Spring 2022

THE ASSESSMENT OF COLLEGE FEMALE ATHLETES' PERSPECTIVES ON THEIR COACHES' DISCUSSION ON FOOD RELATIONSHIPS AND BODY POSITIVITY

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By

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Submitted to the School of Honors Committee

in partial fulfillment

of the requirements for University Honors Scholars

Southeastern University

2022

Acknowledgement

I would like to acknowledge Dr. Kasey Mueller, Mrs. Amy Beatty, and Dr. Thomas Gollery, Dr. Gordon Miller, and Mrs. Molly Owen for all of their wisdom and encouragement throughout this process. I would also like to thank the participants who took the time to complete the survey for my study. Without any of them, this would not have been possible.

Abstract

This study examined the differences in how often college female athletes' coaches discussed food relationships and body positivity with how often the college female athletes wished their coaches discussed food relationships and body positivity. I hypothesized that the coaches' discussions of food relationships and body positivity did not meet the expectations of the college female athletes. Twenty-six participants from Southeastern University in a population of female athletes completed an online survey that produced quantitative data to determine the discrepancy. The survey consisted of three main topics of eating habits, eating disorders, body positivity, and their relationship building with their coaches. The results concluded that the coaches were meeting the expectations of the athletes in the categories of eating habits, body positivity, and in their relationship building. However, the results for the topic of eating disorders were insignificant. Thus, the coaches appear to have discussed these topics positively and constructed positive relationships with their athletes.

Keywords: Body dysmorphia, body positivity, eating disorders, eating habits, food relationships

Table of Contents

Introduction (Chapter 1)

In my personal experience of participating in the sport of lacrosse in high school, I noticed that none of the coaches I had discussed nutrition or healthy eating habits. Consequently, many of my teammates and myself sustained an improper diet which led to symptoms such as deoptimization of their performance, indigestion, early fatigue, headaches, and more. This was an occurrence that was repeated among several of my teammates and was never properly addressed. At the time, I did not consider that there could be anything done about these occurrences.

However, through my education of kinesiology and nutrition in my undergraduate degree, I learned that proper nutrition has a considerable impact on the functions of the human body. It is especially important to an athlete or someone who is highly active in their daily lives. This caused me to consider that the negative effects of an improper diet in my high school teammates could have been eliminated if conversations about proper nutrition and eating habits were discussed. In a university setting, athletics is incredibly more rigorous than high school athletics. This led me to want to discover if there was a higher standard for the discussion of topics such as eating habits for college sports.

When completing my background research on this topic, I also began to research the impact of eating disorders on athletes versus nonathletes as this information is relevant to eating habits of athletes. I found that in a few studies, the female athletes were at a higher risk for eating disorders than nonathletes. Another interesting item that I found was that females in general were more likely to develop an eating disorder than men. This caused me to decide to focus the population of my study on female athletes because this would make it more likely to be relevant

or to have more significant findings. Eating disorders are concurrent with eating habits, therefore I also discussed the topic of eating disorders in my study despite the sensitivity of the topic.

There are many causes of eating disorders among athletes, but I wanted to focus on the reasoning of body dysmorphia. Body dysmorphia is a mental health condition that causes for one to have a constant focus on their flaws in the physical body, which is typically minor and usually not perceived by others, but still may cause one to feel shame and anxiety as far as to avoid social situations ("Body dysmorphic disorder", 2022). A way to address this is to discuss body positivity from a Christian perspective with the athletes. Body positivity in this context is properly taking care of our bodies through food, exercise, sleep, and so on in order to feel your best. The Bible discusses in 1 Corinthians 6:20 that "God bought you with a high price. So, you must honor God with your body" (NLT). This passage is specifically discussing sexual sin, but I believe that the Lord wishes for us to take care of our bodies as a whole as well. This includes treating it with proper care with good nutrients and a positive mindset for us to function properly and live joyfully. Therefore, I decided to discuss the topic of body positivity as well.

A great relationship between coaches and athletes is essential to providing comfortability in discussing such sensitive topics. It was important to ask the athletes the status of their relationship with their coach in order to grasp if these concepts would be well received if they were discussed in the setting of a team. Therefore, I decided the last part of my study would be to assess the coach and athlete relationship.

Sports are a highly prevalent part of our present society. My goal of this research is to determine whether or not the athletes are being well taken care of by their authority figures and are given the opportunity to treat their bodies with care through healthy food relationships and a positive mindset. Therefore, the research question is, are coaches meeting the perspectives of

their athletes when it comes to the discussion topics of food relationships and body positivity, and what the athletes' standards for their coaches are. The discussion of such topics can be preventative measures towards mental health issues, eating disorders, negative mindsets, and so on. With my study, I hope to see the authority figures over the female sports teams to be positive influences over their athletes in these particular topics. If I discover they are not, I hope that my research will achieve recognition and ensure that a higher standard for the discussion of these important topics is in place.

