interventions can be created and implemented to

help athletes transform the “be thin to win” mentality and create positive self-images that do not result from weight control. The coach might play a significant role in this intervention strategy by promoting healthy living and simply through awareness of the threats to his athletes competing in these certain sporting areas.

“In athletes, additional factors may encourage disordered eating, including self-imposed expectations of athletic perfection and a belief in the inverse relationship between body size and performance (p. 48).”

“...the authors concluded that 13% of the female athletes had “clinically significant” pathogenic weight control behaviors (p. 49).”

Rockwell, M. S., Nickols-Richardson, S. M., & Thyne, F. W. (2001). Nutrition knowledge, opinions, and practices of coaches and athletic trainers at a Division I university. *International Journal of Sport Nutrition and Exercise Metabolism*, 11, 174-185.

This article examines the knowledge and opinions that coaches and athletic trainers at Division I NCAA universities possess, as well as the practices they implement to support healthy living through good nutrition. Respondents to the questionnaires claimed that they believed body weight to be more important when it came to an athlete’s performance than body composition. The researchers also found that 30% of respondents adhered to at least one case of disordered eating in the past year, if not more. The article expressed the need for coaches and trainers to be knowledgeable about nutrition, but also favored the idea of having a dietician as part of the staff to evaluate the dietary needs of each specific athlete.

This study pinpoints a strategy that might be effective for preventing and detecting athletes with eating disorders. The use of a dietician on the coaching staff might help athletes learn the proper foods to intake and how to maintain a body weight that is appropriate for their body composition. It would also take pressure off coaches in regards to identifying disordered eating and eating disorder symptoms and inappropriately addressing the issue. The dietician could provide guidance to athletes with disordered eating, as well as educate the team on the negative impact of eating disorders and disordered eating on performance.

Sherman, R., Thompson, R., Dehass, D., & Wilfert, M. (2005). NCAA coaches survey: The role of the coach in identifying and managing athletes with disordered eating. *Eating Disorders, 13*, 447-466.

The researchers in the article surveyed coaches in the NCAA to collect information on how these coaches identify female athletes with eating disorders, what identification criteria is used, and how the coach was involved in this process. The article also delves into how these athletes, once diagnosed, are managed in the treatment process as well as their participation in the sport. The results of the study indicated that coaches use eating disorder symptoms to identify whether or not an athlete is symptomatic. Researchers also found that coaches preferred to have treatment of athletes with eating disorder completed within the facility of the program. This allowed coaches to have more control over the situation. It was interesting to note that 18% of coaches reported never identifying an “affected” athlete whom they had coached. Furthermore, one quarter of respondents said they were aware of an athlete who had an eating disorder when she was competing for their team, but failed to report the incident.

The present study questions the ability of coaches to identify and “diagnose” athletes with eating disorders and disordered eating. This study somewhat supports the hypothesis that most coaches are not fully knowledgeable about how to accurately identify an eating disorder and need expert support in making an accurate and appropriate decision. It is also important to point out that coaches would rather have their athletes in their control when the athlete is being treated for a disorder. This intervention technique may not be beneficial to the athlete and her healing process, and thus, gives support for the need to change coaches’ attitudes for responding to eating disorders.

“A recent survey of collegiate coaches indicated that a large proportion of them were, rightly or wrongly, engaging in weight monitoring or weight management with their athletes, and believed that they had an awareness of eating disorder symptoms and could identify athletes with problems in this regard (p. 448).”

“When asked what type of educational information, assistance, or training would be most helpful in terms of identifying and managing symptomatic athletes, coaches more often reported that speakers (83%) or consultants (68%) should be brought to campus. This finding of coaches preferring expertise from outside sources is interesting and somewhat inconsistent with their apparent preference for responding to symptomatic athletes from within the sport environment (p. 458).”

Torstveit, M. K., Rosenvinge, J. H., & Sundgot-Borgen, J. (2008). Prevalence of eating disorders and the predictive power of risk models in female elite athletes: A controlled study. *Scandinavian Journal of Medicine and Science in Sports*, 18, 108-118.

This study accurately distinguishes between the terms of disordered eating and eating disorders in regards to athletes. The researchers question whether or not some

cases of disordered eating and eating disorders are mistaken as what might be characterized as an individual being a “good athlete.” Athletes also tend to not report symptoms of eating disorders, or hide their symptoms, for fear of being “benched” or not qualifying for the team.

This study provides support for the need to be able to correctly distinguish between eating disorders and disordered eating, as well as be able to identify the different characteristics in athletes. Coaches must recognize that athletes will do their best to hide their symptoms in order to continue participation in the sport. Prevention techniques might need to involve an outside source to detect eating disorders and disordered eating.

“Indeed many sports, and leaner sports in particular, may have “unwritten” demands for sport performance that somewhat trigger a disordered eating behavior (p. 108).”