A Preliminary Examination of Weight Based Psychological Aggression in Intimate Relationships

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(Original signatures are on file with official student records.)
A Preliminary Examination of Weight Based Psychological Aggression in Intimate Relationships

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Abstract

This two-part study examined a new form of intimate partner aggression termed weight based psychological aggression. Past work supports a theoretical and empirical relationship between intimate partner aggression and eating disorder symptoms. Additionally, negative events within romantic relationships are related to major risk factors of eating disorders (e.g., body dissatisfaction, body consciousness). In the current studies, a new measure that assessed weight based psychological aggression was examined to explore its factor structure and psychometric properties. A second aim of these studies was to further examine the weight based psychological aggression construct and how it related to eating disorder symptoms. Emotion dysregulation is one important factor that may explain the relationship between weight based psychological aggression and disordered eating behaviors (e.g., eating disorder symptoms, body consciousness). Intimate partner aggression victimization was also included in the mediational model to further examine the mediating effect of emotion dysregulation on the relationship between intimate partner aggression and disordered eating behaviors. Results from the current studies supported the factor structure of the weight based psychological aggression measure and the convergent validity. The convergent validity was partially supported, and the discriminant validity was supported. Results from the mediation analyses indicated a significant effect supporting emotion regulation as a mediator of the relationship between the Guilt/Pressure subscale of the new measure and eating disorder symptoms. However, fit indices indicated poor model fit, decreasing confidence in the theoretical models. Emotion dysregulation did not mediate the relationship between the Retaliatory/Coercive subscale of the new measure and disordered eating behaviors (e.g., eating disorder symptoms,
body consciousness). The mediating effect of emotion regulation on intimate partner aggression and disordered eating (e.g., eating disorder symptoms, body consciousness) was also not significant. Results from the current studies support the need for continued research, particularly among clinical samples. Implications for research and treatment are discussed.

Keywords: eating disorders, intimate partner aggression intimate partner violence, psychological aggression, physical aggression, emotion dysregulation
# Table of Contents

Chapter 1 Introduction and Literature Review ................................................................. 1
  Eating Disorders............................................................................................................... 3
  Eating Disorders and Intimate Partner Aggression....................................................... 5
  Theoretical Model ......................................................................................................... 10
  Affect Regulation and Intimate Partner Aggression..................................................... 12
  Affect Regulation, Intimate Partner Aggression, and Eating Disorders.................... 12
  Summary and Current Study......................................................................................... 13

Chapter 2 Specific Aims and Hypotheses ....................................................................... 15
  Study 1........................................................................................................................... 15
  Study 2........................................................................................................................ 16

Chapter 3 Methods........................................................................................................... 18
  Study 1........................................................................................................................... 18
  Study 2........................................................................................................................ 26

Chapter 4 Results............................................................................................................ 31
  Study 1........................................................................................................................... 31
  Study 2........................................................................................................................ 34

Chapter 5 Discussion.................................................................................................... 43
  Mediation Results........................................................................................................ 45
  Implications.................................................................................................................. 49
  Limitations and Directions for Future Research....................................................... 50
  Conclusions................................................................................................................ 52

List of References............................................................................................................ 53
Vita.................................................................................................................................... 66
List of Attachments

File 1. Factor Loadings for the Unmodified Weight Based Psychological Aggression Measure (PDF File) ................................................................. Factor Loadings.pdf
File 2. Eigenvalues and Factor Loadings for Retained Weight Based Psychological Aggression Items (PDF File) ................................................................. Eigenvalues.pdf
File 4. Confirmatory factor Analysis Factor Loadings (PDF File) ... Confirmatory Factor Analysis.pdf
File 5. Correlations Among Latent Variables and Measured Variables in Study 2 (PDF File) ................................................................. Study 2 Descriptives.pdf
File 6. Mediational Model examining the direct and indirect effects of psychological weight aggression and psychological aggression victimization on body consciousness and eating disorder symptoms through emotion dysregulation (PDF File) .......................................................................................................................................................................................... Mediation Model Psychological Aggression.pdf
File 7. Mediational Model examining the direct and indirect effects of psychological weight aggression and physical aggression victimization on body consciousness and eating disorder symptoms through emotion dysregulation (PDF File) .......................................................................................................................................................................................... Mediation Model Physical Aggression.pdf
File 8. Mediational Model examining the direct and indirect effects of psychological weight aggression and sexual coercion victimization on body consciousness and eating disorder symptoms through emotion dysregulation (PDF File) .......................................................................................................................................................................................... Mediation Model Sexual Coercion.pdf
File 9. The mediating effect of emotion dysregulation on the relationships between weight based psychological aggression and eating disorder symptoms and body consciousness and psychological aggression victimization and eating disorder symptoms and body consciousness (PDF File) .......................................................................................................................................................................................... SEM Psychological Aggression.pdf
File 10. The mediating effect of emotion dysregulation on the relationships between weight based psychological aggression and eating disorder symptoms and body consciousness and physical aggression victimization and eating disorder symptoms and body consciousness (PDF File) .......................................................................................................................................................................................... SEM Physical Aggression.pdf
File 11. The mediating effect of emotion dysregulation on the relationships between weight based psychological aggression and eating disorder symptoms and body consciousness and sexual coercion victimization and eating disorder symptoms and body consciousness (PDF File) .......................................................................................................................................................................................... SEM Sexual Coercion.pdf
File 12. Negative Weight Evaluation Scale (PDF File) .......................................................................................................................................................................................... Scale.pdf
Chapter 1

Introduction and Literature Review

The high prevalence of and significant negative consequences associated with intimate partner aggression victimization among young adult populations has been widely supported (Shorey, Brasfield, Febres, & Stuart, 2011). Specifically, the prevalence of physical aggression victimization within young adult relationships ranges from 20% to 30% (Shorey, Cornelius, & Bell, 2008), psychological aggression occurs in approximately 70 to 90% of young adult relationships (Shorey et al., 2008), and the prevalence of sexual coercion victimization is 30% among females (Shorey et al., 2008). Intimate partner aggression includes acts of physical and psychological aggression and sexual coercion. The current study focused on female victims of intimate partner aggression, as the measure used to assess weight based psychological aggression is based on eating disorder literature utilizing female samples. Eating disorder symptoms are different in females compared to males (Parent & Bradstreet, 2016; Schooler & Ward, 2006). Specifically, eating disorder symptoms among men are characterized by masculine behaviors (e.g., exercising, taking exercise supplements) and masculine attitudes (e.g., drive to become larger and more muscular; Schooler & Ward, 2006). Females, on the other hand, aspire to be thin (Parent & Bradstreet, 2016; Schooler & Ward, 2006). Given this discrepancy in eating disorder symptoms, the current study focused exclusively on females.

According to The Centers for Disease Control (CDC), physical violence is defined as “the intentional use of physical force with the potential for causing death, disability, injury or harm,” (Saltzman, Fanslow, McMahon, & Shelley, 2002, p.11). Physical violence includes acts such as shoving, pushing, slapping, choking. Psychological aggression is defined as the use of verbal
and non-verbal behaviors (e.g., name-calling, coercive control, threats of physical or sexual violence) with the intent of causing emotional harm (Saltzman et al., 2002). Sexual coercion is defined as forcing, pressuring, or coercing a partner to perform a sexual act without consent (Saltzman et al., 2002). A significant problem within the study of intimate partner aggression is the disagreement regarding the terms used to refer to aggressive acts within intimate relationships (Barnett, Miller-Perrin, & Perrin, 2005). For the purposes of the current paper, psychological aggression was used to refer to emotional abuse, as this term is consistent with the assessment measure used to assess intimate partner aggression. There are a multitude of negative physical and mental health consequences associated with intimate partner aggression victimization. These include substance abuse, psychological disorders, and mortality (Ackard & Neumark-Sztainer, 2002; Coker, Smith, Bethea, King, & McKeown, 2000; Filson, Illoa, Runfola, & Hokoda, 2009; Shorey, Moore, McNulty, & Stuart, 2015; Shorey, et al., 2011; Silverman, Raj, Mucci, & Hathaway, 2001).

Eating disorder symptoms are one negative consequence of intimate partner aggression that is of particular concern, as eating disorder symptoms are associated with greater functional impairments compared to other psychiatric disorders (Newman, Moffitt, Magdol, Silva, & Stanton, 1996; Stice, Marti, & Rhode, 2013). Additionally, eating disorders are linked with high rates of morbidity, mortality, and chronicity and a higher risk for relapse and co-morbid psychopathology (e.g., depression; Stice et al., 2013).

Research supports the association between intimate partner aggression victimization and eating disorder symptoms (Bundock, Howard, Trevillion, Malcolm, Feder, & Oram, 2013; Gervais & Davidson, 2013). However, no research has extensively examined the use negative
weight comments by intimate partners as a form of aggression in intimate relationships. In the current studies, I used the term “weight based psychological aggression” to refer to the use of negative weight comments as a form of aggression in intimate relationships. The use of weight based psychological aggression by intimate partners might be related to disordered eating behaviors (e.g., eating disorder symptoms and body consciousness).

**Eating Disorders**

According to the current classification in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; American Psychiatric Association, 2013), the following are diagnoses included within the eating disorder classification: Anorexia Nervosa, Bulimia Nervosa, Binge Eating Disorder, Other Eating Disorder, and Unspecified Eating Disorder. Anorexia Nervosa is an “inability to maintain a normal healthy body weight,” (Berkman, Lohr, & Bulik, 2007, p. 293). Bulimia nervosa involves frequent episodes of binge eating in combination with unhealthy compensatory behaviors (e.g., purging, laxative use) to offset episodes of binge eating (Berkman et al., 2007). Binge eating disorder comprises frequent episodes of binge eating with an absence of compensatory behaviors (Berkman et al., 2007). It is estimated that 10% or 20 million women will experience eating disorder symptoms during their lifetime (Lewinsohn, Striegel-Moore, & Seeley, 2000; Stice, Kilen, Hayward, & Taylor, 1998; Wade, Keski-Rahkonen, & Hudson, 2011). The prevalence of eating disorder symptoms is higher among college women, with 32% of college women reporting eating disorder symptoms (White, Reynolds-Malear, & Cordero, 2011).

