Eating Disorders Among Aesthetic Sports Athletes

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Abstract

This study looked at the relationship between females participating in aesthetic sports in comparison to other female adolescents and at the prevalence of eating disorders and body image to test whether participants in aesthetic sports have higher levels of body dissatisfaction and drive for thinness than non-aesthetic athletes. The purpose of the study is to understand the sociocultural influence of eating disorders among females, specifically athletes and non-athletes. The sample included 488 high school girls participating in both aesthetic and non-aesthetic sports as well as non-athlete females. The sample participants were either in tenth or eleventh grade at the time of data collection. The research question was to examine the relationship between female adolescent participation in sports and eating disorders and body image. The study found there was no significant difference between girls participating in aesthetic sports and those not participating in aesthetic sports. This is important because it indicates a lack of increased risk for eating disorders for those athletes participating in aesthetic sports when compared to other young women.

Introduction

Eating disorders affect millions of adolescents each year. As many as ten million, or about 10-15%, of Americans suffer from various eating disorders, including Anorexia Nervosa and Bulimia. Adolescents can suffer from these various types of eating disorders, but can also be affected by sub-clinical levels of disordered eating as well. Eating disorders overwhelmingly affect more females than males and the number of reported eating disorders has been rising the past years. The participation of females in sport has also been on the rise. Eating disorders may be perpetuated for females who participate in sports, especially those that participate in aesthetic sports (e.g. gymnastics) where they are judged based on physical attributes. Therefore, this study looked at the relationship between females participating in aesthetic sports in comparison to other female adolescents and at the prevalence of eating disorders and body image to test whether participants in aesthetic sports have higher levels of body dissatisfaction and drive for thinness than non-aesthetic athletes.

Vygotsky's sociocultural theory (Berk, 2009) of development stresses the importance of society and interactions between people in order to better understand the developing person. It is based on the relationship between the adolescent and society, the adolescent and other adults or peers, and the adolescent and themselves. Vygotsky believed that social function and development was based on many sources of influence. Sociocultural theory focuses on adults'

and peers' influence on a person, along with how the cultural beliefs and attitudes of our society have an impact on the adolescent (Berk, 2009). Culturally, in the United States there has been an increased stress on being thin, and the stress can be perpetuated through social means. Jack (2005) states, "girls internalize the culture's standards that only thin, muscular bodies are "beautiful"; dieting starts as early as third grade and works as a pathway into eating disorders" (p. 156). Disordered eating and female participation in sports can be looked at through the lens of sociocultural theory. Female adolescents are participating in sports more than they have in previous decades and disordered eating and sports participation may be perpetuated through cultural and social means. The pressures to be thin can be applied to the adolescent through many different methods, such as peers and cultural norms as described by Vygotsky.

Athletes and disordered eating share a relationship in something called the female athlete triad (Birch, 2005). The female athlete triad is something that can affect adolescent athletes and is composed of three inner-related problems. It consists of osteoporosis, disordered eating, and menstrual disorders. Female athletes may develop this syndrome when sports cause them to maintain a low body weight in order to perform the task at hand. It has been found that specific sports, such as aesthetic sports which emphasize leanness, increase the risk for adolescent female athletes to develop this syndrome. Female athlete triad is caused by the pressure put on athletes to maintain lower body weight. Adolescents "training in sports in which low body weight is emphasized for athletic activity or appearance are at the greatest risk" (Jack, 2005, p.156). Usually if an athlete has one symptom, they exhibit the others as well which puts them at risk for serious physical health problems.

In addition to the risk of developing the female athlete triad, adolescents seem to be the

primary group that eating disorders affect, seeing as anorexia is the third leading chronic illness among adolescents and 86% of people with eating disorders report onset of an eating disorder by the age of 20 (Mirasol, 2012). Adolescence is a time of change, both physically and mentally, and adolescents are influenced by many things around them. Vygotsky describes influences on a person as coming from both peers and society, and this influence becomes stronger during adolescence. Adolescence is also the beginning of puberty, where the body goes through various changes. Adolescents are not only maturing physically, but mentally as well. They start to become autonomous beings, gaining new independence and making decisions on their own rather than with the help of an adult. Adolescents are not solely influenced by parental figures; instead, they become increasingly influenced by peers and media. Especially now, the media has portrayed the perfect woman as unnaturally thin. It is not stunning that so many female adolescents suffer from disordered eating because of the influence the media has on this age group. The concept can be viewed through the lens of Vygotsky's sociocultural theory of development because of the impact of various influences on adolescents during this time of their life.