Review of Literature (Chapter 2)

Introduction

Many women begin to experience struggles with maintaining a healthy relationship with food and body image in the early years of puberty. Some of these women have been involved in sports since they were younger or may begin to participate in sports in their teenage years. In these cases, it is possible that they were never distinctly taught how to have a healthy relationship with food and their bodies. Women suffering from destructive eating habits or disordered eating are likely to be malnourished. The lack of knowledge, negative habit formation, and/or negative mindset could also generate other destructive behaviors such as exercise dependence. Therefore, it can be harmful towards their developing bodies during puberty and on, and especially difficult for those that participate in the rigorous training of college sport. Leaders who develop healthy relationships with these young women are necessary to help teach them to develop and perceive food and their bodies in a healthy way. Many coaches of college female sports may be unaware of this occurrence or lack understanding of how to confront the situation carefully.

Influences of Food

Food affects the body in several ways. In a narrative review concerning how the food people consume affects mental health, the authors discovered that “healthy eating patterns that meet food-based dietary recommendations and nutrient requirements may assist in the prevention and treatment of depression and anxiety” (Kris-Etherton et al., 2020). This review included a recent study that discovered that dietary pattern–based interventions reduced depressive symptoms (Kris-Etherton et al., 2020). Overall, this affirms that healthy dietary habits can improve mental health issues such as anxiety and depression.

There is also speculation that nutrition affects diseases of the body. A study was done on how nutrition can manage Crohn's disease in children. The results for this concluded that "the most common recommendations for the children were an initially low-fiber diet or the progression of an increase in food quantity as the volume of food decreased (Whitten et al., 2011). This is just one example of how nutrition and eating habits affect diseases.

Athletes and Eating Disorders

There is not much research that has been conducted on eating disorders. There is a lack of knowledge on how to healthily achieve fitness goals, which may lead to people attempting to drastically alter their bodies in unhealthy manners. Other people may find an extraordinary level of comfort in food, which can lead to unhealthy weight gain. A few of the most well-known eating disorders include anorexia, bulimia, and binge-eating. Often, it is not considered that athletes can struggle with disordered eating as well.

An article conducted a study comparing eating disorder characteristics among almost 24,000 respondents, where about fifteen percent of them identified as competitive athletes, completed the National Eating Disorders Association online testing (Flatt et al., 2020). The study concluded that athletes were more likely to test positive for eating disorders than the non-athletes. Even so, athletes were also found to be less likely to seek treatment because of stigma, obtainability, and/or sport-specific barriers (Flatt et al., 2020). This has been identified to be a major problem in the sports community and demonstrates that athletes need more efficient psychological training pertaining to their diet.

A corresponding study was Holm-Denoma's (2009) research, which examined if there were differences in eating disorder symptoms that were present between women who are varsity athletes, club athletes, independent exercisers, and sedentary people. The researchers wanted to

determine whether sports anxiety moderates any observed between-group effects. For the study, 274 female undergraduates reported their exercise habits (Holm-Denoma et al., 2009). Women who participated in sports tended to have higher levels of eating disorder symptomatology than women who did not participate in sports (Holm-Denoma et al., 2009). Higher levels of sports anxiety were associated with a higher risk of bulimic symptoms and desire for thinness (Holm-Denoma et al., 2009). Also, the association between sports anxiety and level of athletic participation significantly predicted body dissatisfaction and bulimic symptoms (Holm-Denoma et al., 2009). Female athletes are at high risk for eating disorder symptoms.

This article conducted a study on about 200 female undergraduates at a small college, split almost half and half between athletes and nonathletes. The participants underwent several tests and surveys and the findings concluded that athletes were less susceptible to eating disorders and body image issues than non-athletes, which is a contradiction to more recent research (DiBartolo & Shaffer, 2002).

Feelings About Food

People's feelings towards food can have a prominent effect on their pattern of eating habits. One study researched the association of how either guilt or reward with food affects the eating habits of individuals to determine how many people view a typical "unhealthy" food item with guilt rather than a reward for mood regulation reasons (Kuijer et al., 2015). The research concluded that individuals who associated chocolate cake with guilt had lower levels of perceived control over overeating, unhealthier eating patterns, chose food to help with mood regulation, and were more depressed with a higher likelihood to restrain their eating (Kuijer et al., 2015).

Blythin et al. (2018) conducted research on the link between feelings of shame and guilt with the eating disorders of anorexia and bulimia utilizing a compilation from the research of several credible studies. Shame was strongly correlated with AN and BN as well as the onset of other eating disorder difficulties such as binge eating, while guilt is less associated with them (Blythin et al., 2018). Shame is defined as a complex and agonizing emotion, which involves global self-devaluation and worry for negative judgments by others (Blythin et al., 2018). This is the only recent research found that analyzed the causation of eating disorders.

De Young et al. (2017) examined the relation of affect and the desire to restrict intake with food choice and the experience of guilt after eating. Participants completed measures of restraint and eating psychopathology before undergoing a mood induction. Participants then chose foods from four menus and ate one food item before rating their state guilt. The research found that a combination of restraint and negative mood predicted guilt after eating (De Young et al., 2017). Therefore, dietary restraint predicts restriction when choosing food items, and individuals high on restraint may have negative emotion while eating because of a lack of behavioral control, which produces guilt (De Young et al., 2017). If people are experiencing food guilt, then they have an unhealthy relationship with food. This can eventually lead to more serious circumstances.