There are a multitude of risk factors contributing to the etiology and maintenance of eating disorders. Objectified body consciousness is a risk factor for eating disorder symptoms
Objectified body consciousness is based on objectification theory, which posits that sociocultural ideals cause women to view their bodies as an object or something to be looked at (McKinley, 1996; Spitzack, 1990). As a result, women “learn to view their bodies as if they were outside observers,” (McKinley, 1996, p. 182). Objectified body consciousness consists of the following three components: (a) body surveillance, which is the tendency to place a greater emphasis on how a body looks instead of how one feels in their body; (b) body shame, which is the belief that one is bad because their body does not follow societal body standards; and (c) appearance control beliefs or the belief that one can control their body and appearance (McKinley, 1996). Past work has consistently supported an empirical relationship between objectified body consciousness and eating disorder symptoms (Jackson & Chen, 2015).

Epidemiological research has provided evidence for the developmental trajectory of eating disorder symptoms (Hudson, Hiripi, Pope, & Kessler, 2007; Keel, Heatheron, Baxterm & Joiner, 2007). Findings indicated that eating disorder symptoms and behaviors peak and are most prevalent during adolescence and young adulthood (Keel et al., 2007). Findings regarding the frequency of eating disorder behaviors in adulthood are mixed, with some studies indicating that eating disorder behaviors (i.e., bingeing and purging) decreased into adulthood (Keel et al., 2007) while others reported a stability of eating disorder behaviors into adulthood (Haedt & Keel, 2010).

The presence of both positive and negative life events influences the frequency of eating disorder behaviors and symptoms (American Psychiatric Association, 2013). For example, experiencing traumatic events (e.g., intimate partner aggression), especially multiple...
traumatic events, is associated with eating disorder symptoms and behaviors (American Psychiatric Association, 2013). Additionally, among married couples, marital discord is associated with an increased risk for unhealthy dieting behaviors (Markey, Markey, & Birch, 2001). In contrast, relationship satisfaction is related to less body dissatisfaction and eating disorder symptoms (Weller & Dziegielewski, 2004). Thus, romantic relationships are important in both protecting against and increasing the risk of eating disorder symptoms (Markey et al., 2001; Ramirez, Perez, & Taylor, 2012).

**Eating Disorders and Intimate Partner Aggression**

In addition to research that has supported an association between romantic relationships and eating disorder symptoms, extant literature has further documented a link between intimate partner aggression victimization and eating disorder symptoms (Bundock et al., 2013; Gervais & Davidson, 2013). A substantial portion of this research has focused on the relationship between intimate partner aggression and eating disorder symptoms among adolescents (e.g., Ackard & Neumak-Sztainer, 2002). However, there has been a growing focus on examining this relationship in adult populations (e.g., college populations). For instance, in a meta-analytic review examining the relationship between intimate partner aggression victimization and eating disorder symptoms, Bundock and colleagues (2013) reported that a higher prevalence of current and lifetime intimate partner aggression (i.e., psychological aggression, physical assault, and sexual coercion) was associated with eating disorder symptoms among adult populations. In terms of sexual coercion within intimate relationships, a significant relationship was found between sexual coercion and bulimic symptoms (Waller, 1991).
Additionally, Gervais and Davidson (2013) examined the relationships between physical and psychological aggression and self-objectification, body shame, and body surveillance among college women. Results indicated that psychological aggression was associated with heightened self-objectification, body surveillance, and body shame (Gervais & Davidson, 2013). Physical aggression, on the other hand, was associated with increased body surveillance and body shame, but not increased self-objectification. Body shame, body surveillance, and self-objectification are risk factors for eating disorder symptoms; thus, results from the aforementioned study documented a significant connection between psychological and physical aggression and known risk factors for eating disorders (Gervais & Davidson, 2013). As previously discussed, self-objectification, body shame, body surveillance are important aspects of body consciousness. Thus, results from the aforementioned study further supported an important relationship between body consciousness and intimate partner aggression victimization. In sum, among college populations, extant literature documented a strong association between intimate partner aggression and eating disorder symptoms, including body objectification, body shame, and body surveillance.

With the exception of the study conducted by Waller (1999), there is no research that has examined the relationship between sexual coercion victimization and disordered eating (i.e., eating disorder symptoms and body consciousness). However, this relationship has been extensively examined in non-dating or intimate relationships. For example, utilizing a sample of emerging adults, Collins et al (2014) examined whether the relationship between a recent rape or attempted rape and eating disorder symptoms was moderated by thought suppression. Results indicated a significant relationship between recent rape or attempted rape and eating
disorder symptoms at high levels of thought suppression, but not low levels of thought suppression (Collins, Fischer, Stojek, & Becker, 2014). Additionally, research has demonstrated that adult sexual assault is associated with eating disorder symptoms while controlling for childhood abuse (Fischer, Stojek, & Hartzell, 2010).

A single study has supported the relationship between sexual coercion in intimate relationships and eating disorder symptoms and a number of studies have supported the relationship between sexual assault and eating disorder symptoms. However, sexual coercion within intimate relationships could be differently associated with eating disorder symptoms compared to general sexual assault; thus, future research should continue to examine the relationship between sexual coercion within intimate relationships and eating disorder symptoms.

Moreover, extensive research has documented a link between exposure to negative weight comments and eating disorder symptoms (Carriere & Kluck, 2014). Negative weight comments from family members (Cordero & Israel, 2009; Kluck, 2010) and peers (Keery, van den Berg, & Thompson, 2004; Shroff & Thompson, 2006) are a particularly salient risk factor for eating disorder symptoms. However, there is a paucity of research examining the association between negative weight comments from intimate partners and eating disorder symptoms (Ramirez et al., 2012). In one study of female college students, Eisenberg and colleagues (2012) examined the association between hearing weight insults from family members and significant others. Results indicated that weight insults from a significant other and family members predicted increased eating disorder symptoms. This study provided preliminary support for the relationship between negative weight comments from a significant other and eating disorder
symptoms. However, the aforementioned study had a number of limitations. This study framed weight insults as a form of teasing and not as a form of aggression in intimate relationships. The current study, on the other hand, focused on weight based psychological aggression as a form of intimate partner aggression rather than a form of teasing (which conveys less severity). Second, Eisenberg et al.’s assessment of weight insults is limited, as it only included two questions. Finally, the study did not examine potential factors that mediated the relationship between weight insults and eating disorder symptoms, such as difficulties with emotion regulation.

The dearth of research examining the association between negative weight comments from an intimate partner and eating disorder symptoms is partially due to the lack of empirically validated measures assessing these constructs (Carriere & Kluck, 2014). One study attempted to address this gap in the literature by adapting a measure assessing weight evaluations from peers (Carrier & Kluck, 2014). The Verbal Commentary on Physical Appearance Scale- Partner (VCOPAS-P) is a 21-item measure that assessed positive and negative feedback about appearance from romantic partners. Sample items included, “your outfit looks great on you”, “you shouldn’t eat so late at night”, and “you have pretty eyes.” Participants rated the frequency in which they hear these comments on a 5-point scale (1= Never to 5= Always). The reliability and validity of the VCOPAS-P is supported for use with Caucasian, college-aged women. This was the first study to empirically validate a measure evaluating appearance feedback from romantic partners. However, this study had a number of limitations that need to be addressed in continued research. To begin, some of the measure items are not related with body dissatisfaction and eating disorder symptomatology (e.g., “You
have pretty eyes;” “you have a beautiful smile;” “your facial skin looks good”). Indeed, in cognitive dissonance based eating disorder prevention programs, participants make positive comments about their bodies; however, they are discouraged from providing comments about certain aspects of the body, like the eyes, facial skin, and smile (Becker & Stice, 2008). Finally, the VCOPAS-P did not frame negative weight comments as a form of aggression. In other words, questions are not framed according to supported definitions of intimate partner aggression, specifically psychological aggression.

In sum, a few studies used quantitative measures to examine the use of negative weight comments by intimate partners. These studies support the need for continued research examining the use of negative weight comments as a form of intimate partner aggression (i.e., weight based psychological aggression) and the negative consequences associated with weight based psychological aggression. However, the measures used in these studies framed negative weight comments and weight insults as a form of teasing rather than a form of aggression, as proposed in the current investigation. Furthermore, in Eisenberg et al.’s (2012) study, a brief measure was used to assess negative weight comments. Only one study utilized a more comprehensive assessment (e.g., Carriere & Kluck, 2014), and this measure also has limitations. Thus, there remains a significant gap in the literature. Research developing and validating an empirical measure assessing weight based psychological aggression in intimate relationships is needed.
Theoretical Model

Numerous theories explain both intimate partner aggression (Bell & Naugle, 2008) and eating disorders (Lavender & Anderson, 2010). Of particular relevance to the current study are theoretical models pertaining to emotion regulation and how emotion regulation models explicate the relationship between weight based psychological aggression in intimate relationships and eating disorder symptoms and body consciousness.

In relation to eating disorders and body consciousness, the affect regulation model posits that eating disorders and body consciousness are caused by an inability to regulate negative or aversive emotional states (Lee & Shafran, 2004; Pennesi & Wade, 2015; Stice, 2001; Stice, Shaw, & Nemeroff, 1998; Svaldi, Griepeanstroh, Tuschen-Caffier, & Ehring, 2012). Individuals with eating disorders are thought to engage in disordered eating behaviors (e.g., bingeing, purging, food restriction, excessive exercise) as means of coping with negative and aversive emotions, which are often prompted by increased body consciousness (Svaldi et al., 2012). Indeed, Fairburn and colleagues (2013) proposed that difficulties with emotion regulation is a common mechanism underlying all eating disorders, thus providing evidence for a transdiagnostic model for eating disorders (Fairburn, Cooper, & Shfran, 2003).