Since it has become a national problem, many people have begun studying different aspects to disordered eating. A study by de Bruin (2011) focused on women competing in sports where physical attractiveness was considered important. His study was composed of 52 women, 19 of whom had an eating disorder. The study found no significant differences for eating disorders on sport type or level of participation; however, it was found that athletes with eating disorders had a more negative body image and thin or fat self evaluations. de Bruin found athletes with eating disorders were more likely to evaluate themselves as less beautiful and more

fat in daily life, outside of sports. Athletes tend to see their body image as appearance, masculinity, and thin or fatness (de Bruin, 2011). Athletes may be at increased risk of feeling inadequate because of the sports they participate in and may cause other health issues.

A study by Camessel (2011) focused on athletes who were experiencing eating disorders. He found internal factors that induced disordered eating were negative mood states, low self-esteem, perfectionism, drive for achievement, and desire for control. These internal factors were related to the individual's own perception of themselves. The external factors included negative influences on self-esteem, hurtful relationships, hurtful role models, and sports performance. These external factors would relate to the sociocultural theory of development. Both external and internal influences play a role in the development of eating disorders. The study found that these factors are similar for non-athletes as well, but athletes develop it in a unique way. It is important that these factors relate to non-athletes as well as athletes due to the fact that every adolescent can suffer from disordered eating. It may be fostered differently in athletes due to negative comments by coaches, modeling by other athletes, and sports performance (Camessel, 2011). Negative pressure may be put on athletes which cause eating disorders to develop in a very specific way for athletes versus non athletes.

Scoffier (2012) looked at athletes who were prone to eating disorders in order to question the influence of "achievement goals on self regulation of eating attitudes" (p. 201). Scoffier (2012) found that mastery avoidance goals, which is a "self referenced sense of competence" (p.201) could lead to potential eating disorders, while performance approach goals, which are a "norm referenced sense of competence" (p. 201) could be a protective factor for adolescent athletes in the development of disordered eating. Both of these goals are self and norm oriented,

which means it brings the self along with expectations and norms of society into the equation, relating back to Vygotsky's sociocultural theory. The study also looked at the self-regulation of eating habits in the aesthetic athletes. Self regulation, in this context, means the extent to which an individual controls their eating and exercise. It was found that those athletes with less capacity for self-regulation were those who often showed signs of disordered eating (Scoffier, 2012).

Blackmer (2011) also studied the protective factors for adolescent eating disorders. He found "athletes who rated their families as promoting open, responsible expression of emotions and ideas, were less likely to report disruptive eating habits" (p. 143). This can be related back to the sociocultural theory by Vygotsky because the influences related to disordered eating can come from the family members. Adults and peers are one of the main categories of influence in the theory. Blackmer also found that female athletes scored higher on all measures associated with disordered eating and body image. The influences by family can be attributed to the avoidance of disordered eating habits in female athletes (Blackmer, 2011). Parents can foster positive or negative thoughts in the mind of the adolescents, and if the thoughts are positive the adolescent may be less likely to have disordered eating. His study combines the health of athletes along with sports in order to find protective factors to keep adolescents from developing eating disorders.

Krentz (2011) performed a study focusing exclusively on athletes participating in aesthetic sports. He compared both female and male athletes to male and female non-athletes. The study found that athletes from aesthetic sports displayed more eating disorder symptoms than the non-athletes, but they did not differ with body dissatisfaction. He found that social pressure from the sports world promoted disordered eating (Krentz, 2011). This again, goes back

to sociocultural theory of development because the sports world is culturally relevant to the promotion of eating disorders. Pressures and influences from society are detrimental to positive adolescent outcomes in respect to disordered eating. Lastly, he found athletes who perform in aesthetic sports were more likely to suffer from disordered eating if they thought their performance would improve because of the way they looked (Krentz, 2011). Negative influences from society, along with aesthetic sports tend to perpetuate disordered eating in female adolescent athletes.