Effects of Exercise

Exercise is a significant component of health and fitness. It has many benefits such as improved mental health status and cardiovascular health, but has the potential for negative effects, such as disorders and injuries caused or worsened by exercise. In a study review completed by the working committees of the European Academy of Allergology and Clinical Immunology and the American Academy of Allergy, Asthma and Immunology, they reviewed

disorders caused by exercises (Schwartz et al., 2008). They are common and can cause difficulties among all types of athletes. These can include respiratory, cutaneous, and cardiovascular disorders, which include asthma, bronchoconstriction, rhinitis, anaphylaxis and urticaria (Schwartz et al., 2008). This is a negative effect of exercise that many people have dealt with.

Another study that analyzed the negative effects of exercise was completed by Clarkson and Tremblay (1988), where they investigated how muscle damage, muscle repair, and muscle adaptation caused by exercise can affect the body. The study included eight women in college who performed three varying eccentric exercises of the forearm flexors (Clarkson & Tremblay, 1988). Before the exercise, instantly after, and five days after each exercise, the measurements of serum creatine kinase, muscle soreness and pain, isometric strength, and muscle shortening were assessed (Clarkson & Tremblay, 1988). The findings were that the heaviest exercise had a slow recovery that lasted longer than five days (Clarkson & Tremblay, 1988). This ultimately suggests that while the body does adapt to exercise, it can cover a prolonged period. If muscles are further strained without adequate recovery, it can possibly cause long term damage.

A positive effect of exercise is more confidence in physical appearance in undergraduate females in an assessment. A study found that all participants experienced lower state body dissatisfaction and negative affect as well as greater positive affect after they exercised (LePage & Crowther, 2010). Appearance and weight motivations were closely linked to higher state body dissatisfaction for all of the participants (LePage & Crowther, 2010). They concluded that exercise has positive effects on feelings of body dissatisfaction and affect for consistent exercisers, but their motivations affect this (LePage & Crowther, 2010).

Another important positive of physical activity is its role in cardiovascular health. Nystoriak and Bhatnagar (2018) discuss how it is common knowledge that habitual regular exercise decreases risk of cardiovascular disease and cardiovascular mortality. This is known because physically active individuals have lower blood pressure, higher insulin sensitivity, and a more favorable plasma lipoprotein profile than sedentary individuals. While they discussed this, they also reviewed the negatives that exercise can have. For example, Nystoriak and Bhatnagar (2018) discovered evidence to suggest that a frequency of high physical activity levels has the possibility to have deleterious effects on cardiovascular health. They suggest that the relationship between the duration of exercise and the reduction in cardiovascular disease risk remains unknown (Nystoriak & Bhatnagar, 2018).

Exercise Dependence

People who exercise often are more likely to be seen as healthy. However, there is a chance that they can overdo it or become addicted to exercise. Overexercising can lead to injury or other negative physical and possibly mental circumstances. There is a relationship between food addiction and eating disorders with exercise dependence. Two credible scales and a self-assessment were utilized towards a population of about 1,000 German-speaking endurance athletes to examine this dynamic (Hauck et al., 2020). The findings suggested that food addiction was associated more strongly with exercise dependence than disordered eating was (Hauck et al., 2020).

Delimaris (2014) assessed the possible adverse biological effects of excessive exercise and overtraining among initially healthy men and women. This study gathered several credible, relevant studies to compare. The main adverse effects were “musculoskeletal injuries, adverse cardiovascular effects, exercise-induced muscle damage, exercise-related alterations of

immunity, exercise-related reproductive dysfunction, chronic negative energy balance, osteoporosis, and sleep disorders" (Delimaris, 2014). Therefore, excessive exercise and overtraining can have serious health consequences (Delimaris, 2014).

A comparable study was conducted with collegiate students who took part in an exercise program for one year (Jee & Eun, 2017). An exercise addiction questionnaire was used to classify exercise dependence (ED), compulsive exercise (CE), and obligatory exercise (OE). The psychophysiological health variables were depression, stress, body composition, and muscular joint health. This study showed that exercise addiction (EA) was significantly associated with ED, CE, and OE (Jee & Eun, 2017). There were no significant differences between EA groups and nonexercise addiction (NEA) groups for both males and females in depression, physical stress, and emotional stress. However, there was more physical harm done to ED females than NEA females (Jee & Eun, 2017). The two studies both conclude that overexercise can produce negative effects such as physical harm.

Weight-Focused Sports

Weight-focused sports utilize weight-cutting techniques that may not be completely safe. For example, wrestlers practice in rooms without air conditioning to cut extra weight before their matches. When it comes to dance and gymnastics, women are often preferred to be thin, which can eventually lead to body dissatisfaction and unhealthy habits to prevent weight gain.

A research study assessed the effect of dehydration on concussion tests in collegiate wrestlers through the use of a series of tests such as the Sports Concussion Assessment Tool to acquire their results (Weber et al., 2013). The research concluded that the wrestlers should be evaluated in their normal state of hydration (rather than a dehydrated state) when a concussion is suspected because their symptoms may be worse when they are severely dehydrated (Weber et

al., 2013). Their weight-cutting tactics could be harmful to the brain. The combination of extensive weight loss and inadequate nutritional strategies used to lose weight rapidly for competition in weight-category sports may negatively affect athletic performance and health. Pettersson et al. (2013) conducted research to explore the reasoning of elite sport athletes about rapid weight loss and regaining of weight before competitions. They found that the positive aspects of weight regulation other than gaining physical advantage were a sense of sport identity, mental diversion, and mental advantage (Pettersson et al., 2013). Therefore, this study concludes that weight regulation encourages the athlete to have strength in a mental capacity too (Pettersson et al., 2013). This contradicts the negatives of weight regulation in athletes that were previously stated.