There is empirical support for the affect regulation model of eating disorders. For example, there is evidence for the temporal relationship between negative affect and symptoms of bulimia nervosa (Smyth et al., 2007). Specifically, symptoms of bulimia nervosa are more likely to occur on days of negative affect, and negative affect significantly increases prior to the onset of bulimic behaviors. Negative affect also significantly decreases immediately following bulimic behaviors. Furthermore, negative affect leads to bulimic behaviors, and
bulimic behavior serves as a maladaptive way in which people with eating disorders cope with aversive emotional states. Additionally, specific difficulties with emotion regulation, including increased emotional intensity, lower emotional acceptance, lower awareness and clarity of emotions, and fewer emotion regulation skills and strategies are similarly associated with all eating disorders (i.e., anorexia nervosa, bulimia nervosa, binge eating disorder; Svaldi et al., 2012).

With regards to body consciousness, previous research has supported body consciousness as a risk factor for the development of eating disorder symptoms (McKinley, 1996). Thus, it is likely that individuals who have difficulty regulating negative emotions might be at greater risk for body consciousness, as negative emotional states could lead a female to think more critically about her body. This, in turn, could contribute to the development of an eating disorder. In fact, research has examined the use of self-compassion as an adaptive means to regulate emotions (Liss & Erchull. 2011). For instance, Liss and Erchull (2011) examined the relationship between self-compassion and body shame, body surveillance, and negative eating attitudes and found that females with higher self-compassion exhibited less body shame, body surveillance, and negative eating attitudes. The researchers posited that if females, who have difficulty regulating negative emotions, are taught to form more compassionate attitudes they will, in turn, be less likely to report body shame and body surveillance (Liss & Erchull, 2011). Empirical and theoretical literature suggests an important association between emotion regulation and body consciousness.
Affect Regulation and Intimate Partner Aggression

Intimate partner aggression victimization is associated with numerous negative outcomes, including an increased risk for psychopathology (e.g., depression, anxiety, posttraumatic stress disorder; Shorey et al., 2011), which are all associated with negative and aversive emotional states. Indeed, women who are victims of physical and psychological aggression are more likely to experience more severe symptoms of depression, anxiety, and posttraumatic stress disorder compared to women with no victimization history (Pico-Alfonso, Garcia-Linares, Celda-Navarro, Blasco-Ros, Echeburúa, & Martinez, 2006). Thus, women who are the victims of intimate partner aggression are at an increased risk for experiencing distressing emotions. Research further supports that emotional abuse is associated with deficits in emotion regulation (Burns, Fischer, Jackson, & Harding, 2012; Gratz, Bornovalova, Delany-Brumsey, Nick, & Lejuez, 2007; Kraus, Mendelson, & Lynch, 2003). Moreover, women who have difficulty tolerating aversive emotional states may be more likely to engage eating disorder behaviors as a means of coping (Burns et al., 2012).

Affect Regulation, Intimate Partner Aggression, and Eating Disorders

Female survivors of intimate partner aggression who have difficulty regulating or tolerating distressing emotions may be at an increased risk for engaging in maladaptive coping strategies (i.e., eating disorder symptoms, body consciousness) compared to women with no abuse history or women with more adaptive emotion regulation skills. Empirical and theoretical literature supports emotion dysregulation as a mediator in the relationship between a history of abuse and eating disorder symptoms (Racine & Wildes, 2015). For example, in a sample of female college students, Burns and colleagues (2012) found that emotion regulation
deficits mediated the relationship between childhood emotional abuse and eating disorder symptoms. Furthermore, Racine and Wildes (2015) found that emotion dysregulation fully mediated the relationship between childhood abuse and eating disorder symptoms among female college students. These two studies provide support for a mediational model in which a history of abuse is associated with eating disorder symptoms via emotion dysregulation. However, no known research has examined whether emotion dysregulation mediates the relationship between intimate partner aggression victimization and eating disorder symptoms.

Summary and Current Study

There is a significant relationship between all forms of intimate partner aggression and eating disorder symptoms (Bundock et al., 2013; Gervais & Davidson, 2013). However, there is a dearth of research examining the relationship between negative weight comments from intimate partners and eating disorder symptoms (Carriere & Kluck, 2014; Ramirez et al., 2013). Additionally, research has yet to examine the use of weight insults as a form of aggression in intimate relationships (i.e., weight based psychological aggression). One potential reason contributing to this gap in the research is that there are no empirically validated measures assessing weight based psychological aggression. A second, important need is research that elucidates how weight based psychological aggression relates to eating disorder symptoms and intimate partner aggression. Emotion dysregulation is one factor that might explain the aforementioned relationships. Indeed, emotion regulation deficits significantly contribute to eating disorder symptoms (e.g., Stice, 2001; Stice et al., 1998), and emotion regulation deficits are associated with intimate partner aggression victimization (Burns et al., 2012; Racine & Wildes, 2014).
The current two-part investigation examined weight based psychological aggression and examined how it is related to disordered eating behaviors (i.e., eating disorder symptoms and body consciousness). In Study 1, an exploratory factor analysis was conducted to empirically examine the factor structure of a new measure assessing weight based psychological aggression in an undergraduate female sample. In Study 2, a confirmatory factor analysis examined whether the factor structure was supported in a second undergraduate female sample. Furthermore, a new mediational model tested whether emotion dysregulation mediated the relationship between weight based psychological aggression and disordered eating behaviors (i.e., eating disorder symptoms and body consciousness), and the relationship between intimate partner aggression victimization (i.e., psychological aggression victimization, physical assault victimization, and sexual coercion victimization) and disordered eating behaviors. The mediation model was run for each of the three different forms of intimate partner aggression victimization. This theoretical model is depicted in Figures 1-3. The specific hypotheses for Study 1 and Study 2 are discussed in the study descriptions below.
Chapter 2

Specific Aims and Hypotheses

Study 1

As previously discussed, extant literature indicates that negative weight evaluations from family and peers are significantly related to eating disorder symptoms among females (Cordero & Israel, 2009; Kluck, 2010). There is dearth of research investigating the influence of negative weight evaluations from romantic partners on eating disorder symptoms or body consciousness, and there is no research examining negative weight evaluations as a form of abuse in intimate relationships. One potential reason for this paucity of research is the lack of an empirically validated measure assessing this phenomenon. Thus, the purpose of the current study was to examine the factor structure and psychometric properties of a new measure assessing weight based psychological aggression. The Revised Conflict Tactics Scale (Straus, Hamby, Boney-McCoy, & Sugarman, 1996; Straus, Hamby, & Warren, 2003) was consulted when developing the measure of weight based psychological aggression. In accordance with the psychological aggression victimization subscale of the Revised Conflict Tactics Scale, it was hypothesized that the weight based psychological aggression measure would have one factor. The following a priori hypotheses about the psychometric properties of the weight based psychological aggression measure were made: (1) it was hypothesized that the weight based psychological aggression measure would demonstrate adequate internal reliability; (2) it was postulated that the measure would be correlated with measures of psychological aggression victimization, eating disorder symptoms, and body consciousness, thereby demonstrating
convergent validity; and (3) and it was expected that the measure would not be associated with an unrelated measure (i.e., family income), thus supporting discriminant validity.

**Study 2**

There were two primary aims for Study 2. The first aim was to use confirmatory factor analysis (CFA) to confirm the factor structure of the weight based psychological aggression measure derived in Study 1. Second, a mediational model examined whether emotion dysregulation mediated the relationship between weight based psychological aggression and eating disorder symptoms and whether emotion dysregulation mediated the relationship between weight based psychological aggression and body consciousness. This model also included intimate partner aggression victimization. Similar to weight based psychological aggression, a mediational model whereby emotion dysregulation mediated the relationship between intimate partner aggression victimization and disordered eating behaviors (e.g., eating disorder symptoms and body consciousness) was tested. Three separate models were estimated, one for each form of intimate partner aggression. In the first model, psychological aggression victimization was included as an independent latent variable; in the second model, physical aggression victimization was included as an independent variable; and in the third model, sexual victimization was included as an independent variable. Body mass index (BMI), which was calculated from participants’ self-reported weight and height, was included in the model as a covariate. It was hypothesized that the confirmatory factor analysis would confirm the factor structure of the weight based psychological aggression measure identified in Study 1. With regards to the proposed mediational model and based on extant theoretical and empirical
literature (e.g., Burns et al., 2012; Stice et al., 1999; Svaldi et al., 2012), the following a priori hypotheses were proposed:

(1) Weight based psychological aggression and intimate partner aggression victimization would be significantly related.

(2) Weight based psychological aggression would be associated with body consciousness and eating disorder symptoms.

(3) Intimate partner aggression victimization would be associated with body consciousness and eating disorder symptoms.

(4) Emotion dysregulation would mediate the relationship between weight based psychological aggression and eating disorder symptoms and the relationship between weight based psychological aggression and body consciousness.

(5) Emotion dysregulation would mediate the relationship between intimate partner aggression victimization and eating disorder symptoms and intimate partner aggression victimization and body consciousness.

