Causal Factors of Eating Disorder Behaviors in Adolescent Females

Sarah Barker
Bonnie Ahn*
Southeastern Louisiana University

Abstract

This study aims to identify the relationships of psychological, cultural, biological, and environmental factors with the development of eating disorder behaviors among adolescent females. We hypothesize that individuals' psychological, cultural, biological, and environmental factors differentially influence the development of eating disorder behaviors among adolescent females. The present study will employ an explanatory approach using a cross-sectional study design with a sample of 100 adolescent females ages 12-18 across southern Louisiana school campuses. There will be two instruments used, the Body-Image Ideals Questionnaire (BIQ) created by Thomas Cash and Marcela Szymanski (1995) and a self-made questionnaire. The BIQ aims to identify correlation between body image, personality traits, and psychological attributes linked to eating disorders. The self-made questionnaire will search for relationships between cultural and environmental factors with the development of eating disorders. Multiple regression analysis will be performed to address the study's hypothesis.

Causal Factors of Eating Disorder Behaviors in Adolescent Females

Eating disorders are widely recognized as serious issue. Anorexia Nervosa, or simply Anorexia, is defined under the Diagnostic and Statistical Manual of Mental Disorders or DSM-5 (American Psychiatric Association [APA], 2013) as a person displaying "persistent restriction of energy intake leading to significantly low body weight, an intense fear of weight gain, persistent behavior that interferes with weight gain, and/or disturbance in the way one's body weight or shape is experienced including a lack of recognition of the seriousness of the current low body weight." This psychological illness often has an earlier onset age than other eating disorders and is found most commonly in young adults and adolescent females, although it can be developed at any age and across gender lines (National Association of Anorexia Nervosa and Associated Disorders, 2016). There are several different factors that play into the development of eating disorders such as individual psychological makeup, culture, biology, and environment.

Anorexia is a serious problem both physically and mentally. It is said to be the most dangerous of psychiatric illnesses due to the risk of starvation, malnutrition, and a dangerously low body weight (National Association of Anorexia Nervosa and Associated Disorders, 2016). All of these factors can in turn lead to depression or even death. Due to the fatal nature of anorexia and the lack of sufficient studies run, this research becomes imperative to potential prevention by creating greater understanding of the impact of various factors on eating disorders.

To better understand the factors potentially causing eating disorders, we must study and evaluate them more closely. While the sensitive nature of the problem makes it challenging to find willing participants, this study intends to expand upon former studies and build on what little research is available by broadening the scope of the study.

The purpose of this study is to examine the role of culture, psychology, biology, and environment on the development of anorexia and other eating disorder behaviors in young adults and adolescent females. Based on previous studies, we hypothesize that individuals'

psychological, cultural, biological, and environmental factors differentially influence the development of eating disorder behaviors among adolescent females.

The independent variables in this study are individuals' psychology, culture, biology, and the environment. The dependent variable of the study is the development of an eating disorder.

The definition of an eating disorder behavior is any behavior that matches any symptom of an eating disorder such as: obsessive weight control, recent excessive drop in weight, excessive exercising, binging, purging, purposefully skipping meals, abusing laxatives or other weight loss supplements, obsession with food, and major medical symptoms relating to anorexia listed throughout the paper. The definition of "adolescent female" is any female between the ages of 12 and 18 years. The definition of "culture" is the influence that society exerts on participants through norms, media, and parental and peer influence. The definition of "body image" is the way in which a participant views their own body regardless of factual measurements or others' perceptions.

Literature Review

Scope of the problem

Research suggests that eating disorders are rare in the general population, although results are likely understated due to patient denial or concealment of their disorders (Swanson, Crow, Le Grange, Swendsen, & Merikangas, 2011). Data surrounding eating disorders come from doctor and hospital records, as well as surveys typically conducted at college campuses. Following DSM-5 (APA, 2013) criteria, approximately 2.7% of the female population ages 13 to 18 in America are suffering from an eating disorder (National Institute of Mental Health, 2016). However, when the criteria are not as stringent and eating disorder behaviors are taken into account, the prevalence is much higher. Females as young as six years old are already beginning to express concerns of body dissatisfaction, and 40-60% of elementary school girls aged 6 to 12 are concerned they are becoming too fat (Smolak, 2011). Approximately 91% of females surveyed on college campuses have reported that they have attempted to control their weight through dieting. More than 50% of teenage girls surveyed reported use of unhealthy weight control behaviors (National Association of Anorexia Nervosa and Associated Disorders, 2016). A total of 35% of dieters who consider their diets to be "normal" end up progressing to pathological dieting, and of those, 20-25% progress to partial or full-syndrome eating disorders (National Institute of Mental Health, 2016).