A study by Jack (2002) found that girls in "weight related sports" or what in this study is termed aesthetic sports, reported disordered eating behavior compared to girls participating in non- weight related sports. She also found that all athletes were more prone to eating disorders than their non-athlete counterparts and body dissatisfaction was lower in all athletes. It was found that aesthetic sport athletes were more prone to eating disorders than athletes participating in team sports (Jack, 2005). She found "competing within a group or team setting may lead to less body scrutiny and self consciousness than competing individually and being judged on the basis of one's own performance" (Jack, 2002, p. 157). She found the risks for disordered eating come from cultural pressures to be thin which is then magnified through sports (Jack, 2002). This again relates back to the sociocultural theory of development in which personal and societal influences are important in the development of eating disorders.

Jack (2002) also found information on the self-esteem of female athletes. Sports tend to foster higher self- esteem and lead to a more positive body image. She found that athletes had a significantly higher self esteem than non-athletes. It is projected that higher physical competence is related to higher self-esteem (Jack, 2002). However, self esteem may be higher in athletes and

they may have a more positive body image, there is still the risk of disordered eating, especially for participants in aesthetic sports.

Therefore the purpose of this study is to explore the effects of aesthetic sports on eating disorders among female adolescents. The study used data from eleventh grade females in the 4-H Study of Positive Youth Development. Eleventh grade was chosen because most athletes in this category will be competing at a higher level, most likely a varsity level sport, and the females are mostly past puberty. The study will be assessed using sports participation, negative body image scales, and drive for thinness. Overall, it is hypothesized that adolescent female athletes in aesthetic sports will have a more positive body image, which is the opposite of body dissatisfaction, but can be more prone to eating disorders, relating to drive for thinness, as compared to non-aesthetic sport females.

Methods

Aesthetic Athletes

The study design looked mainly at aesthetic sport athletes. Aesthetic sports for the purpose of this study were defined as those athletes who participated in judged sports where body image is an important factor for performance (e.g. gymnastics). Athletes competed either by themselves or with others. In order to be considered an aesthetic sport athlete, the participant must have participated in the activity at least a couple time per month. Non-athletes were those adolescents who did not in any type of sporting event.

Measures

The Eating Disorder Inventory (EDI) is a 64 item, self-report assessment of common psychological and behavioral traits of anorexia nervosa and bulimia (Garner, Olmstead & Polivy,

1983). We used three of the eight EDI sub-scales – Drive for Thinness (DT), Bulimia (BN), and Body Dissatisfaction (BD).

The seven item Drive for Thinness sub-scale assesses whether or not the participant has excessive concern with dieting, a preoccupation with weight and an extreme pursuit of thinness and fear of weight gain. Example items from this sub-scale include: "I am terrified of gaining weight" and "I am preoccupied with a desire to be thinner." The Bulimia sub-scale consists of seven items that assess whether or not the respondent has a tendency toward episodes of uncontrollable overeating (bingeing) that may be followed by the impulse to engage in self-induced vomiting. Sample items include: "I eat when I am upset" and "I have the thought of trying to vomit in order to lose weight." To avoid item duplication, the original nine item Body Dissatisfaction sub-scale was modified to include five items that reflect whether or not the respondent believes certain parts and features of his or her body (e.g., thighs, buttocks, hips, stomach, and body shape) are appropriately sized or too large. An example item is "I think my stomach is too big." All items are scored on a 6-point Likert-type scale with responses ranging from 1 = *Never* to 6 = *Always*, with higher scores reflecting greater weight and body shape concern. The Drive for Thinness, Bulimia, and Body Dissatisfaction sub-scales all demonstrate excellent internal consistency (α = .85, .83, .90, respectively; Garner et al., 1983).

Procedure

For the first three waves of data collection, teachers or program staff gave each child an envelope to take home to the parent or guardian. The envelope contained a letter explaining the study, two consent forms (one that was returned to the school and one that could be kept for the records of the parent or guardian), a parent questionnaire, and a self-addressed stamped manila

envelope for returning the parent questionnaire and consent form. Data collection was conducted by trained study staff or assistants hired at more distant locations. A detailed protocol was used to ensure that data collection was administered uniformly and to ensure the return of all study materials. The procedure began with reading the instructions for the student questionnaire to the youth. Participants were instructed that they could skip any questions they did not wish to answer. A two-hour block of time was allotted for data collection, which included one or two short rest periods. During Waves 2 and 3, students who were unable to be surveyed at their school or 4-H site, in that they were either absent during the day of testing or the school superintendent did not allow testing to occur in the school, received a survey in the mail.