These relationships are graphically depicted in Figures 1-3. All tables and figures have been uploaded as attachments.
Chapter 3

Methods

Study 1

Measure Development

An extensive literature review was conducted to help inform the development of the weight based psychological aggression scale. Specifically, the following research topics were included in the literature review: eating disorder behaviors and symptoms, intimate partner aggression victimization, the relationship between intimate partner aggression victimization and eating disorder symptoms, and weight feedback from family and peers. The primary foci of this literature review was to gain a more comprehensive understanding of the role of aggression in intimate relationships and of eating disorder behaviors and symptoms and to comprise a list of measures that could ultimately help inform the development of items on the weight based psychological aggression measure. Specifically, items from the following measures were consulted for use in the weight based psychological aggression measure: Revised Conflict Tactics Scales (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996; Straus, Hamby, & Warren, 2003); Eating Disorders Examination Questionnaire (EDE-Q; Fairburn & Beglin, 1994); and the Psychological Maltreatment of Women Inventory (Tolman, 1999). Only one measure was found that assessed negative weight comments in romantic relationships (the Verbal Commentary on Physical Appearance Scale-Partner (VCOPAS-P; Carriere & Kluck, 2014). No items from the VCOPAS-P were adapted for use in the weight based psychological aggression measure, as the VCOPAS-P was not yet available when the weight based psychological aggression measure was developed.
An expert in the field of psychometrics and experts in intimate partner aggression reviewed the initial draft of the weight based psychological aggression. Through this consultation process, items with redundant item stems were removed. Additionally, the weight based psychological aggression measure was administered to college students in an undergraduate seminar on intimate partner violence. After completing the measure, the students discussed the items and measure with their professor, an expert in the field of intimate partner aggression. Following this class discussion, a new item was added to capture others aspects of intimate partner aggression and negative weight comments (i.e., comparing one’s partner with celebrities). The consultation process helped inform the final draft of the psychological weight aggression measure, which refined the items included in the measure. Additionally, through the consultation process, it was recommended that frequency estimates, similar to the frequency estimates utilized on the CTS2 (Straus et al., 1996; 2003), be used on the weight based psychological aggression measure.

The aforementioned procedures follow the best practices for measure development (e.g., theoretical justification for scale items; consultation with experts in the field; exploratory and confirmatory factor analysis; Worthington & Whittaker, 2006; Wright, Quick, Hannah, & Blake Hargrove, 2017). However, given the preliminary nature of the current study, continued research is needed in order to fulfill the best practices for scale development, notably establishing criterion validity and replication in new samples (Worthington & Whittaker, 2006; Wright et al., 2017).
Participants

A total sample of 226 undergraduate female students enrolled at a large Southeastern University was recruited for Study 1. The mean age of the sample was 18.87 (SD = 2.28, range 14-43) years. The sample was primarily comprised of freshman students (71.2%), followed by sophomores (18.1%), juniors (5.8%), seniors (4.4) and Post-Baccalaureate/Graduate school (<1%). The racial/ethnic demographic of the sample was as follows: 84.5% White/Caucasian; 4.9% Black/African American; 4.4% Asian; 3.5% Hispanic/Latino; 1.3% Indian/Middle Eastern; 0.4% Native American/Alaskan Native, 0.4% “more than one race”, and 0.4% unknown. The majority of the sample was in a dating relationship (96.9%). The mean length of relationship was 18.67 (SD = 26.36) months.

Procedure

In order to participate in the current study, all participants had to be at least 18 years of age or older and they had to be in a romantic relationship for at least one month. Participants from introductory psychology courses were recruited for the current study. Participants received partial course credit for completing the online study. Participants provided informed consent before completing the measures of interest for the current study. All study materials (i.e., informed consent, survey assessments) were completed on a secure, online survey system. The University of Tennessee’s Institutional Review Board (IRB) approved the aforementioned procedures.
Measures

**Demographics.** A demographics questionnaire assessed the participants’ age, ethnicity, sexual orientation, academic level, height, weight, relationship status, the duration of the participants’ romantic relationship, and family income. Frequency estimates assessed relationship status (i.e., 1= not dating anyone right now; 2= dating; 3= engaged to be married; 4= married; 5= divorced/widowed) and family income (i.e., 1= less than $50,000; 2= $50,000-100,000; 3= $100,000-$150,000; 4= $150,000-$200,000; 5= Greater than $200,000). Participants who endorsed that they were not dating anyone right now were removed from analyses.

**Eating Disorder Symptoms.** The 28-item Eating Disorders Examination Questionnaire (EDE-Q; Fairburn & Beglin, 1994) assessed eating disorder symptoms over the past 28 days. The EDE-Q contains a Shape Concern subscale, a Weight Concern subscale, an Eating Concern subscale, and a Restraint subscale. Additionally, there is a Global scale score, which is computed from the average of the four subscales. Higher scores indicated more eating disorder symptoms. Only the global scale score was used in the analyses for Study 1. Past work supports the validity of the EDE-Q in differentiating clinical and non-clinical eating disorder samples (e.g., Aardoom, Dingemans, Op't Landt, & Van Furth, 2012; Carter, Stewart, & Fairburn, 2001). Furthermore, previous work supports the psychometric properties of the measure (Hilbert, de Zwaan, & Braehler, 2012; Mond, Hay, Rodgers, & Owen, 2006; Mond, Hay, Rodgers, Owen, & Beumont, 2004). In the current study, the internal consistency was good (α = .94).
**Intimate Partner Aggression Victimization.** The physical, psychological, and sexual victimization subscales of the Revised Conflict Tactics Scales (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996; Straus, Hamby, & Warren, 2003) assessed intimate partner aggression victimization in the past year. The CTS consists of 78 items that assesses physical aggression, psychological aggression, negotiation, sexual coercion, and injury. Participants indicated the frequency with which the 27 items related to victimization occurred on a 7-point Likert scale (0 = this never happened; 6 = more than 20 times). There are 8 items that assessed psychological aggression victimization, 12 items that assessed physical aggression victimization, and 7 items that assessed sexual coercion victimization. Higher scores indicated more frequent intimate partner aggression victimization over the past year. The CTS2 has adequate internal consistency, with previous research documenting alphas ranging from .79 to .95 (Straus et al., 1996). In the current study, the internal consistency for the physical aggression victimization scale was .59, the internal consistency for the psychological aggression victimization was .59, and the internal consistency for the sexual coercion victimization scale was .47. Past work has documented issues when calculating reliability for self-report intimate partner aggression measures (Ryan, 2013). Potential reasons for these issues include low endorsement of partner aggression and skewed data (Ryan, 2013). The low reliability reported in this study could be a result of these aforementioned issues.

**Weight Based Psychological Aggression.** The Negative Weight Evaluation Scale (NWES; Elmquist, unpublished) assessed weight based psychological aggression victimization in intimate relationships (e.g., “my partner has pressured me to change my weight with threats of ending the relationship”). Participants rated the frequency that each item occurred in the past
12 months on the following scale: 0= this never happened; 1= once in the past 12 months; 2= twice in the past 12 months; 3=; 3-5 times in the past 12 months; 4= 6-10 times in the past 12 months; 5= 11-20 times in the past 12 months; 6= more than 20 times in the past 12 months; 7= Not in the past 12 months, but it did happen before. Following data collection, items scored as “7” were rescored to “0”. A total score was calculated by summing all items. Higher scores indicated more frequent weight based psychological aggression victimization.

**Objectified Body Consciousness.** The 24-item Objectified Body Consciousness Scale (OBCS; McKinley & Hyde, 1996) assessed body consciousness. Responses are rated on a 7-point scale from 1 = “Strongly Disagree” to 7 = “Strongly Agree.” There are three subscales (i.e., body surveillance, body shame, appearance control) and a total score. The total score was computed by summing all items on the measure. Higher scores indicated increased body consciousness. In Study 1, only the total score was used in the analyses. The internal consistency of the OBCS is adequate (e.g., α = .75). In the current study, the internal consistency was acceptable (α = .70).

**Data Analytic Strategy**

An exploratory factor analysis (EFA) using Mplus version 7.0 (Muthén & Muthén, 2012) examined the factor structure of the Negative Weight Evaluation Scale (NWES). An EFA is warranted for use with the NWES, as there were no a priori theories regarding the measure or the factor structure of the measure. EFA is based on the common factor model “where each observed variable is a linear function of one or more common factors (i.e., the underlying latent variables) and one unique factor,” (Harrington, 2009, p. 9). Latent variables are unobservable factors meaning that they are not directly measured (Brown, 2006). EFA provides an exploratory examination of the nature and number of latent variables, which characterize the
items of the scale (Williams, Brown, & Onsman, 2010). The relationships (or shared variance) between observed variables and how observed variables covary together enable inferences about the latent variables (Brown, 2006). Thus, EFA provides a more meaningful and parsimonious presentation of data (Williams et al., 2010).

An exploratory factory analysis (EFA) determined the factor structure for the NWES. There are three primary steps in EFA: (1) extraction; (2) rotation; and (3) interpretation (Brown, 2006; Hyland, 2016). First, extraction provides a determination of the fewest number of factors that will account for the most variance in the data, and an estimate of the factor model (Brown, 2006; Williams et al., 2010). In the current study, the maximum likelihood estimation with robust standard errors (MLR) was used as the factor extraction technique. The data for the weight based psychological aggression measure was not normally distributed; thus, the MLR technique was used, as this technique is sensitive to issues of non-normality. To determine the number of factors to retain, the eigenvalues produced by the MLR in Mplus were examined. A common procedure is to retain factors with eigenvalues that are above one (Fabrigar, Wegener, MacCallum, & Strahan, 1999). Next, goodness of fit indices were examined in order to confirm the factor structure established by the eigenvalues.

The second step in EFA is factor rotation. Geomin, which is an oblique rotation technique, was used as the factor rotation method. Oblique rotations assume that factors are correlated and force factor correlations to be non-zero (Muthén & Muthén, 2012). The Geomin rotation depicted how items load onto factors. The Geomin rotation provides a pattern matrix, which includes lambdas and indicates factor loadings. In order to produce the most parsimonious factor structure, Wald statistics indicated which factor loadings were significant.
A significant Wald statistic value is greater than the absolute value of two. The Wald statistic also indicated items that failed to load onto factors or that loaded onto multiple factors. Items that failed to load on a factor or loaded onto multiple factors were deleted. Following this deletion, the aforementioned extraction and rotation methods were re-run to produce the most parsimonious factor structure that represents the data.