There is very little conclusive data on disparity of eating disorders across race, class, or marital status, although some research has shown that there is a slightly higher percentage of white and minority mixed adolescent females suffering from anorexia (Marques, et al., 2011).

Causes of the problem

The biggest factor in the development of any eating disorder is body dysmorphic disorder, meaning that a person sees their body in a distorted way that others do not see them and think about their real or perceived flaws for long periods of time. These intrusive thoughts stem from biological as well as environmental causes (National Association of Anorexia Nervosa and Associated Disorders, 2016).

At the typical onset age of anorexia of 12, the human body is going through puberty. During this time, weight gain is just as natural as the development of self concept and outside view, meaning that others' opinions are beginning to influence our concept and choice. According to an older children's body satisfaction study, for both boys and girls, body satisfaction was positively correlated with self-concept, physical appearance and attributes, and happiness and satisfaction. For sixth grade girls, their self-concept was also correlated with satisfaction with breasts, weight, anxiety, and popularity. Their actual weight was negatively correlated with total

body satisfaction (Folk, Pederson, & Cullari, 1993). This data concludes that that there is a correlation of outside appearance on self-concept and body image.

Other studies debate the media's influence on eating disorder being a casual risk factor. Both content and exposure rate play an important role in whether or not there is an impact. Longitudinal studies demonstrate that over time, there is a correlation between media and culture towards attitudes of body image in ourselves and others (Levine, & Murnen, 2009). In a 2010 survey, 69% of elementary school girls who read magazines said that the pictures in the magazines affected their ideal body concept, 47% of these saying they made them want to lose weight (Martin, 2010).

Anorexia is also often linked with other psychological and mental illnesses, namely anxiety and higher states of perfectionism. As these problems make for difficulty with coping and regulating, they present greater vulnerability in eating disorders (Miller & Steiner, 2003). In addition to this, anorexia is a highly heritable disorder with a 50-80% passing rate. This same study found that there are telltale signs presented in early childhood development that may be warning signs, again linking anxiety and perfectionism on top of obsessive personalities and negative self-evaluation preceding the disorder. Furthermore, brain imaging studies now allow researchers to examine brain circuits contributing to the symptoms. One such study concluded that there are potential dopamine function disturbances that contribute to alterations of weight, feeding behavior, motor activity, and reward mechanisms in people with anorexia. This can result in a lack of pleasure while eating, exaggerated exhibitions of worry, and avoidance of harm (Frank, 2013). A similar brain imaging study measured females recovered from anorexia and found that individuals with anorexia process taste in a different way and fail to respond appropriately to hunger. The expansion of this study showed that females recovering from anorexia did not differentiate between reward and punishments, showing an impaired ability to identify emotional significance in stimuli (Wagner, et al., 2007).

Consequences of the problem

The National Eating Disorders Association (2016), states that the effects of anorexia nervosa lasts even into recovery, if persons suffering from anorexia are able to make it to the recovery stage at all. Self-starvation denies the body of essential nutrients, especially in adolescents whose bodies are growing and changing. The body in turn must make its own changes in order to conserve the remaining energy. In order to do this, both the heart rate and blood pressure become abnormally slow and low respectively, leading to a great risk of heart failure. There is also a reduction of bone density, or osteoporosis, resulting in very dry and brittle bones. Other common risks include: an acute loss of muscle, severe dehydration, overall fatigue and weakness, drying hair and skin, and a growing layer of hair called lanugo all over the body to keep the body warm. If anorexia is paired with binging, multiple other health risks come into play including: tooth decay, irregular heartbeats, electrolyte imbalance, gastric rupture, inflammation/rupture of the esophagus, chronic irregular bowel movements, peptic ulcers and pancreatitis, as well as type 2 diabetes and gallbladder disease (The National Eating Disorders Association, 2016). On top of all of these health concerns, other mood disorders often co-occur (McElroy, Kotwal, & Keck, 2006), and alcohol and substance abuse disorders become four times more likely to occur (Harrop, & Marlatt, 2010). Ninety-seven percent of teenagers with anorexia reported significant impairment and thoughts of suicide (Swanson et al., 2011). According to the American Journal of Psychiatry, anorexia has the highest mortality rate of any other psychiatric illness with 10% of persons suffering from anorexia dying (American Psychiatric Association, 2007).