For Waves 4, 5, 6, 7, and 8, youth were surveyed in their schools or youth programs following the same procedure as in the first three waves. Youth who were absent on the day of the survey or were from schools who did not allow on-site testing were contacted by e-mail, mail, or phone, and were asked to complete and return the survey to us. Beginning in Wave 5, youth could go online to complete the survey. Youth tested at 4-H clubs were either tested with the paper survey or used club computers to complete the survey online.

Participants

Overall, across all eight waves of the study, 7,071 youth (59.9% female) in 42 states have been surveyed, along with 3,173 of their parents. Across waves, 3,234 of these students were tested two or more times.

In Wave 7, 994 youth were surveyed from 30 states along with 91 of their parents. These youth were 67.3% female, with a mean age of 16.88 years (SD= 0.95). Self-reported race for these youth was American Indian, 1.5%; Asian American, 2.9%; African American, 5.3%;

Latino/a, 3.5%; European American, 82.7%; and Multiracial, 2.4%.

In the current study, 488 girls were studied. The self reported race for the girls who participated in the study were American Indian, 0.6%; Asian American, 2.7%; African American, 3.9%; Latino/a, 2.0%; European American, 69.5%; and Multiracial, 1.8%. There was 20% missing ethnicity data for the study. The mean grade was 10.48 (SD=.50).

Attrition

Attrition in the 4-H Study sample is not randomly distributed across schools or youth program sites. For example, in Wave 2 and Wave 3, some principals withdrew consent for their school to participate, and thus, these students "dropped out" without having had the opportunity to remain in the study. The withdrawal of principal or superintendent permission to continue testing resulted in the loss of 561 participants in Wave 2. However, attrition from Wave 1 to Wave 2 for students who were allowed to be asked to remain in the study was only 10%. Of the 1,954 participants tested in Wave 2, 21.5% individually withdrew their participation from Wave 3, whereas 337 (17.5%) dropped out because of school/site attrition. In subsequent Waves (4, 5, 6, 7, and 8), many of the same schools did not allow us to conduct on-site data collection. Youth in these schools were contacted through mail or phone and were asked to complete the survey and mail it back to us or to go online to complete it. Since we consistently contact all youth who ever participated in the study, many youth who were not surveyed in earlier waves come back into the study in later waves. During Waves 4, 5, 6, 7, and 8 we continued to contact all youth who were part of the first three waves and, in addition, we increased the sample by expanding our recruitment of youth in 4-H clubs around the country. For new youth participants, their parents were also asked to give consent and to complete the parent survey.

Results

This study hypothesized that adolescent female athletes will have a more positive body image, opposite of body dissatisfaction, but can be more prone to eating disorders, relating to drive for thinness, when they participate in aesthetic sports To test this question, I used analysis of variance (ANOVA) to compare the drive for thinness and body dissatisfaction scores of girls participating in aesthetic sports to those of non-aesthetic sport females. Non-aesthetic sport participants (N=208) had a mean drive for thinness score of 19.96 (SD = 8.64). Aesthetic sports participants (N= 77) had a mean drive for thinness of 20.95 (SD=8.07). Non- aesthetic sport participants (N=208) had a mean body dissatisfaction score of 15.18 (SD=6.08) Aesthetic sport participants (N=77) had a mean body dissatisfaction score of 15.44 (SD=5.19). There was not a significant difference between aesthetic athletes and other female participants on drive for thinness (F (1, 283) = 0.76, p = .38) or body dissatisfaction (F (1, 283) = 0.11, p = .74). Follow up multivariate regression tests revealed that only participants' self-reported weight was significantly related to their drive for thinness (F (1, 283) = 28.06, p < .001) or body dissatisfaction (F (1, 283) = 50.30, p < .001). Participants' race/ethnicity and participation or non-participation in aesthetic sports had no significant relationship with drive for thinness or body dissatisfaction

Discussion

Eating disorders have become a national concern in the past decades. With more females participating in sports and the increased prevalence of eating disorders, the study wanted to understand if aesthetic athletes were at a higher risk of disordered eating. However, the present

study found that there is no significant difference between aesthetic sports athletes and non-aesthetic sport females and disordered eating. The only variable found to have a significant bearing was weight. These findings are important because they indicate that aesthetic athletes are not at more risk for disordered eating than other athletes or non-athletes.