Following the EFA, correlations were analyzed to examine the validity of the weight based psychological aggression measure. Specifically, the relationship between the weight based psychological aggression measure and items on the Eating Disorder Examination Questionnaire, Psychological Aggression Victimization subscale, and Body Consciousness scale were examined in order to assess convergent validity. The relationship between the weight based psychological aggression measure and the demographic variable of family income was assessed in order to establish discriminant validity. Empirical literature has established that family income is not significantly related to college dating violence victimization (Kaukinen, 2014; Sabina, Cuevas, Cotignola-Pickens, 2016) or disordered eating behaviors (Gordon, Castro, Sitnikov, & Holm-Denoma, 2010). Additionally, correlations between relationship length and weight based psychological aggression, intimate partner aggression, and disordered eating behaviors were examined.
Study 2

Participants

Participants included 219 female undergraduate students enrolled at a large Southeastern University. The mean age of the sample was 19.05 (SD = 1.63, range 18-27) years and the mean Body Mass Index (BMI) was 23.18 (SD = 3.95, range 16.31-39.13). The majority of the sample was of freshmen standing (72.6%), followed by sophomores (12.8%), juniors (11.0%), and seniors (3.7%). The ethnicity of the sample was as follows: 79.5% White/Caucasian, 8.2% Black/African American, 5.9% Asian, 2.7% Latino/Hispanic, 1.4% Middle Eastern/Indian, 1.4% other (more than once race), <1% Native American, and <1% unknown. In terms of the relationship status, 97.7% of the sample reported being in dating relationship, 1.4% reported being married, and less than <1% reported being engaged. The mean relationship length was 17.07 (SD = 16.32) months.

Procedure

The eligibility requirements (i.e., 18 years of age or older and in a romantic relationship for at least one month) were the same as described in Study 1. The procedures for Study 2 were the same as reported for Study 1.

Measures

Eating Disorder Symptoms. The 28-item Eating Disorders Examination Questionnaire (EDE-Q; Fairburn & Beglin, 1994) used in Study 1 was also used in Study 2. The four subscales of the EDE-Q (i.e., Shape Concern, Weight Concern, Eating Concern, Restraint) were used in the analyses. In Study 2, the internal consistencies for the subscales ranged from acceptable to
good (Shape Concern $\alpha = .90$; Weight Concern $\alpha = .85$; Eating Concern $\alpha = .79$; Restraint $\alpha = .87$).

**Intimate Partner Aggression Victimization.** The physical, psychological, and sexual victimization subscales of the Revised Conflict Tactics Scales (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996; Straus, Hamby, & Warren, 2003) assessed intimate partner aggression victimization in the past year. In the current study, the internal consistency of the physical aggression victimization subscale was .67, psychological aggression victimization was .70; and sexual coercion was .64.

**Weight Based Psychological Aggression.** The modified 8-item, two factor Negative Weight Evaluation Scale (NWES; Elmquist, unpublished) was also used in Study 2. In the current study, the Guilt/Pressure and Retaliatory/Coercive subscales demonstrated acceptable reliability (i.e., Guilt/Pressure $\alpha = .80$; Retaliatory/Coercive $\alpha = .83$).

**Objectified Body Consciousness.** The 24-item Objectified Body Consciousness Scale (OBCS; McKinley & Hyde, 1996) assessed body consciousness. The three subscales (i.e., Body Surveillance, Body Same, Appearance Control) were used in the analyses. In the current study, the internal consistencies for all subscales were consistent with previous research. Specifically, the internal consistency for the Body Surveillance subscale was .67; for the Body Shame subscale was .62; and for the Appearance Control subscale was .66.

**Emotion Dysregulation.** The 36-item Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004) assessed emotion dysregulation. Participants responded on a 5-point Likert scale (1= “almost never” to 5= “almost always”) the frequency in which each item applied to their experience. Higher scores reflect greater emotion dysregulation. The DERS includes a total scale
score and six subscales- Nonacceptance of Emotional Responses; Difficulties Engaging in Goal-Directed Behavior; Impulse Control Difficulties; Lack of Emotional Awareness; Limited Access to Emotion Regulation Strategies; and Lack of Emotional Clarity (Gratz & Roemer, 2004). The six subscales were used in study analyses. The internal consistency of the DERS has been supported in past work (Gratz & Roemer, 2004), and the internal consistency of the DERS is supported for use in undergraduate samples (e.g., Shorey, Brasfield, Febres, & Stuart, 2011). In the current study, the internal consistency of the total score was good (α = .92). The internal consistencies for the six subscales were as follows: Nonacceptance of Emotional Responses α = .92; Difficulties Engaging in Goal-Directed Behavior α = .88; Impulse Control Difficulties α = .86; Lack of Emotional Awareness α = .53; Limited Access to Emotion Regulation Strategies α = .91; and Lack of Emotional Clarity α = .83.

Data Analytic Strategy

Confirmaotory Factor Analysis. A Confirmatory Factor Analysis (CFA) was utilized to confirm the factor structure of the weight based psychological aggression measure reported in Study 1 (Harrington, 2009). In CFA, “the number of factors, the patterns of factor loadings, and an appropriate error theory” are pre-specified (Brown, 2006, p. 49). In the first step of CFA, the measurement model is identified (Brown, 2006; Kline, 2010). In other words, a scale needs to be assigned to the latent variable (i.e., the unobserved variable) variance (Brown, 2006; Kline, 2010). Latent variables for the two subscales of the weight based psychological aggression measure, intimate partner aggression measure, emotion dysregulation measure, eating disorder symptoms measure, and body consciousness measure were utilized in the current study. Data from the weight based psychological aggression and intimate partner aggression
measures were not normally distributed, thus the maximum likelihood estimation with robust standard errors was used as the estimator. The fixed factor method of identification was used to identify the latent construct. In this method, the latent construct was standardized with a mean of zero and a variance of one. Following the identification of the measurement model, goodness of fit indices were evaluated to determine how well the data fit the measurement model. In the current study, the following standards of fit indices were used: a comparative fit index (CFI) more than .90; a root mean square effort of approximation (RMSEA) value less than .08; and a standard root mean residual (SRMR) value less than .08 (Hu & Bentler, 1999; Tabachnick & Fidell, 2001).

**Mediational Model.** In order to examine the proposed mediational model, structural equation models were estimated in Mplus version 7.0. Body mass index (BMI) was included in the model as a covariate. Little’s test for determining the nature of missing data was used in order to determine if data were missing completely at random (Little, 1988). Little’s test for missing completely at random indicated a non-significant chi-square value, suggesting that the data were missing at random. Thus, full-information maximum likelihood (FIML) estimation was used to address missing data, which in the multivariate case uses all available information in the dataset to estimate model parameters (Kline, 2010). FIML provides less biased estimates compared to other strategies for handling missing data (e.g., pairwise deletion; Enders, 2010; Kline, 2010).

The bias-corrected bootstrap method was used to examine whether emotion dysregulation mediated the relationship between weight based psychological aggression and disordered eating behaviors (i.e., eating disorder symptoms, body consciousness). The model
also examined whether emotion dysregulation mediated the relationship between intimate partner aggression victimization and disordered eating behaviors (i.e., eating disorder symptoms, body consciousness). In comparison with other strategies for evaluating the significance of mediational paths, MacKinnon and colleagues (2004) posit that the bias-corrected bootstrap method provides a more optimal equalization of Type I and Type II error. Thus, the current study used 1000 bootstrap samples and 95% confidence intervals (CIs) to examine the proposed mediational models (Mackinnon et al., Lockwood, & Wilson, 2004).

Model fit for mediation models was assessed through examining the CFI, RMSEA, and SRMR values. The model was run three separate times for each of the different forms of intimate partner aggression. Additionally, modification indices were examined for models that did not fit the data well.
Chapter 4

Results

Study 1

Exploratory Factor Analysis

An exploratory factor analysis was conducted with all items on the weight based psychological aggression measure. Eigenvalues and model fit indices indicated a four-factor model. The unmodified factor loadings for the 12-item measure are depicted in Table 1. All tables and figures have been uploaded as attachments. Wald statistics indicated that only 8 items had significant Wald Statistics. Furthermore, inspection of the factor loadings indicated that item 17 (“My partner likes making fun of my weight or lack of fitness when I insult them”) had a non-significant Wald statistic. Additionally, this item cross-loaded on multiple factors and was similar to one other item stem (i.e., item 15); thus, item 17 was removed from analyses. Following the deletion of item 17, an exploratory factor analysis on the 11-item measure was conducted. Eigenvalues supported a three-factor model. Inspection of factor loadings and Wald Statistics indicated that item 23 (“My partner compares my body to the bodies of TV and movie stars) had a non-significant Wald Statistic and it did not load onto any factor; thus, this factor was removed from analyses.

An exploratory factor analysis on the modified 10-item measure was conducted. Eigenvalues supported a two-factor model. However, items 13 and 21 did not have a significant Wald Statistic, thus these two items were removed one at a time. An exploratory factor analysis on the modified 9-item measure supported a two-factor model. However, item 21 had a non-significant Wald Statistic; thus, this item was removed from analysis.
The modified 8-item measure supported a two-factor model. Specifically, the eigenvalue for factor one was 4.64 and the eigenvalue for factor two was 1.35. The fit indices further supported a two-factor model (RMSEA = .057; CFI = .95; SRMR = .037). Inspection of factor loadings indicated that four items significantly loaded onto factor one and four items significantly loaded onto factor two. The eigenvalues and factor loadings for the modified 8-item measure are depicted in Table 2. Factor one consists of items related to the use of guilt or pressure (e.g., feeling that one’s partner is pressuring them to change their weight) and factor two consists of items related to the use of retaliatory or coercive communication (e.g., the use of weight based psychological aggression in order to retaliate against or coerce a partner). One item, item 3, had a factor loading greater than 1.0, which is considered a Heywood case. According to Muthén and Muthén (2012), factor loadings greater than one can be retained as long as all residual variances are positive (Jöreskog, 1999). Inspection of residual variances indicated that all were positive, so item 3 was retained. Geomin correlations indicated a significant correlation between factor one and two \((r = .58)\).