Recovery rates and risks

The recovery rate of anorexia is 50-70%, with an average of 30% remaining chronically ill. The first priority in recovery is weight restoration to prevent starvation and limit the effects of

malnutrition (Kaye, 2007). Effective treatments are difficult to come by as they involve not only weight restoration, but acute behavior modification as well. Even after recovery, many still show persistent symptoms of anorexia. Relapse threat is a large concern, even after many years have passed, mainly due to lack of treatment or lack of recognition of eating symptoms. As the onset age of anorexia is at a very formative time both mentally and physically in one's life, immediate intervention is critical. 73-88% of adolescents with eating disorders report that they had some contact with service providers, but only 3-28% specifically talked about their eating problems. Ninety-seven percent of teenagers with anorexia reported significant impairment and thoughts of suicide (Swanson et al, 2011).

Methods

Research Design

The research design will employ an explanatory approach using a cross-sectional survey study design.

Sampling Method & Population and Sample

The sample will be recruited throughout middle and high school campuses across southern Louisiana. A total of 100 females between the ages of 12 to 18 years old will be surveyed.

Instrument

One of the instruments that will be included in this research is the Body-Image Ideals Questionnaire (BIQ). This 20-item questionnaire created by Thomas Cash and Marcela Szymanski (1995) provides an attitudinal body-image assessment that measures body image, specific facets of personality (such as perfectionism) and psychosocial adjustment (such as social anxiety, depression, and eating disturbances). This questionnaire's validity was examined previously for a sample of 284 college women and has been retested more recently and proved to be consistent. A second instrument used in this research will be a self-made survey that will ask questions searching for a correlation between media consumption/society norms and body image. A part of the second questionnaire will be sent along with parental consent forms to parents to answer a series of demographic information about the participant to identify any potential links between environmental factors and eating disorder behaviors. Such information will include ethnicity, age, parental marital status, household income, and family history of anorexia or other eating disorders.

Procedure for Collecting Data

Upon approval of the IRB, data for this research will be collected in fall of 2016. Students in a social work research class will identify 100 voluntary participants, adolescent females ages 12 to 18 across Louisiana school campuses. As these participants will be minors, parental consent forms will be read to students, sent out, collected, and filed away safely to ensure full consent for all subjects. Social work students will explain the research project and sit with the participants throughout the completion of the surveys to ensure that each question is understood and answered appropriately.

Data Analysis

To address the study's hypothesis, multiple regression will be performed. Although regression analysis can be used to summarize the relationships or associations between a dependent variable and multiple independent variables, it is important to point out that regression analysis does not prove causation. However, it is possible to examine the degree of association between variables and how well the independent variables have explained the dependent variable. The descriptive statistics and regression results for the current study will be summarized in Tables.

Conclusions

In the current study, we will examine the extent to which various psychological, cultural, biological, and environmental factors are associated with the development of eating disorder behaviors among adolescent females. We hypothesize that individual's psychological, cultural, biological, and environmental factors differentially influence the development of eating disorder behaviors among adolescent females.

The method of self-reported survey may affect this study negatively. The surveys have an inherent potential bias due to the fact that the data is self-reported. The nature of self-reported study design also has limitations in its ability to conduct explanatory research, because the criteria for inferring cause-and-effect relationships are not as easily established as they are in true or quasi-experimental design. Reducing the possibilities of rival explanations is also more difficult with surveys compared to experimental design, as surveys do not typically have the same level of randomization that hold extraneous variables constant.

By understanding the effects of different factors on the development of eating disorder behaviors among adolescent females, youth and behavioral researchers, youth and family policy makers, and youth and family workers will be able to focus on the individual and/or social programs which provide most benefits to young adolescents and their families, friends, and other members of their social network.