Body Image Insecurity

Body dissatisfaction is an attitude concerning a person's body image that involves the contempt of one's appearance and weight (Kim, 2018). It can lead to harmful and unhealthy actions such as eating disorders and overexercising, and even to extremes such as suicide ideation.

Research has been done to work on ways to combat this. In a study conducted by Moffitt (2018), about 150 participants were placed in a threatening body image scenario. Afterward, they reported their state body dissatisfaction. Each participant then was put in the scenario again but was randomly given an intervention of either self-esteem, self-compassion, or positive distraction control along with the scenario. The participants then reported their state body dissatisfaction. The statistics for the second scenario that included the intervention showcased that the participants' state weight and appearance dissatisfaction were significantly lower and self-improvement motivation was significantly higher in the self-compassion group. Therefore,

the researchers found that an intervention of self-compassion was the strongest and most effective method through which to promote instantaneous improvements to how people feel about their bodies and their yearning to self-improve (Moffitt et al., 2018). It is important to define how people can provide themselves with self-compassion during times of insecurity to combat body insecurity and body dysmorphia illness.

Another study by Chua et al. (2020) tied body image insecurity with eating disorder prevention using intervention. This study focused on younger children between the ages of five to seventeen because there is an increasing number of children who are at risk for eating disorders (Chua et al., 2020). The researchers examined how universal eating disorder prevention interventions affected children's improvement of body image, internalization of appearance ideals, and self-esteem (Chua et al., 2020). The research found that universal interventions utilizing multi-sessional interventions with optimal duration of approximately one month were more effective (Chua et al., 2020). The findings suggest these interventions be incorporated into school curricula and should be addressed more often. This research displays a need for intervention in children for eating disorders and that there are methods available that make a positive difference in children susceptible to eating disorders.

Asian women have been shown to highly value thinness as their ideal body type, which has led to a steady increase in eating disorders has increased steadily among Asian women over the past 20 years (Kim, 2018). Presently, Korean women have higher body dissatisfaction rates than women from the United States (U.S.). A study conducted by Kim (2018) examined how the Western mainstream media influences women's self-image. It was concluded that low self-esteem and body dissatisfaction contribute significantly to immoderate eating. A contribution to

this may have been rapid social change in South Korea that led to westernized values (Kim, 2018).

A study conducted on a population of over 300 college students found that "body dissatisfaction was found to interact with socially prescribed perfectionism in predicting both dieting and bulimic symptoms" (Downey & Chang, 2007). Athletes often have competitive spirits which can relate to perfectionism. This strive for perfectionism is likely to lead to body insecurities and eating disorders based on this study.

Coach and Athlete Relationship

The status of coach and athlete relationships can be an indication of how comfortable athletes feel with their coaches. Therefore, it is important to explore the development of this type of relationship. An interpretive study conducted at the University of Utah and the Eastern Michigan University researched the coach and athlete relationship and discovered that their relationship was a recurring pattern of mutual care, relationship-oriented activities, and meanings that they make about the relationship (Poczwardowski, 2002). Task, interpretation, meaning, and negotiation were four concepts that strengthened the relationship of the coaches and athletes (Poczwardowski, 2002). This data demonstrates that there must be active effort to build a relationship dynamic between the athlete and coach.

Another research study completed two studies in one to examine the relationship between coaches and athletes. The first study examined the roles of motivation, support, and conflict resolution between coaches and athletes and the athletes' outlook on sport satisfaction. The second study examined the link between communication strategies and relationship quality over a six-week period (Davis et al., 2019). For study one, there were significant indirect effects for motivation and support strategies between the quality of the coach and athlete relationship and

the athletes' experiences of sport satisfaction (Davis et al., 2019). For study two, there were also significant indirect effects found for the athletes' perceptions of the quality of the coach-athlete relationship that were related to the use of the athletes' communication strategies (Davis et al., 2019). Therefore, it has been found in this study that communication strategies are improved to improve the relationship between athletes and their coaches as well as athletes' sport satisfaction (Davis et al., 2019).

Researchers Kassing and Infante (2009) conducted a study that discovered how coaches' efforts to improve their athletes' performances compare to the male athletes' perspectives of their coaches' communication and to athletes' self-assessments of performance. This study's population was 192 former high school male athletes. The results of the study found that the male athletes believed that their coaches were more aggressive than they would like and were ultimately unsatisfied with their coaches' tactics (Kassing & Infante, 2009). This negative assessment of their coaches for their aggressive coaching style ultimately could lead to a negative effect on the team overall, as well as their sportsmanship and performance. Coach and athlete relationships seem to have a weighty influence on the team from this assessment.

Yet another study aimed to compare the relationship between athletes and their coaches as well as the motivational tactics utilized by the coaches. The population of the study included 96 female volleyball players who are active players at the Turkey Women Volleyball Third League and were given two separate surveys to complete (Avci et al., 2018). The data analysis revealed that the perceived mastery of the motivational climate was associated with increased closeness and commitment with the coach, which supports the previous research that coach and athlete relationships have an effect on the motivation of athletes in sports (Avci et al., 2018).

