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ATTACHMENT STYLES AS MODERATOR BETWEEN STRESS AND EMOTIONAL EATING IN ADOLESCENT GIRLS: A RESEARCH PROPOSAL

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ABSTRACT

Emotional eating is an important precursor of weight gain and obesity among adolescent girls (Halberstadt et al., 2016). Researchers have defined *emotional eating* as individuals' eating behaviors in response to the positive or negative emotions they endure (Bongers & Jansen, 2016). In past studies, *stress* has been found to be an important indicator of emotional eating in adolescent girls (Corsica, Hood, Katterman, Kleinman, & Ivan, 2014). However, not all girls who experience stress will engage in emotional eating. The stress-diathesis model suggests that certain traits of vulnerability may predispose some individuals towards mental health problems (e.g., eating disorders) in response to stress (MacNeil, Esposito-Smythers, Mehlenbeck, & Weismore, 2012). One of the important traits that may moderate the effect of stress on mental health problems is *attachment styles* (Chow & Ruhl, 2014). *Attachment styles* are defined as the internalized mental representations of individuals' key attachment figures (e.g., mothers; Cooper, Shaver, & Collins, 1998). Attachment styles are measured by the dimensions of *anxiety* (e.g., fear of being abandoned by others) and *avoidance* (e.g., fear of being too close to others). Combining the stress-diathesis model and attachment theory, the current study aims to investigate whether adolescent girls' attachment security within close relationships moderates the link between experiences of stress and emotional eating. Specifically, it is hypothesized that girls who are low in attachment security engage in more emotional eating when under stress. In contrast, it is hypothesized that

girls who are high in attachment security engage in less emotional eating, regardless of their stress levels. To test the hypothesis, data will be drawn from archival data including 100 adolescent girls between 11 and 18 years old. Participants answered questionnaires on stress attachment security to their parents and whether they engaged in emotional eating. Moderation hypothesis will be examined with multiple regression implemented in R.

INTRODUCTION

Emotional eating has been defined as eating behaviors that occur in response to negative emotions, including depression, anxiety, and anger (Ganley, 1989). It has been found that individuals who engage in such behavior are at risk for physical health (e.g., weight gain and obesity), and mental health complications (e.g., depression) (Bongers & Jansen 2016). Many studies show adolescent girls emotionally eat at a higher rate than adolescent boys, and in fact emotional eating increases in this age range (Wardle et al., 1992). Adolescent girls engage in emotional eating as a coping strategy, leading to the overconsumption of food intake. Overconsumption of food may then increase their chances of disordered eating and obesity (Bongers & Jansen, 2016; Nguyen-Michel, Unger, & Spruijt- Metz, 2007). For example, one of the main types of disordered eating that can evolve from the overconsumption of food is binge eating disorder (Braet & Ipema, 1997). Also, past research on the etiology of obesity has found that emotional eating offers a viable explanation of this issue (Nguyen-Rodriguez, Unger, & Spruijt-Metz, 2009). Given that emotional eating is a critical issue among adolescent girls, the current study intends to examine (1) the association between experiences of stress and emotional eating, (2) the association between attachment styles and emotional eating, and (3) the moderating role of attachment styles between experiences of stress and emotional eating.

Stress and Emotional Eating

Past studies have consistently demonstrated a link between stress and unhealthy dietary practices among adolescent girls

(Cartwright et al., 2003). For instance, Cartwright et al. (2003) found a shift in adolescents' diets when encountering different stress levels (e.g. low and high). Specifically, they found that adolescents consumed more healthy foods under low stress and more fatty and unhealthy foods under high stress (Cartwright et al., 2003). Another study examined the effects of different moods (e.g., anger, loneliness, boredom, and depression) on emotional eating in adolescents (Nguyen-Rodriguez et al., 2009) and found that both perceived stress and ongoing worries were related to emotional eating in adolescents. Together, these studies suggest that the consumption of unhealthy food serves as an emotional coping strategy in response to stress. Since emotional eating is defined as eating behavior in response to negative emotions, it is likely that increased stress levels will lead individuals to engage in this behavior. Adolescent girls may engage in emotional eating both to comfort themselves and to avoid the emotions they experience in response to stress (Bongers & Jansen, 2016).

However, not all individuals who are stressed will engage in emotional eating. Indeed, the stress-diathesis model suggests that certain traits of vulnerability may predispose some individuals toward mental health problems (e.g., emotional eating) in response to stress (MacNeil, Esposito-Smythers, Mehlenbeck, & Weismore, 2012). It is reasonable to argue that adolescents with certain traits of vulnerability may experience more emotional eating in response to stress. One important trait of vulnerability that interacts with stress in predicting emotional eating in adolescent girls could be their attachment styles (Chow & Ruhl, 2014).