References

American Psychiatric Association. (2007). *The American Journal of Psychiatry,* 164 (12), 1805-1810.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders: DSM-5.* Washington, D.C: American Psychiatric Association.

Cash, T., & Szymanski, M. (1995). Body-Image Ideal Questionnaire (BIQ). *Body Images Research Consulting.*

Folk, L., Pederson, J., & Cullari, S. (1993). Body Satisfaction and Self-Concept of Third Grade and Sixth-Grade Students. *Perceptual and Motor Skills, 76*, 547-553.

Frank, G. K. W. (2013). Altered Brain Reward Circuits in Eating Disorders: Chicken or Egg? *Current Psychiatry Reports, 15*(10), 396. http://doi.org/10.1007/s11920-013-0396-x

Harrop, E. N., & Marlatt, G. A. (2010). The comorbidity of substance use disorders and eating disorders in women: prevalence, etiology, and treatment. *Addictive Behaviors, 35*, 392-398.

Kaye W. (2007, October) *Why do they keep doing it? How the brain drives thoughts and behaviors in anorexia nervosa*. Presented at: 19th Annual Premier Conference of the California Psychiatric Association, Huntington Beach, Calif.

Levine, M., & Murnen, S. (2009). Everybody knows that mass media are/are not [pick one] a cause of eating disorders: A critical review of evidence for a causal link between media, negative body image, and disordered eating in females. *Journal of Social And Clinical Psychology, 28*(1), 9-42.

Marques, L., Algeria, M., Becker, A.E., Chen, C.N., Fang, A., Chosak, A., & Diniz, J.B. (2011). Comparative prevalence, correlates of impairment, and service utilization for eating disorders across US ethnic groups: Implications for reducing ethnic disparities in health care access for eating disorders. *International Journal of Eating Disorders, 44*(5):412-20. doi: 10.1002/eat.20787.

Martin, J. B. (2010). The Development of ideal body image perceptions in the United States. *Nutrition Today, 45*(3), 98-100. Retrieved June16, 2016, from nursingcenter.com/pdf.asp?AID=1023485

McElroy, S. L. O., Kotwal, R., & Keck, P. E. Jr. (2006). Comorbidity of eating disorders with bipolar disorder and treatment implications. *Bipolar Disorders, 8*, 686-695.

Miller, S., Redlich, A., & Steiner, H. (2003). The stress response in anorexia nervosa. *Child Psychiatry and Human Development, 33*(4), 295-306.

National Association of Anorexia Nervosa and Associated Disorders. (2016). Eating Disorder Statistics. Retrieved June 16, 2016, from http://www.anad.org/get-information/about-eating-disorders/eating-disorders-statistics/

National Eating Disorder Association. (2016). Anorexia Nervosa. Retrieved June 16, 2016, from http://www.nationaleatingdisorders.org/anorexia-nervosa

National Institute of Mental Health. (2016). *Eating Disorders Among Children*. Retrieved June16, 2016, from http://www.nimh.nih.gov/health/statistics/prevalence/eating-disorders-among-children.shtml

Smolak, L. (2011). Body image development in childhood. In T. Cash & L. Smolak (Eds.), *Body Image: A Handbook of Science, Practice, and Prevention (2nd ed.)*. New York: Guilford.

Swanson, S., Crow, S., Le Grange, D., Swendsen, J., & Merikangas, K. (2011). Prevalence and correlates of eating disorders in adolescents. *Archives of General Psychiatry, Online Article, E1-E10*.

Wagner A, Aizenstein H, Mazurkewicz L, et al. (2007). Altered insula response to taste stimuli in individuals recovered from restricting-type anorexia nervosa. *Neuropsychopharmacology.*

*** Faculty Co-Author**

URC **RESOURCES:**

Research Journal: **Vol. 1** **Vol. 2** **Vol. 3** **Vol. 4** **Vol. 5** **Vol. 6** **Vol. 7** **Vol. 8** **Vol. 9** **Vol. 10** **Vol. 11** **Vol. 12** **Vol. 13** **Vol. 14** **Vol. 15**
High School Edition

Call for Papers ¦ **URC Home** ¦ **Kappa Omicron Nu**

SHARE

K O N