Reliability and Validity

Correlations conducted in Mplus indicated that the Guilt/Pressure factor of the weight based psychological aggression measure was positively associated with intimate partner aggression, eating disorder symptoms, and emotion dysregulation. The Retaliatory/Coercive Communication subscale was positively related to the psychological aggression victimization and the physical aggression victimization subscales. The Guilt/Pressure and Retaliatory/Coercive Communication subscales were significantly and positively associated.
Additionally, neither the Guilt/Pressure subscale nor the Retaliatory/Coercive Communication subscale was significantly related to family income, thus supporting discriminant validity. Means, standard deviations, and correlations for the aforementioned observed variables are depicted in File 1. Reliability analyses indicated that the internal consistency for the Guilt/Pressure ($\alpha = .87$) and the Retaliatory/Coercive Communication factors ($\alpha = .86$) were good.

Correlation analyses further indicated that relationship length was not significantly related to weight based psychological aggression, physical aggression victimization, sexual coercion victimization, or disordered eating behaviors (i.e., eating disorder symptoms, body consciousness). However, relationship length was significantly related to psychological aggression victimization (see Table 3 for correlations, means, and standard deviations).

**Summary for Study 1**

Findings from the exploratory factor analysis supported a two-factor model of weight based psychological aggression. Four items significantly loaded on each of the two factors, with the first factor representing the use of guilt or pressure and the second factor representing the use of retaliatory or coercive communication. Given the preliminary nature of the current study and the fact that this is the first study to examine a new measure of weight based psychological aggression, no a priori hypotheses were made regarding the measure’s factor structure. However, careful inspection of the items and factor loadings supported the presence of two distinct dimensions of the weight based psychological aggression construct.

In accordance with the study’s hypotheses, the Guilt/Pressure and the Retaliatory/Coercive Communication subscales were significantly associated with the physical and psychological
aggression measures. Additionally, the Guilt/Pressure subscale was positively associated with the sexual coercion subscale and eating disorder symptoms. However, the Guilt/Pressure and the Retaliatory/Coercive Communication subscales were not significantly associated with items on the body consciousness measures. Thus, the convergent validity of the measure was only partially supported. Furthermore, the two factors of the weight based psychological aggression measure were not significantly correlated with a variable expected to be unrelated (i.e., family income), thus supporting discriminant validity. Finally, the reliability of both factors of the weight based psychological aggression measure was good.

**Study 2**

*Confirmatory Factor Analysis*

The two-factor model of the weight based psychological aggression measure was utilized as the latent construct in the confirmatory factor analysis. Fit indices for the two-factor model indicated good model fit. Inspection of factor loadings and residual variances indicated a negative residual variance for item 9, which is considered a Heywood case. Heywood cases “refer to parameter estimates that have out-of-range values,” (Brown, 2015, p. 71). In order to resolve the Heywood case, the residual variance for item 9 was fixed to zero. The revised model did not result in changes to the fit indices. The fit indices indicated a model with good fit (RMSEA = .032; CFI = .97; SRMR = .059), thus confirming the factor structure produced in Study 1. The standardized parameter estimates (factor loadings) for the confirmatory factor analysis are depicted in Table 4.

Correlations between latent variables were analyzed in Mplus. Results indicated that the Guilt/Pressure subscale was significantly related to psychological aggression victimization,
physical aggression victimization, sexual coercion victimization, emotion dysregulation, and eating disorder symptoms. The Retaliatory/Coercive Communication subscale was significantly associated with psychological aggression victimization, physical aggression victimization, and sexual coercion victimization. The correlation between the Guilt/Pressure and Retaliatory/Coercive Communication subscales was positive and significant.

The Guilt/Pressure and Retaliatory/Coercive Communication subscales were not significantly associated with income, thus supporting discriminant validity. Correlations are depicted in Table 5. The means and standard deviations for latent variables were calculated in Mplus. According to Muthén & Muthén (2012), the means for latent variables in cross-sectional studies are zero, thus the means and standard deviations are not provided in Table 5. Additionally, the values in the correlation analysis are larger compared to Study 1, as latent variables were used in Study 2 and observed variables were used in Study 1. Utilizing latent variables removes measurement error, thus increasing the size of the correlation coefficient.

Correlation analyses further indicated that relationship length, as measured in months, was significantly associated with the Retaliatory/Coercive Communication subscale of the weight based psychological aggression measure and psychological aggression victimization (see Table 5 for correlations, means, and standard deviations).

Mediation Model

As previously reported, results from correlational analyses (depicted in Table 5) indicated significant associations between the Guilt/Pressure subscale and psychological aggression victimization, physical aggression victimization, sexual coercion victimization, emotion dysregulation, and eating disorder symptoms. The Retaliatory/Coercive
Communication subscale was significantly associated with psychological aggression victimization, physical aggression victimization, and sexual coercion victimization. The Guilt/Pressure and Retaliatory/Coercive Communication subscales were significantly associated. Emotion dysregulation was significantly associated with psychological aggression victimization and eating disorder symptoms. Psychological aggression victimization was significantly associated with physical aggression victimization, sexual coercion victimization, eating disorder symptoms, and body consciousness. Body consciousness was significantly related to physical aggression victimization and eating disorder symptoms.

Three structural equation models were estimated separately for each of the different intimate partner aggression victimization subscales (i.e., physical aggression, psychological aggression, and sexual coercion). For each of the three models, the mediating role of emotion dysregulation on the relationship between weight based psychological aggression and both eating disorder symptoms and body consciousness were examined. In addition, the following mediating paths were examined: (1) emotion dysregulation as a mediator of the relationship between psychological aggression victimization and both eating disorder symptoms and body consciousness; (2) emotion dysregulation as a mediator of the relationship between physical aggression victimization and both eating disorder symptoms and body consciousness; and (3) emotion dysregulation as a mediator of the relationship between sexual coercion victimization and both eating disorder symptoms and body consciousness. Body Mass index was included as a control variable in all of the aforementioned analyses.

**Psychological Aggression Victimization.** In the first model, psychological aggression victimization was used as an independent variable in the structural equation model.
Modification indices were examined for the presence of significant cross-loadings, correlated residuals, Heywood cases, or items that did not load significantly onto factors. The modification indices indicated a number of correlated residuals between items on the measure of psychological aggression. Analyses including these correlated residuals were run separately. The addition of correlated residuals did not result in a significant improvement in model fit. Specifically, results indicated that the overall model did not fit the data well (RMSEA = .088; CFI = .830; SRMR = .089). Given the poor model fit, the significant effects reported below are not trustworthy. The poor model fit is attributed to the presence of multiple cross-loadings between items.

In terms of the weight based psychological aggression measure, the direct effects of the Guilt/Pressure factor on eating disorder symptoms ($\beta = .19 \ SE = .18, \ p = .23$), body consciousness ($\beta = .12, \ SE = .35, \ p = .73$), and emotion dysregulation ($\beta = .25 \ SE = .29, \ p = .38$) were not significant. The direct effects of the Retaliatory/Coercive Communication subscale on eating disorder symptoms ($\beta = -.11 \ SE = .19, \ p = .51$), body consciousness ($\beta = -.24 \ SE = .36, \ p = .49$), and emotion dysregulation ($\beta = -.13 \ SE = .30, \ p = .65$) were non-significant. The direct effect of psychological aggression victimization on eating disorder symptoms ($\beta = .11, \ SE = .28, \ p = .16$, body consciousness ($\beta = .11, \ SE = .10, \ p = .25$), and emotion dysregulation ($\beta = .16 \ SE = .14, \ p = .24$) were not significant. The direct effect of emotion dysregulation on body consciousness ($\beta = .07, \ SE = .10, \ p = .49$) was not significant, but the direct effect of emotion dysregulation on eating disorder symptoms was significant ($\beta = .29 \ SE = .09, \ p < .001$).

Inspection of confidence internals indicated that the specific effect of the Guilt/Pressure subscale on eating disorder symptoms through emotion dysregulation was significant, $\beta = .08$, ...
95% CI [.01, .22]. The total indirect effect indicated that the collective effect of the Guilt/Pressure subscale, Retaliatory/Coercive Communication subscale, and psychological aggression victimization on eating disorder symptoms was significant via emotion dysregulation, $\beta = .08$, 95% CI [.03, .15]. The total effect, or the collective effect of all indirect and direct effects, was also significant, $\beta = .26$, 95% CI [.072, .47]. The model is depicted in Figure 4. The fit indices indicated poor model fit, thus the aforementioned significant effects are not true, significant effects. If the fit indices indicated good model fit then mediation would have been supported.

**Physical Aggression Victimization.** In the second model, physical aggression victimization was used in the structural equation model. Results indicated that the overall model fit was poor (RMSEA = .128; CFI = .708; SRMR = .105). Inspection of modification indices indicated that one item on the physical aggression victimization measure had a negative factor loading (-.02), thus this item was removed. An additional item on the physical aggression victimization measure was removed because it had a factor loading greater than one and a negative residual. The deletion of these two items resulted in a minor improvement in model fit; however, the overall model fit was still poor (RMSEA = .114; CFI = .742; SRMR = .086). As such, the significant effects reported below should be interpreted with caution, as the effects are not trustworthy. The poor model fit is attributed to the presence of multiple cross-loadings between items.