Coaches' Education on Nutrition

A coach's education on nutrition has a direct effect on how they educate their athletes. Their education can determine whether they are spreading misinformation, harmful eating habits, or accurate and helpful information. Assessing professional, university, and high school coaches' education on nutrition can provide information on the differences between the different levels of sports.

When coaches of adolescent Brazilian athletes were surveyed, harmful weight control methods were recommended by almost thirty percent of them (Juzwiak & Ancona-Lopez, 2004). Ninety-three percent and forty-six percent of the coaches recommended specific dietary practices pre and post competition (Juzwiak & Ancona-Lopez, 2004). Overall, they responded correctly to 70% of the nutrition knowledge questions, which displays that a majority of them did have a baseline knowledge of nutrition, but there was a significant amount that did not and/or recommended harmful practices (Juzwiak & Ancona-Lopez, 2004).

In another study in a division one university, coaches and trainers were surveyed on their knowledge of nutrition. Participants responded correctly to 67% of nutrition knowledge questions, which is in accordance to the previous study mentioned (Smith-Rockwell et al., 2001). Participants who coached and/or trained female athletes typically maintained higher scores than respondents who coached and/or trained male athletes (Smith-Rockwell et al., 2001). This displays that there may be less of an emphasis on proper nutrition in male sports than female sports. Another interesting find in the study was that participants rated body weight to be more significant than the body composition necessary for athletes' performances (Smith-Rockwell et al., 2001). Therefore, there may be an emphasis on perceived body aesthetics over the optimal body composition recommended for specific sports. The participants were also asked how often they were aware of eating disorders among their athletes within the past year and over 30% of

them had discerned at least one case (Smith-Rockwell et al., 2001).. Lastly, this study also found that 30% of participants reported that they had dietitians available to them (Smith-Rockwell et al., 2001). It is important to understand that just over a quarter of the coaches and trainers surveyed had access to important information on nutrition through a registered dietitian.

Several high school coaches were surveyed in another study, where they were asked general nutrition questions. Results concluded that less than 30% of the coaches correctly answered questions regarding the macronutrients of carbohydrates and lipids (Couture et al., 2015). This is a much lower percentage than the first two studies on the coaches' general knowledge, suggesting that a lower standard for knowledge of nutrition is necessary for high school coaches than college or professional coaches.

Conclusion

In conclusion, it is likely that athletes are often overlooked when it comes to psychological disorders because they appear to be physically healthy on the outside. However, athletes, specifically female athletes, are highly susceptible to unhealthy behaviors such as disordered eating and exercise dependence and were shown in previous studies to disregard treatment due to stigmas tied to mental health. This information can provide coaches, sport psychologists, and dieticians the tools they need to work with college female athletes who may suffer from disordered eating or exercise dependence, though the most effective way to educate female athletes on how to have a healthy relationship with food and exercise is still yet to be discovered. However, from this research, it is evident that communication between the coaches and athletes is an important factor in cultivating a positive environment in sports. More specifically, coaches discussing sensitive topics can educate and encourage the athletes in these

sports. Therefore, topics such as eating disorders should be a focus of discussion in the world of sports, especially among the female population, who is more greatly affected by it.

Methodology (Chapter 3)

The Research Method

The aim for the study is to discover if university coaches are discussing the topics of eating habits, eating disorders, and body positivity, as well as cultivating positive relationships with their athletes, to the standards of the female university athletes. Based on previous research, it seemed unlikely that the coaches were meeting the standards of these athletes in all of these categories. However, based on the survey results from the female university athletes and the data analysis of these results, the coaches were meeting the standards of the participants in the study in eating habits, body positivity, and in the cultivation of athlete-coach relationship. The topic of eating disorders was not an important discussion point according to the participants.

For this study, the population was the female undergraduate athletes at Southeastern University, a faith-based university in the central Florida region. The specified population was sent an email containing a link to an online survey for the convenience of athletes with busy schedules. The survey gathered information about their athletic background, their relationship with nutrition, their thoughts on eating disorders, body positivity, their satisfaction on their education of nutrition, and their relationship with their coaches.

The participants in this survey completed the survey on their own time within the time frame of two weeks. When the results of the survey were analyzed, not all of the questions were utilized to draw conclusions due to irrelevance. The open answer question was thrown out of the survey and the Likert and multiple-choice questions were kept in order to gain only quantitative data. Then, the information from questions two, three, five, six, fourteen, and fifteen were analyzed. The eleventh and twelfth questions were kept due to their significance to the study but were not statistically significant or did not have a large effect. The remaining six questions were

discarded due to being irrelevant to the study. After the data was collected and analyzed, conclusions were drawn.

The Survey Questionnaire

The online survey consisted of sixteen questions. The survey is a mix of Likert scale, multiple choice, and one open answer question.

The first question in the survey was “What is your sport?”. This was asked in order to gain a background knowledge but was not used for data analysis.

The second question in the survey was “How often has your coach addressed eating habits in your most recent season in a positive manner?”.

The third question in the survey was “How often has your coach addressed eating habits in your most recent season in a negative manner?”.

The fourth question in the survey was “If your coach did talk about eating habits, how satisfied are you with what they taught?”.

The fifth question in the survey was “How often would you like your coach to talk about eating habits?”.