Attachment Theory

According to attachment theory, infants develop *attachment styles* with regard to their relationships with attachment figures (e.g., mothers) (Bowlby, 1982; Cassidy, 1994). Three attachment styles have been proposed: *secure*, *insecure-anxious*, and *insecure-avoidant*. Individuals' attachment styles are thought to be dependent on whether or not their caregivers are sensitive and responsive to their attachment needs (Bowlby, 1982; Cassidy, 1994). *Secure* attachment is thought to be the result of sensitive and responsive caregiving (Eggert, Levendosky, & Klump,

2007; Rholes & Simpson, 2004). Securely attached infants are confident that their attachment figures will be responsive and available (Ainsworth, 1979; Cassidy, 1994). This results in infants knowing they can rely on others for comfort and love when facing environmental challenges.

However, not all infants develop a secure attachment style. When infant attachment needs are not met by their caregivers, the infants become insecurely attached (Cassidy, 1994). Specifically, *insecure-anxious* attachment is thought to be the result of inconsistent caregiving. These anxious infants are ambivalent about the availability of their attachment figures, and therefore show high emotional arousal when distressed. Furthermore, *insecure-avoidant* attachment is thought to be the result of rejecting and aloof caregiving. These avoidant infants have learned to be excessively independent and uncomfortable with their attachment figures. They tend to react to stress with muted emotionality and do not turn to caregivers for comfort when distressed (Cassidy, 1994).

Although infants' attachment has been conceived as falling into three distinct categories (*secure*, *anxious*, and *avoidant*), Brennan, Clark, and Shaver (1998) suggested that attachment styles should be measured with two continuous dimensions: *attachment anxiety* and *attachment avoidance*. Researchers define *attachment anxiety* as a preoccupation about close relationships regarding rejection (Koskina & Giovazolias, 2010). Individuals who score high in attachment anxiety are hypervigilant about potential rejection, and tend to experience anxiety about engaging in relationships (Berstein, Delker, Knight, & Freyd, 2015). *Attachment avoidance* refers to individuals' tendencies to feel uncomfortable with intimate experiences, and such individuals tend to suppress their attachment needs when confronted with stressful situations (Eggert et al., 2007). Therefore, both styles of insecure attachment could make adolescent girls feel vulnerable, especially when they are under stress.

Attachment Styles and Emotional Eating

Past studies show a significant link between attachment styles and disordered eating behaviors (Ranzenhofer et al., 2016).

For instance, individuals with high attachment anxiety are more likely to engage in coping strategies, such as rumination or denial, which can be associated with emotional eating when coping with stressors (Chow & Ruhl, 2014). MacNeil et al. (2012) also found that individuals who tend to have avoidant coping styles engage in emotional eating to distract themselves from difficulties with emotions. Supporting these ideas, past research suggests that individuals who are anxious or avoidant are at higher risk for disordered eating (e.g. anorexia nervosa, bulimia nervosa, binge eating disorder) compared to individuals who are securely attached (Eggert et al., 2007). Researchers also found that women who are high in attachment anxiety and avoidance are more at risk for having difficulties regulating emotions, which makes them more at risk for engagement in emotional eating (Taube-Schiff et al., 2015). This explains how attachment styles might be a key moderating mechanism in the relationship between stress and emotional eating.

Attachment Styles as a Moderator

Attachment styles are thought to be fundamental to individuals' adaptation to stress (Mikulincer & Shaver, 2018). Individuals who are high on attachment avoidance tend to inhibit their emotional state and suppress their attachment needs. These tendencies are intended to assist avoidant individuals with maintaining emotional independence from their attachment figures, which may impede them from the benefits of social support. In contrast, individuals who are high in attachment anxiety tend to exaggerate the seriousness of threats and over-emphasize their emotional experiences. These exaggerations may disrupt anxious individuals' ability to utilize effective problem-focused coping (Mikulincer & Shaver, 2018).

According to the *stress-diathesis model*, certain traits of vulnerability may predispose some individuals towards mental health problems (e.g., eating disorders) in response to stress (MacNeil et al., 2012). When experiencing a sense of vulnerability, unwanted attachment needs are activated. Individuals who have attachment anxiety tend to exaggerate their attachment needs (Mikulincer & Shaver, 2018), leading them to believe they cannot

manage their feelings of distress. It is reasonable to argue that adolescent girls who score higher in anxiety and avoidance are more vulnerable to the effects of stress on emotional eating because of their difficulties in regulating their emotions. These individuals are more likely to engage in coping strategies, such as rumination or denial, which can be associated with emotional eating when coping with stressors (Chow & Ruhl, 2014). MacNeil et al. (2012) found that individuals who tend to have avoidance coping styles will engage in emotional eating to distract themselves from difficulties with emotions.