Inspection of direct effects indicated that the direct effects of Guilt/Pressure subscale of the weight based psychological aggression measure on eating disorder symptoms ($\beta = .18$ SE = .21, $p = .31$), body consciousness ($\beta = .12$, SE = .27, $p = .64$), and emotion dysregulation ($\beta = .28$ SE = .29, $p = .07$) were significant.
SE = .17, p = .08) were not significant. The direct effect of the Retaliatory/Coercive Communication subscale on eating disorder symptoms (β = .03, SE = .22, p = .86), body consciousness (β = -.14, SE = .29, p = .63), and emotion dysregulation (β = -.16, SE = .19, p = .41) were not significant. The direct effects of physical aggression victimization on eating disorder symptoms (β = -.15, SE = .10, p = .10), body consciousness (β = -.10, SE = .14, p = .46), and emotion dysregulation (β = .10, SE = .09, p = .23) were not significant. The direct effect of emotion dysregulation on eating disorder symptoms was significant (β = .31, SE = .09, p < .001); however, the direct effect of emotion dysregulation on body consciousness was not significant (β = .09, SE = .09, p = .33).

Inspection of confidence internals indicated that the specific effect of the Guilt/Pressure subscale on eating disorder symptoms through emotion dysregulation was significant, β = .10, 95% CI [.03, .26]. However, given that the model did not fit the data well, mediation cannot be supported, as the indirect effects might not be true, significant effects. The model is depicted in Figure 5.

The total indirect effect indicated that the collective effect of the Guilt/Pressure subscale, Retaliatory/Coercive Communication subscale, and physical aggression victimization on eating disorder symptoms was significant via emotion dysregulation, β = .08, 95% CI [.03, .15]. The total effect, or the collective effect of all indirect and direct effects, was also significant, β = .26, 95% CI [.07, .47]. The aforementioned significant effects are not trustworthy, given the poor model fit.

**Sexual Coercion Victimization.** In the third model, sexual coercion victimization was used in the structural equation model. Results indicated that the overall model did not fit the
data well (RMSEA = .114; CFI = .765; SRMR = .105). Inspection of modification indices indicated that one item on the sexual coercion victimization measure had a negative factor loading, thus this item was removed. An additional item on the sexual coercion victimization measure was removed because it had a factor loading greater than one and a negative residual. The deletion of these two items resulted in an improvement in model fit; however, the modification indices do not provide full support of good model fit (RMSEA = .080 CFI = .876; SRMR = .074). As such, the effects reported below should be interpreted with some caution, as the effects might not be true, significant effects. The poor model fit is attributed to the presence of multiple cross-loadings between items.

Inspection of direct effects indicated that the direct effects of Guilt/Pressure subscale of the weight based psychological aggression measure on eating disorder symptoms ($\beta = .24$, $SE = .46$, $p = .56$), body consciousness ($\beta = .14$, $SE = .47$, $p = .77$), and emotion dysregulation ($\beta = .26$, $SE = .34$, $p = .44$) were not significant. The direct effects of the Retaliatory/Coercive Communication subscale on eating disorder symptoms ($\beta = -.04$, $SE = .40$, $p = .91$), body consciousness ($\beta = -.21$, $SE = .42$, $p = .61$), and emotion dysregulation ($\beta = -.10$, $SE = .30$, $p = .61$) were not significant. The direct effects of sexual coercion victimization on eating disorder symptoms ($\beta = -.15$, $SE = .15$, $p = .26$), body consciousness ($\beta = -.005$, $SE = .14$, $p = .97$), and emotion dysregulation ($\beta = .07$, $SE = .10$, $p = .49$) were not significant. The direct effect of emotion dysregulation on eating disorder symptoms was significant ($\beta = .31$ $SE = .09$ $p < .001$); however, the direct effect of emotion dysregulation on body consciousness was not significant ($\beta = .08$, $SE = .10$, $p = .402$).
Inspection of confidence internals indicated that the specific effect of the Guilt/Pressure subscale on eating disorder symptoms through emotion dysregulation was significant, $\beta = .09$, 95% CI [.01, .21]. Given that the model did not fit the data well, mediation could not be fully supported, as the significant indirect effects might not be true, significant effects. The model is depicted in Figure 6.

The total indirect effect indicated that the collective effect of the Guilt/Pressure subscale, Retaliatory/Coercive Communication subscale, and sexual coercion victimization on eating disorder symptoms was significant via emotion dysregulation, $\beta = .081$, 95% CI [.022, .156]. The total effect, or the collective effect of all indirect and direct effects, was also significant, $\beta = .242$, 95% CI [.048, .518]. As previously noted, given that the model does not fit the data well, the aforementioned effects are not trustworthy.

Summary for Study 2

Results from the confirmatory factor analysis supported the factor structure of the weight based psychological aggression measure from Study 1. The two-factor model consisted of eight items, with four items loading onto a Guilt/Pressure scale and four items loading onto a Retaliatory/Coercive Communication subscale. Specifically, the Guilt/Pressure subscale consisted of items related to feeling guilty or pressured to change one’s weight or fitness level. The Retaliatory/Coercive Communication subscale consisted of items related to receiving negative weight comments for the purposes of coercion and/or retaliation.

Correlations conducted in Mplus indicated that the Guilt/Pressure and Retaliatory/Coercive Communication subscales were significantly associated with all subscales of the intimate partner aggression measure, which is consistent with my hypothesis and...
supports convergent validity. Additionally, the Guilt/Pressure subscale was significantly associated with eating disorder symptoms, which further supports convergent validity. However, the Retaliatory/Coercive Communication subscale was not significantly related to eating disorder symptoms, and both subscales of the weight based psychological aggression measure were not significantly associated with body consciousness. As such, there is partial support for the convergent validity of the weight based psychological aggression measure. Both subscales of the weight based psychological aggression measure were not significantly related to income, thus supporting the measure’s discriminant validity. Additionally, relationship length was significantly associated with the Retaliatory/Coercive Communication subscale and psychological aggression victimization.

Results from the mediation analyses indicated significant indirect effects, total indirect effects, and total effects; however, the fit indices indicated poor model fit. Thus, the aforementioned effects are not trustworthy. The poor model fit is a consequence of multiple cross-loadings in the model. Emotion dysregulation did not mediate the relationship between the Retaliatory/Coercive Communication subscale and eating disorder symptoms and body consciousness. Emotion dysregulation also did not mediate the relationship between intimate partner aggression victimization (i.e., psychological aggression victimization, physical aggression victimization, and sexual coercion) and disordered eating behaviors (e.g., eating disorder symptoms, body consciousness).
Chapter 5

Discussion

Extant literature supports a significant relationship between negative evaluations from family and peers and disordered eating (e.g., eating disorder symptoms, body consciousness) among female undergraduates (Cordero & Israel, 2009). A small body of literature has attempted to further elucidate the relationship between negative weight evaluations and disordered eating by focusing on negative weight evaluations from romantic partners. Despite this recent advancement, little is known about the influence that negative weight evaluations from romantic partners have on disordered eating behaviors. Of additional importance is the use of negative weight evaluations as a form of aggression in romantic relationships, as past research has supported a significant relationship between intimate partner aggression and eating disorder symptoms (Bundock et al., 2013). One reason for this lack of understanding is that there are no measures that specifically assess the use of negative weight evaluations (i.e., weight based psychological aggression) as a form of aggression in romantic relationships.

The current two-study investigation examined the factor structure and psychometric properties of a new measure assessing weight based psychological aggression (Negative Weight Evaluation Scale). No a priori hypotheses were made regarding the factor structure of the weight based psychological aggression measure given the preliminary nature of this study. Results from the exploratory factor analysis supported a two-factor model (Guilt/Pressure and Retaliatory/Coercive Communication) consisting of 8 items. The Guilt/Pressure subscale consists of items related to feeling guilty or pressured to change one’s weight or fitness level.
The Retaliatory/Coercive Communication subscale consists of items related to receiving negative weight comments out of retaliation or for the purposes of coercion.

The confirmatory factor analysis supported this factor structure with two distinct subscales (Guilt/Pressure; Retaliatory/Coercive Communication). Consistent with my hypotheses, correlation analyses from Study 1 and Study 2 supported the discriminant validity of the weight based psychological aggression measure. Contrary to my hypotheses, correlation results provided partial support for the convergent validity of the measure. Specifically, both subscales of the weight based psychological aggression measure were significantly related to the intimate partner aggression subscales but not the disordered eating assessments (e.g., eating disorder symptoms, body consciousness). Of note, the Guilt/Pressure subscale was related to eating disorder symptoms. One reason for this finding is that the weight based psychological aggression construct is more akin to intimate partner aggression rather than to disordered eating behaviors (symptoms, body consciousness). In fact, items on this measure did not include an assessment of distress or body consciousness, body dissatisfaction, or body image. A second potential reason is that this is a preliminary study that utilized a convenience sample of college students. It is possible that the convergent validity would be fully supported in an eating disorder clinical sample or a clinical sample of women in treatment for intimate partner aggression or in domestic violence shelters. Nevertheless, results from the exploratory and conformity factor analyses supported the weight based psychological aggression measure for use in assessing this new construct. Future research should continue to use the 8-item measure in survey studies with undergraduates.
Consistent with the study hypotheses, both subscales of the weight based psychological aggression measure were significantly related to intimate partner aggression victimization (psychological aggression, physical aggression, sexual coercion). The Guilt/Pressure subscale of the weight based psychological aggression measure was significantly associated with eating disorder symptoms. Thus, this is the first study to suggest a relationship between a facet of weight based psychological aggression and eating disorder symptoms and intimate partner aggression. This finding is not unexpected given the extant literature supporting a relationship between negative weight feedback from family and peers and disordered eating behaviors (e.g., Cordero & Israel, 2009; Kluck, 2010). Furthermore, the results from the current studies contribute to the preliminary research that has supported a significant relationship between negative feedback from romantic partners and disordered eating behaviors (Carriere & Kluck, 2014; Ramirez et al., 2012).

Emotion dysregulation was significantly related to psychological aggression victimization. Additionally, physical and psychological aggression victimization were significantly related to eating disorder symptoms. This finding was not surprising and adds to the existing literature by supporting a relationship between intimate partner aggression and eating disorder symptoms in college-aged populations.