The sixth question in the survey was “How often has your coach ever taught that specific foods are ‘good’ or ‘bad’?".

The seventh question in the survey was “How often has your coach restricted you from eating certain foods?”.

The eighth question in the survey was “How comfortable would you be talking to your coach about your possible concerns about eating habits?”.

The ninth question in the survey was “How important is proper nutrition to body positivity in your eyes?”.

The tenth question in the survey was “How satisfied are you with your current education on proper nutrition?”.

The eleventh question in the survey was “If your coach has talked about eating disorders, how satisfied were you with the education they provided on disordered eating?”.

The twelfth question in the survey was “How often would you like your coach to talk about eating disorders?”.

The thirteenth question in the survey was “If you did struggle with disordered eating, would you feel comfortable getting help from your coach?”.

The fourteenth question in the survey was “How often does your coach try to get to know you on a personal level?”.

The fifteenth question in the survey was “How often does your coach promote body positivity? (The definition for body positivity that I am using is how to properly take care of our bodies through food, exercise, sleep, and so on in order to feel your best)”.

The sixteenth question in the survey was “If you have any additional comments, please list below. Be sure to list which question you are referencing”.

Analysis of Data (Chapter 4)

Results

The study's research design was non-experimental and quantitative. The specific research methodology used to address the study's topic was a survey research approach. Six research questions were stated in the study. The study's research instrument was researcher-created and validated through statistical means. The study's sample of participants, female athletes enrolled in one private faith-based university located in the southeastern United States, was accessed through a non-probability, convenient/purposive approach. Descriptive and inferential statistics were used to analyze the study's data.

The following represents a formal reporting of the findings achieved in the study:

Descriptive Statistical Findings

Study participant response to the 13 survey items on the research instrument was evaluated using descriptive statistical techniques. The study's response set data for survey items on the research instrument were specifically addressed using frequencies (n), measures of central tendency (mean scores), variability (minimum/maximum; standard deviations), standard errors of the mean (SE_M), and data normality (skew; kurtosis).

Table 1 contains a summary of finding for the descriptive statistical analysis of the study's response data across all 13 survey items on the research instrument:

Table 1

Descriptive Statistics Summary Table: Survey Items on the 5-Point Likert Scale Represented on the Research Instrument

Variable	*M*	*SD*	*n*	SE_M	Min	Max	Skewness	Kurtosis
Item 1	3.08	1.44	26	0.28	1.00	5.00	-0.22	-1.19
Item 2	1.54	0.76	26	0.15	1.00	3.00	0.98	-0.53
Item 3	3.58	0.76	26	0.15	3.00	5.00	0.86	-0.69
Item 4	1.96	1.15	26	0.23	1.00	5.00	1.05	0.22
Item 5	1.65	1.09	26	0.21	1.00	4.00	1.47	0.62
Item 6	4.12	1.07	26	0.21	2.00	5.00	-0.83	-0.65
Item 7	4.69	0.62	26	0.12	3.00	5.00	-1.81	2.00
Item 8	3.62	1.20	26	0.24	1.00	5.00	-0.49	-0.86
Item 9	2.62	0.98	26	0.19	1.00	4.00	-0.20	-0.91
Item 10	3.69	1.16	26	0.23	1.00	5.00	-0.64	-0.53
Item 11	4.19	1.10	26	0.21	2.00	5.00	-1.13	-0.11
Item 12	3.73	1.22	26	0.24	1.00	5.00	-0.82	-0.14
Item 13	2.81	1.39	26	0.27	1.00	5.00	-0.20	-1.33

Internal Reliability

The internal reliability of study participant response to survey items on the research instrument was assessed using Cronbach's alpha (*a*) statistical technique. Applying the conventions of alpha interpretation proposed by George and Mallery (2020), the internal reliability level achieved in the study was considered as acceptable to good (*a* = .75).

A summary of finding for the internal reliability of study participant response across all 13 survey items on the research instrument is presented in table 2:

Table 2

Internal Reliability Summary Table: All Survey Items

Scale	No. of Items	α	Lower Bound	Upper Bound
Vernon	13	.75	.64	.86

Note. The lower and upper bounds of Cronbach's α were calculated using a 95.00% confidence interval.

Findings by Research Question

The study's topic was addressed through the statement of six research questions. Descriptive and inferential statistical techniques were used to address the study's research questions. The probability level of $p \leq .05$ represented the threshold value for findings to be considered statistically significant for study purposes. Numeric effect sizes achieved in the study's analyses were interpreted using the conventions proposed by Cohen (1988) and Sawilowsky (2009).

The findings achieved in the study's six research questions are reported as follows:

Research Question #1

To what degree did study participants perceive their coaches as having addressed female athlete eating habits in a positive manner?

Research question one was addressed using descriptive and inferential statistical techniques. Slightly over one in four (26.9%; n = 7) of study participants perceived their coaches as having addressed the eating habits of female athletes in a positive manner “sometimes”, while nearly one-quarter (23.1%; n = 6) stated “frequently” and 19.2 % (n = 5) stated “always”. Approximately three in 10 (30.8%; n = 8) responded to research question one as “rarely” to “never”.