Emotional regulation refers to “the processes by which individuals influence which emotions they have, when they have them, and how they experience and express these emotions” (Gross, 1998, p. 275). Previous studies have documented attachment-related differences in emotional regulation. People who score higher in attachment anxiety and avoidance have extreme difficulties in identifying and describing their emotions (Milkulincer & Shaver, 2018). Empirical evidence reveals how attachment-avoidant individuals tend to cope with emotions by emotional disengagement, and attachment-anxious individuals tend to put increased emphasis on stressful events (Milkulincer & Shaver, 2018). Trying to mask their true emotions results in certain stressors interfering with the task of emotion regulation. Research also suggests that improvements in attachment representations, developed from adolescence to adulthood, may improve these individuals’ attachment behavior in close relationships (Van Ryzin, Carlson, & Sroufe, 2011).

THE PROPOSED STUDY

The proposed study will combine the stress-diathesis model and attachment theory to investigate whether adolescent girls’ attachment styles within close relationships moderated the association between experiences of stress and emotional eating. Data will be drawn from an archival study of mother and daughter relationships. Based on past research, it is hypothesized that:

- (1) Higher stress experiences are related to more emotional eating in adolescent girls;

- (2) Higher attachment avoidance and anxiety are related to more emotional eating in adolescent girls; and
- (3) Attachment styles moderate the association between experience of stress and emotional eating. Specifically, it is expected that (a) girls who are high in attachment anxiety and avoidance engage in more emotional eating when they experience more stress, and (b) girls who are low in attachment anxiety and avoidance engage in less emotional eating regardless of their stress levels. This moderating effect is represented in Figure 1 (below).

METHODS

Participant Recruitment

Participants consisted of 100 adolescent girls (11-18 years old) and their mothers, from a Midwestern metropolitan area. Participants were recruited with online flyers used on social media sites such as Facebook, and postings on Craigslist. Other participants were recruited through paper flyers distributed on college and secondary-school campuses. Participants who wished to participate in the study were asked to schedule a lab session to come in to fill out an in-person survey. A signed consent form was required before the survey was administered to the participants. Compensation in the form of a \$40 gift card was provided to every participant who completed the survey.

Participant Characteristics

Participants were asked to complete a short demographic survey to gather information about their age, race, BMI, and mother's marital status. There were 100 adolescent girls ($Mage = 14.37$, $SD = 2.29$). Ethnicity of participants consisted of: Caucasian (48%), African American (30%), Asian (4%), Hispanic (2%), Middle Eastern (1%), and Mixed Race/Other (15%). Average BMI for adolescent girls was found to be 64.96 ($SD = 27.41$). The marital status of the adolescent girls' mothers was: 60% married, 14% single, 17% divorced, and 9% widowed or "other relationship status."

Measures

Attachment styles.

Participants completed the 9-item-Relationship Structure (ECR-RS) questionnaire (Fraley, Heffernan, Vicary, & Brumbaugh, 2011). This questionnaire was originally designed to assess attachment within close relationships. Specifically, one dimension measured adolescent girls' attachment anxiety (e.g., "I often worry that this person doesn't really care for me"). Another dimension measured adolescent girls' attachment avoidance (e.g., "I don't feel comfortable opening up to this person"). The items were answered on a Likert Scale ranging from 0 (*never*) to 4 (*very often*). Averaging the scores for the corresponding items leads to a score for "avoidance" and a score for "anxiety." Evidence for the validity of this questionnaire can be found in Fraley et al.'s (2011) research.

Emotional eating.

Participants completed questions from the 33-item Dutch Eating Behavior Questionnaire (van Strien, Frijters, Bergers, & Defares, 1986). This questionnaire is used to assess emotional eating, but, for this study, the 13-item Emotional Eating subscale will be used. This questionnaire is used to assess the particular desire to eat in response to an emotion or event (e.g. "*Do you have a desire to eat when you are irritated?*" or "*Do you have a desire to eat when you are approaching something unpleasant to happen?*"). Answers were ranked on a Likert Scale ranging from 1 (*never*) to 5 (*very often*). Items from this subscale were averaged to form a composite, with higher scores indicating a greater chance the individual emotionally eats. Evidence for validity can be found in van Strien et al.'s (1986) study.