Mediation Results

Weight Based Psychological Aggression

Despite the presence of a significant specific indirect pathway between the Guilt/Pressure subscale and eating disorder symptoms through emotion dysregulation, mediation could not be supported. The fit indices indicated that the model did not fit the data
well; as such, any significant pathways are not trustworthy. The poor model fit is a consequence of multiple cross-loadings between items in the model. However, given the significant effects, continued research is needed to explore whether emotion regulation mediates the relationship between the Guilt/Pressure subscale and eating disorder symptoms, as emotion dysregulation is related to intimate partner aggression (Burns et al., 2012; Racine & Wildes, 2014) and eating disorder symptoms (Stice, 2001; Stice et al., 1998). It is possible that females who experience weight based psychological aggression might be at an increased risk for experiencing aversive emotional states. For females with heightened emotion dysregulation, this might ultimately increase the risk for engaging in maladaptive coping strategies, such as disordered eating, over and above, traditional forms of intimate partner aggression. It is important for future research to utilize longitudinal methodology. The current two-study investigation was cross-sectional, thus it was not possible to establish causality. It is possible that the behaviors assessed in these studies were occurring concurrently, thus mitigating the mediating effect of emotion dysregulation.

Furthermore, emotion dysregulation did not mediate the relationship between the Retaliatory/Coercive Communication subscale and eating disorder symptoms. Future research should continue to explore the Retaliatory/Coercive Communication subscale to determine if additional items should be removed or added to this subscale. Future research should also examine the relationship between Retaliatory/Coercive Communication and emotion dysregulation. It is possible that Retaliatory/Coercive Communication is not associated with aversive emotional states or emotion dysregulation.
A second interesting note is that weight based psychological aggression was not significantly related to body consciousness. Furthermore, emotion dysregulation did not mediate the relationship between weight based psychosocial aggression or intimate partner aggression and body consciousness. One potential reason for these non-significant findings is that body consciousness might not be as important of a risk factor for eating disorders compared to other factors. For instance, body dissatisfaction has been identified as one of the most robust risk factors for eating disorders and eating disorder symptoms (Ramirez et al., 2012). Given this relationship, research has attempted to elucidate causes for body dissatisfaction (Ramirez et al., 2012). Interpersonal relationships, particularly difficulties within interpersonal relationships, have been associated with increased body dissatisfaction (O’Mahony & Hallwey, 1995; Ramirez et al., 2012; Thompson & Stice, 2001). Females’ negative attitudes about their bodies and weight might be reinforced by negative weight comments made by romantic partners, family, and peers. Thus, weight based psychological aggression might be more significantly related to body dissatisfaction.

**Intimate Partner Aggression Victimization**

Contrary to my hypotheses, emotion dysregulation did not fully mediate the relationship between intimate partner aggression victimization and disordered eating behaviors (e.g., eating disorder symptoms, body consciousness). As previously reported, psychological and physical aggression victimization were significantly related to both eating disorder symptoms and body consciousness; however, psychological aggression victimization was the only form of intimate partner aggression significantly related to emotion regulation. One potential reason for this non-significant finding is that the total emotion dysregulation score
was utilized in the mediation analyses. It is possible that different facets of emotion dysregulation are differentially related to both intimate partner aggression and disordered eating behaviors (e.g., eating disorder symptoms, body consciousness). For instance, past research has shown a significant relationship between a history of trauma (e.g., child emotional abuse) and the specific facets of emotion dysregulation of emotional non-acceptance and limited access to emotion regulation strategies (Burns et al., 2012). Additionally, extant literature has supported a relationship between limited access to emotion regulation strategies and eating disorder symptoms and non-acceptance of emotional responses and eating disorder symptoms (Burns et al., 2012). Thus, these specific facets of emotion dysregulation might be more strongly related to both intimate partner aggression victimization and disordered eating behaviors (e.g., eating disorder symptoms, body consciousness).

A second potential reason for the non-significant findings is that these studies utilized cross-sectional methodology. Thus, it was not possible to determine whether eating disorder symptoms and body consciousness emerged before or after incidents of intimate partner aggression. It is possible that the female participants experienced disordered eating behaviors concurrently with emotion dysregulation and intimate partner aggression victimization.

A final reason is that other potential mediators might better explicate the relationship between weight based psychological aggression and disordered eating and intimate partner aggression victimization and disordered eating. For example, past research has demonstrated a relationship between experiential avoidance (i.e., an attempt to avoid negative, internal emotions and to reduce the frequency of negative emotional experiences) and intimate partner violence victimization (Bell & Higgins, 2015; Hayes, Strosahl, Wilson, & Bissett, 2004; Reddy,
Meis, Erbes, Polusny, & Compton, 2011) and eating disorder symptoms (Burns et al., 2012).

Thus, experiential avoidance might have a more important mediating effect on the relationship between intimate partner aggression victimization and disordered eating behaviors and weight based psychological aggression and disordered eating behaviors.

**Implications**

The findings from the current studies are preliminary and continued research is needed to further examine weight based psychological aggression and its relation to intimate partner aggression victimization, eating disorder symptoms, and body consciousness. Although this two-study investigation is preliminary, the current studies’ findings have potentially important implications. First, the factor structure and validity of the weight based psychological aggression measure was supported for use in future research studies. Additionally, it might be beneficial for mental health practitioners working with college-aged students, high school students, and community samples to become more aware of this form of intimate partner aggression. Third, in conjunction with previous research, findings from the current studies suggest a significant correlational relationship between intimate partner aggression and disordered eating behaviors (e.g., eating disorder symptoms, body consciousness). Thus, it could be important to screen for eating disorder symptoms and intimate partner aggression among clinical populations (e.g., clinical samples with eating disorder symptoms, females with a domestic violence history). Finally, even though the mediating effect of emotion dysregulation was not supported, results supported a significant relationship between emotion dysregulation and eating disorder symptoms and body consciousness. It is estimated that there is a 18-fold increase in the risk for bulimic symptoms during college (Lofrano-Prado, Prado, Barros, & Lopes,
2015). Given this increase in the risk for eating disorders during college, there has been a significant focus on the development and implementation of prevention programs, particularly among college students (Stice, Durant, Rhode, & Shaw, 2014; Becker et al., 2010). Many of these prevention efforts have focused on cognitive dissonance based strategies to reduce risk factors for eating disorder symptoms (e.g., body dissatisfaction, body consciousness; Becker et al., 2010). Although these prevention programs have been empirically supported, the extant literature supporting a relationship between eating disorder symptoms and emotion dysregulation in conjunction with the current findings indicate that prevention and intervention efforts could potentially benefit from the inclusion of strategies aimed at enhancing adaptive emotion regulation strategies.

**Limitations and Directions for Future Research**

There are a number of limitations of the current studies. To begin, a notable limitation of the current studies is that there was poor model fit for all proposed mediation models. Thus, all significant effects reported are not indicative of true significant pathways. As previously discussed, there were multiple cross-loadings between items in the model, which significantly contributed to the poor model fit. Second, the current studies utilized a cross-sectional methodology, thus the temporal relationships among study variables could not be established. Furthermore, in cross sectional designs, the indirect effects among study variables do not necessarily imply true mediation (Kline, 2010). Future research utilizing longitudinal research designs is needed in order to establish causality and mediation.

Third, this is a preliminary study utilizing a convenience sample of college students. It is possible that the findings from the current studies might be different in clinical populations.
(e.g., clinical samples with eating disorder symptoms, females with a domestic violence history).

Future research should examine the psychometric properties and factor structure of the weight based psychological aggression measure in an eating disorders sample and/or a sample of women in treatment for intimate partner aggression. Additionally, future research examining weight based psychological aggression among community and high school samples is needed.

Fourth, the current studies were comprised of predominantly white, non-Hispanic samples of female undergraduates. Thus, the findings from the current studies might not generalize to more diverse samples. Future research should examine weight based psychological aggression and its relation to emotion regulation, intimate partner aggression, and disordered eating behaviors in diverse samples. Additionally, the current studies focused on weight based psychological aggression, intimate partner aggression, and disordered eating behaviors among female college students. Research has demonstrated that eating disorder behaviors are different across genders. For instance, past work has supported two dimensions of disordered eating among men; a concern with increasing muscle mass or a concern with reducing weight/ body fat (Wyssen, Bryjova, Mweter, Munsch, 2016). Given that disordered eating and body dissatisfaction are different among men compared to women, the weight based psychological aggression construct might differ across genders. Future work should develop a weight based psychological aggression measure for men. Once this assessment measure is validated, it could be utilized to examine the relationships between weight based psychological aggression, intimate partner aggression, and disordered eating behaviors.

Fifth, endorsement of items on the eating disorder symptoms and weight based psychological measures were low, thus indicating a floor effect. As previously noted, the
current studies utilized a convenience sample of college students; thus, it is not surprising that endorsement was low, particularly relative to clinical samples. Additionally, given the sensitive nature of the assessment items, it is possible that participants responded in a socially desirable manner. Future research should incorporate assessment of social desirability. Finally, the current two-study investigation focused on intimate partner aggression victimization. Future research should examine the factor structure and psychometric properties of a measure assessing the perpetration of weight based psychological aggression.

Conclusion

This is the first study to examine a new form of intimate partner aggression termed weight based psychological aggression. This form of aggression focuses on the use of negative weight comments as a form of aggression in romantic relationships. Despite the preliminary nature of the current studies, the findings supported the factor structure of a measure assessing weight based psychological aggression. Mediation analyses indicated the presence of significant effects; however, the proposed mediation models exhibited poor model fit. Thus, the reported significant effects are likely not true, significant effects. However, given the preliminary nature of this two-study investigation, it could be beneficial for future research to further examine this new form of intimate partner aggression, particularly the relationship of weight based aggression with other forms of intimate partner aggression and disordered eating.
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Vita

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