The statistical significance of study mean response to perceptions that their coaches address the eating habits of female athletes in a positive manner was addressed using the one sample *t* test. As a result, study participants' mean score response of 3.08 (SD = 1.44) was statistically significant ($t_{(25)} = 3.81$; $p < .001$). The magnitude of effect for study participant perceptions that their coaches address the eating habits of female athletes in a positive manner was considered approaching a large effect ($d = .75$).

A summary of finding for the analysis of study participant perceptions that their coaches address the eating habits of female athletes in a positive manner is presented in Table 3:

Table 3

Summary Table: Study Participant Perceptions that their Coaches Address the Eating Habits of Female Athletes in a Positive Manner

Variable	*M*	*SD*	μ	*t*	*p*	*d*
Positive Perceptions of Coaches	3.08	1.44	2	3.81	< .001	0.75

Note. Degrees of Freedom for the *t*-statistic = 25. *d* represents Cohen's *d.*

Research Question #2

To what degree did study participants (female athletes) perceive their coaches as having addressed their eating habits in a negative manner?

Research question two was addressed using descriptive and inferential statistical techniques. Slightly over one in 10 (15.4%; n = 4) of study participants perceived their coaches as having addressed the eating habits of female athletes in a negative manner "sometimes", while nearly one-quarter (23.1%; n = 6) stated "rarely" and 61.5 % (n = 16) stated "never" to perceptions that their coaches addressed the eating habits of female athletes in a negative manner. Approximately nine in 10 (84.6%; n = 22) responded to research question two as "rarely" to "never".

The statistical significance of study mean response to perceptions that their coaches address the eating habits of female athletes in a negative manner was addressed using the one sample *t* test. As a result, the study participant's mean score response of 1.54 (SD = 0.76) was statistically significant ($t_{(25)} = -9.80$; $p < .001$). The magnitude of effect for study participant perceptions that their coaches address the eating habits of female athletes in a positive manner was considered very large and approaching a huge effect ($d = 1.92$).

A summary of finding for the analysis of study participant perceptions that their coaches address the eating habits of female athletes in a negative manner is presented in Table 4:

Table 4

Summary Table: Study Participant Perceptions that their Coaches Address the Eating Habits of Female Athletes in a Negative Manner

Variable	*M*	*SD*	μ	*t*	*p*	*d*
Negative Perceptions of Coaches	1.54	0.76	3	-9.80	< .001	1.92

Note. Degrees of Freedom for the *t*-statistic = 25. *d* represents Cohen's *d.*

Research Question #3

To what degree did study participants (female athletes) perceive their desire for the frequency that their coaches would talk about their eating habits?

Research question three was addressed using descriptive and inferential statistical techniques. Slightly over one in 10 (57.7%; n = 15) of study participant perceived their desire for the frequency that their coaches would talk about the eating habits of female athletes "sometimes", while slightly over one-quarter (26.9%; n = 7) stated "frequently" and 15.4 % (n = 4) stated "always" to their desired for the frequency that their coaches would talk about the eating habits of female athletes.

The statistical significance of study mean response to study participant perceptions of their desire for the frequency that their coaches would talk about the eating habits of female athletes was addressed using the one sample *t* test. As a result, study participant mean score response of 3.58 (SD = 0.76) was statistically significant ($t_{(25)} = 10.61$; $p < .001$). The magnitude of effect for study participant perceptions of their desire for the frequency that their coaches would talk about the eating habits of female athletes was considered huge ($d = 2.08$).

A summary of finding for the analysis of study participant perceptions of their desire for the frequency that their coaches would talk about the eating habits of female athletes is presented in Table 5:

Table 5

Summary Table: Study Participant Perceptions of Their desire for the Frequency that Their Coaches Would Talk about the Eating Habits of Female Athletes

Variable	*M*	*SD*	μ	*t*	*p*	*d*
Frequency Discussion: Eating habits	3.58	0.76	2	10.61	< .001	2.08

Note. Degrees of Freedom for the *t*-statistic = 25. *d* represents Cohen's *d.*

Research Question #4

To what degree did study participants (female athletes) perceive their coaches as promoting their body positivity?

Research question four was addressed using descriptive and inferential statistical techniques. Nearly two in 10 (19.2%; n = 5) of study participant perceived their coaches as promoting body positivity of female athletes “sometimes”, while slightly over one-third (34.6%; n = 9) stated “frequently” and 30.8 % (n = 8) stated “always” to their perceptions of their coaches as promoting the body positivity of female athletes.

The statistical significance of study mean response to study participant perceptions of their coaches as promoting body positivity of female athletes was addressed using the one sample *t* test. As a result, study participants' mean score response of 3.73 (SD = 1.22) was statistically significant ($t_{(25)} = 7.24$; $p < .001$). The magnitude of effect for study participant perceptions of their coaches as promoting the body positivity of female athletes was considered very large ($d = 1.42$).

A summary of finding for the analysis of study participant perceptions of their coaches as promoting the body positivity of female athletes in research question four is presented in Table 6:

Table 6

Analysis Summary: Study Participant (Female Athletes) Perceptions of Their Coaches as promoting Body Positivity in Female Athletes

Variable	*M*	*SD*	μ	*t*	*p*	*d*
Body Positivity	3.73	1.22	2	7.24	< .001	1.42

Note. Degrees of Freedom for the *t*-statistic = 25. *d* represents Cohen's *d.*

Research Question #5

To what degree did study participants (female athletes) perceive their coaches as trying to get to know them on a personal level?