The present study corresponded with the study done by de Bruin (2011) which found there were no significant differences for eating disorders on sport type or level of participation. No differences becomes important for those athletes participating in sports because it shows that aesthetic athletes are not at an increased risk for disordered eating. The de Bruin study did find that athletes with eating disorders have a more negative body image, appearance, and thin or fat self evaluations than non-athletes, indicating that athletes who do develop eating disorders are at an increased risk for some negative outcomes, but it does not isolate aesthetic athletes as at risk.

Although the results from the present study did not yield the same results from the study done by Krentz (2011), the two studies may have looked at different variables. Krentz found that athletes from aesthetic sports displayed more eating disorder symptoms than the non-athletes, but they were more likely to suffer from them if they thought their performance would improve because of the way they looked. Although the present study did not find a significant difference between aesthetic athletes and non-aesthetic sport females, it is still important for sports and eating disorders for policy and practice. Aesthetic athletes should be receiving positive feedback about their appearance by adults within the community and by society at large. Krentz (2011) also found that body dissatisfaction was the same for both non-aesthetic athletes and aesthetic athletes, which was then replicated in the present study.

Sociocultural theory teaches us that societal pressures and individual pressures shape the development of an adolescent (Berk, 2009). Society as a whole needs to be aware of this phenomena and change the attitudes towards the body image of adolescent female athletes. The present study did find that there was no significant difference between aesthetic athletes, non-aesthetic athletes and non-athletes in their body dissatisfaction and drive for thinness which means disordered eating is a female adolescent problem, and is not only an aesthetic athlete problem. The focus of aesthetic sports should be shifted from body image and more to performance and ability of the adolescent athletes.

The study shows that disordered eating tends to affect the female adolescent population in general, rather than isolating aesthetic sport athletes or other types of athletes. It is important for society to understand the debilitating affect it may cause on adolescents. Eating disorders are on the rise and the implications of an entire population being at risk for these types of health disorders will affect society as a whole.

Third Variable

One variable which was tested in the follow up analysis and had unexpected results was weight. This variable did have a significant value when looking for differences in disordered eating. The perceived weight of an adolescent and her drive for thinness or body dissatisfaction varied by weight, such that girls with higher weight also were more likely to have higher drive for thinness and body dissatisfaction scores. Weight could be important to test because an adolescent female may be more prone to disordered eating depending on her weight. If she weighs more, and is in an aesthetic sport where she believes she is being judged on her looks, her

eating patterns may change in order to compensate for the points she perceives she is losing.

Limitations

There were several limitations to the present study. The data used was from a very large survey made up of mostly Caucasian adolescents. The findings may have been different if there were more diversity within the group. There is also selection bias in that certain adolescents may have chosen to not answer certain questions. Especially with the topic of disordered eating, although the study is anonymous, some adolescents may not have wanted to answer if they have disordered eating. Missing data may also have skewed the results. The study uses cross-sectional data, which cannot establish causality. It also did not explore other possible third variables, such as self-esteem or family influences.

In the future, the studies should use longitudinal data in order to measure the changes in body dissatisfaction and drive for thinness among adolescent female athletes over time. Further studies should look at other variables as well to understand disordered eating among aesthetic sport athletes and non-aesthetic athletes and non-athletes.

Conclusion

The present study found that aesthetic sport athletes are not at more risk for developing eating disorders than other athletes or non-athletes. Determining aesthetic sport athletes may not be at an increased risk is important because aesthetic sports, or any sports, may not be to blame for the increasing number of eating disorders affecting our society. Eating disorders are affecting athletes and non-athletes in the same manner. It seems as though society's affect on adolescents

may have the most impact on disordered eating based on the individuals perceived weight, a finding that also fits well with Vygotsky's sociocultural theory of development. In order to implement policy changes, society needs to understand the detrimental influences it places on females.

Resources

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