Stress.

The 10-item Perceived Stress Scale (Cohen, 1983) questionnaire was used to measure the perception of stress (e.g., "*In the last month, how often have you felt confident about your ability to handle your personal problems?*") experienced by each participant during the previous month. Once the overall score was compiled, the level of stress reported by each participant could

be measured. The original questionnaire was ranked on a Likert Scale ranging from 0 (*never*) to 4 (*very often*). Cohen et al.'s (1983) research supports the validity of this questionnaire.

PLANNED ANALYSES

All analysis described below will be implemented using data software “R.” First, a data screening procedure will be conducted to check for normality in the variables. Second, descriptive statistics (e.g., means, standard deviations, and correlations) will be computed.

In terms of correlation, it is expected that levels of stress are related to more emotional eating. Also, it is expected that higher levels of attachment anxiety and avoidance are related to more emotional eating. Third, a regression model will be conducted to examine the moderating role of attachment styles between stress and emotional eating.

Regression Analysis

A hierarchical regression will be conducted to analyze the moderating role of attachment styles between stress and emotional eating. Recommendations by Aiken and West (1991) will be followed in the current study by standardizing predictors and moderators before the regression analysis. By doing so, potential correlations among predictors can be accounted for. Hierarchical regression will be completed in three steps. In Step 1, stress levels, attachment anxiety, and attachment avoidance will be entered to predict emotional eating. This model will test the significance of each predictor on emotional eating. In Step 2, the interaction terms of “stress with attachment anxiety” and “stress with attachment avoidance” will be examined. This model will examine if the effect of stress on emotional eating is dependent on attachment styles. It is expected that (a) girls who are high in attachment anxiety and avoidance engage in more emotional eating when they experience more stress, and (b) girls who are low in attachment anxiety and avoidance engage in less emotional eating regardless of their stress levels. These expected findings are represented in Figure 2 (below).

DISCUSSION

The proposed study will investigate the effects of stress on emotional eating in adolescent girls and how attachment styles may moderate such an association. As two rather independent lines of research, past studies have demonstrated that stress as an environmental factor, versus attachment styles, as individual traits, is a key predictor of emotional eating. This research will contribute to the literature by showing how stress and attachment styles may interact to predict emotional eating in adolescent girls above and beyond each factor. The findings will highlight the key premise of the stress-diathesis model, such that psychological health is the outcome of personal characteristics interacting with environmental factors. This is an important addition to the literature on emotional eating and attachment styles because it gives a better understanding of how attachment styles can strengthen the relationship between predictors of emotional eating (e.g., stress). These findings can be useful in future clinical programs, as well as for clinicians working with adolescents at risk for obesity and eating disorders.

Attachment styles serve as a moderator between stress and emotional eating in adolescent girls. In the moderation process, the moderating variable affects the strength of the relationship

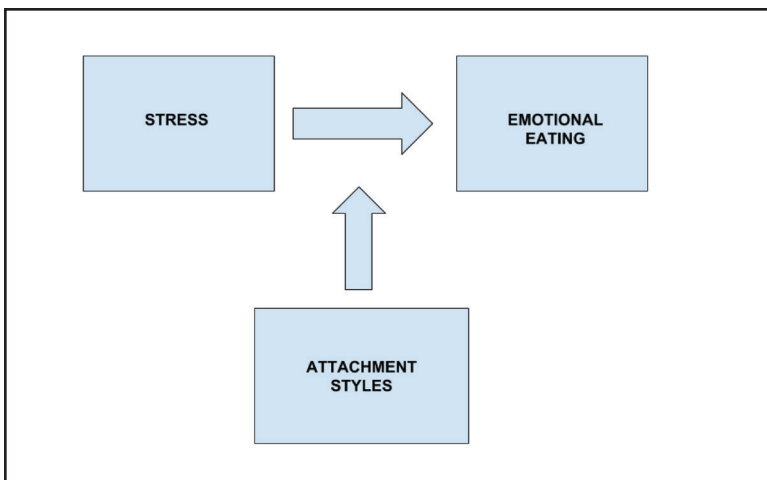


Figure 1. Moderating role of attachment styles between stress and emotional eating.

between the independent and dependent variable. In this study, attachment styles are conceptualized as the moderator, stress is conceptualized as the independent variable, and emotional eating is conceptualized as the dependent variable. It is hypothesized that attachment styles will affect the strength of the relationship.



Figure 2. Expected interaction pattern between attachment styles and stress on emotional eating.

It is expected that individuals who experience greater stress tend to eat emotionally when they score high on attachment anxiety and avoidance.

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