Research question five was addressed using descriptive and inferential statistical techniques. Nearly 5% (3.8%; n = 1) of study participants perceived their coaches as trying to get to know them on a personal level "sometimes", while slightly over one-quarter (26.9%; n = 9) stated "frequently" and 53.8 % (n = 14) stated "always" to their perceptions of their coaches as trying to get to know them on a personal level.

The statistical significance of study mean response to study participant perceptions of their coaches as trying to get to know them on a personal level was addressed using the one sample *t* test. As a result, study participants' mean score response of 4.19 (SD = 1.10) was statistically significant ($t_{(25)} = 10.20$; $p < .001$). The magnitude of effect for study participant perceptions of their coaches as trying to get to know them on a personal level was considered huge at $d = 2.00$.

A summary of finding for the analysis of study participant (female athletes) perceptions of their coaches as trying to get to know them on a personal level in research question five is presented in Table 7:

Table 7

Analysis Summary: Study Participant (Female Athletes) Perceptions of Their Coaches as Trying to Know Them on a Personal Level

Variable	*M*	*SD*	μ	*t*	*p*	*d*
Personal Level Knowledge	4.19	1.10	2	10.20	< .001	2.00

Note. Degrees of Freedom for the *t*-statistic = 25. *d* represents Cohen's *d.*

Research Question #6

To what degree were study participant (female athlete) perceptions of the frequency in which their coaches taught them which foods were "good" and "bad" predictive of perceptions of their coaches as promoting body positivity?

A simple linear regression statistical technique was used to address the predictive nature of research question six. The predictive model used in research question six was statistically significant (F (1,24) = 5.17, p = .03, R^2 = .18), indicating that approximately 17.74% of the variance in study participant perceptions of their coaches as promoting body positivity is explainable by perceptions of the frequency in which their coaches taught them which foods were "good" and "bad". Study participant perceptions of the frequency in which their coaches taught them which foods were "good" and "bad" was statistically significantly predictive of study participant perceptions of their coaches as promoting body positivity (B = 0.45, $t_{(24)}$ = 2.27, p = .03), indicating that on average, a one-unit increase of study participant perceptions of the frequency in which their coaches taught them which foods were "good" and "bad" is predicted to increase the value of perceptions of their coaches as promoting body positivity by 0.45 units. The magnitude of predictive effect for study participant perceptions of the frequency in which their coaches taught them which foods were "good" and "bad" for perceptions of their coaches as promoting body positivity was considered large at r^2 = .18.

Table 7 contains a summary of finding for the predictive model used to address research question six:

Table 7

Predicting Study Participants (Female Athletes) Perceptions of Their Coaches as Promoting Body Positivity by Perceptions of the frequency in which Their Coaches taught Them which Foods were "Good" and "Bad"

Model	*B*	*SE*	95.00% CI	β	*t*	*p*
(Intercept)	2.85	0.44	[1.94, 3.77]	0.00	6.42	< .001
Good/Bad Foods	0.45	0.20	[0.04, 0.85]	0.42	2.27	.03

Discussion and Conclusion (Chapter 5)

Discussion

The data results of the study did not support my hypothesis that the coaches were not discussing the topics of food relationships and body positivity to the athletes' standards. The first important point of information is that the data concluded that the participants' perception was that the coaches were ultimately addressing the topic of eating habits in a positive manner. The data also concluded that the participants' perception was that the coaches did not discuss eating habits in a negative manner, which confirms the previous statement.

Furthermore, the data concluded that the participants were in favor of their coaches' discussions of the topics of eating habits and body positivity. An interesting find was that when the participants were asked if their coaches addressed food as the adjectives of "good" and "bad", the participants perceived this as the coaches promoting body positivity. This affirms the findings of the previous statements once again, which concludes that the coaches must be addressing this topic in a positive manner. This displays that those participants most likely are encouraged in these categories.

However, there were no significant findings on the topic of eating disorders. This is most likely due to this topic being perceived as a more sensitive issue and therefore not discussed as often.

Conclusion

In conclusion, there were strengths and weaknesses to the study. For strengths, most of the information that was concluded from the data analysis was significantly significant and had effects that varied from large to huge. The data also came from a balanced wide variety of female sports, which included cross country, soccer, volleyball, softball, golf, basketball, cheerleading,

and track and field. For weaknesses, the data in the category of eating disorders was not statistically significant, therefore conclusions could not be drawn from it. Furthermore, the sample size of the data was too small to represent a larger demographic outside of the university it was conducted in. However, an increased sample size would have helped to create more accurate conclusions. This also could have allowed for the differences in the sports to be compared. Another limitation was that the population of participants were only from a faith-based university, which increases the potential for bias.

There is the potential for several opportunities of future research. For example, the comparison between weight-focused sports such as wrestling, bodybuilding, cheerleading, and gymnastics. This perspective would be interesting to ascertain a specific population of athletes that are affected by a focus on weight in their sport. It would also be interesting to survey or interview the coaches of female and male athletes to discover their perspectives on topics of food relationships and body positivity for discussion with their athletes. This would be helpful to compare the self-assessment of the coaches' and the athletes' perspectives of the coaches. Lastly, the perspective of male college athletes on these topics is a study that has not been evaluated yet either and should be.

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