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The Effects of Marital Attachment and

Family-of-Origin Stressors

on Body Mass Index

Merle Natasha Bates

A thesis submitted to the faculty of Brigham Young University in partial fulfillment of the requirements for the degree of

Master of Science

Jonathan Sandberg, Chair Angela Bradford Rick Miller

School of Family Life

Brigham Young University

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# ABSTRACT

# The Effects of Marital Attachment and Family-of-Origin Stressors on Body Mass Index

Merle Natasha Bates School of Family Life, BYU Master of Science

The purpose of this study was to examine the moderating effect of couple's attachment behavior on family-of-origin (FOO) issues and body mass index (BMI). Previous research has indicated that family and couple relational factors may influence BMI. The vulnerability and stress model provided a theoretical framework for understanding how attachment behaviors may give greater adaptability to managing vulnerabilities from family stress. 1214 couples between the ages of 18 and 70, who identified themselves as in a serious relationship were surveyed using the RELATE questionnaire; both partners responded. Results indicated that there was a significant association between FOO stress and adult BMI for both males and females. There was also an association between attachment behaviors and female BMI, but not male BMI. Finally attachment behavior did not moderate the relationship between FOO stressors and BMI. Clinical implications include using clinical models that focus on intergenerational problems when weight concerns are presented in therapy and, for women especially, focusing on couple attachment behaviors when there are weight concerns.

Keywords: attachment behaviors, couple relationships, BMI, family-of-origin stress



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## Introduction

Obesity is a serious concern for overall health in individuals. It correlates with several chronic health problems, such as heart disease, stroke, type 2 diabetes, certain types of cancer, and other leading causes of death (Wang, McPherson, Gortmaker, Marsh, & Brown, 2011). Over one third of the population in the U.S. qualify as obese (Flegal, Carroll, Ogden, & Curtin, 2010). As a result, the cost of obesity-related disease treatment in health care is in the billions of dollars (Wang, et al., 2011).

At least part of the obesity problem is related to lifestyle choices, such as poor nutrition, lack of exercise, smoking, or unhealthy family interactions that can lead to increased weight and greater health risks (Clark & Brancati, 2000). This research suggests it is important to better understand the relationship between close relationships, such as family and marital relationships, and the effect they have on weight. Two relational factors that seem to have an effect on overall health and weight are couple's attachment and family-of-origin stress. Family-of-origin stress has been linked to a number of health concerns, such as affect disorders, increased health risk behaviors, and increased weight ((Kouros & Garber, 2014; Dube, et al, 2001; Fuller-Thompson, Fillepelli, & Lue-Crisostomo, 2013; Bentley & Widom, 2009). Attachment is also related to weight gain even in adulthood (Bentley & Widom, 2009, Gallagher, et al, 2013). Therefore, the purpose of this study is to determine if family-of-origin stressors negatively affect adult weight, and if, specifically, couple level secure attachment can moderate this relationship.

## **Review of Literature**

### **Theoretical Framework**

According to the vulnerability stress adaptation model (Karney & Bradbury, 1995), each individual brings enduring vulnerabilities into marriage, many of which are the result of family-



of-origin experiences and stressors. It is assumed in this model that these experiences can affect how individuals manage stress and how couples will then interact and adapt to situations together. Thus, these influences likely shape a couple's adaptive patterns in their relationship and overall marital health. In short, this model suggests that increased family stressors can lead to more vulnerabilities over time, which may contribute to marital distress and relational inflexibility.

By applying this theoretical model to the current study, increased family stressors may increase vulnerabilities that would also effect body weight. The model can also be used to propose that attachment may give a couple greater coping skills that would help address these vulnerabilities. Recent research, using this model, suggests that secure attachment behaviors seem to afford people greater adaptability in stressful situations which may help couples to cope with the negative effects of family-of-origin stress in marriage (Knapp, Norton, Sandberg, 2015). Extrapolating from this, this research will use the vulnerability stress adaptation model as a theoretical base and explore whether couples attachment can specifically moderate vulnerabilities from family-of-origin stress concerning weight.

#### **Relationship Factors that Contribute to Weight**

The relationship between weight and health problems is a serious concern for health professionals and those they work with. As the trends toward higher body mass have increased in the U.S., it is crucial to recognize how social connections, particularly in families, influence body mass index (body mass index will be referred to as BMI; Epstein, Valoski, Wing, & McCurley, 1994; Jones, 2011). Studies have shown that poor family relationships can transmit vulnerabilities that influence BMI, both in parent-child and marital dyads. For example, there is a correlation between the activity levels of children and mothers, where increased levels of



physical activity for mothers is related to similar behaviors with their children (Zach & Netz, 2007). Likewise, another study found that when parents displayed effective parenting strategies, there was a positive effect on a child's BMI (Wickrama & Bryant, 2012). Family structure and interactions also influence eating habits, which can directly affect weight (Jones, 2011). This, along with other research, indicate that family stressors play a role in the development of behaviors in children that can leave health vulnerabilities that affect obesity (Hasenboehler, Munsch, Meyer, Kappler, & Vögele, 2009; Arkes, 2012; Moens, Braet, Bosmans, & Rosseel, 2009).

Despite some research that indicates a connection between family stress and childhood obesity, there is little research specifically linking family-of-origin (FOO) stress to adult obesity. One study by Johnson and colleagues (1997) investigated whether poorer ratings on family cohesion and adaptability would be associated with factors that are tied to adult obesity. They reported that for men the more cohesive and stable their FOO, the better their general health and the lower their obesity rates. These results further support, especially for men, that family stress may play a role in shaping the behaviors that affect BMI in adulthood. This relationship is likely exacerbated in family settings where there is more overt dysfunction (ie. abuse or neglect), which may lead to increased behavioral vulnerabilities affecting weight (Strauss & Knight, 1999; Bentley & Widom, 2009).

#### **Family Stress and Weight**

Stressful family situations in childhood can have a prolonged effect on children that can leave lasting vulnerabilities into adulthood. Family stress can include a variety of concerns including, familial discord, abuse, parental stresses, or external pressures on the family. In general, poor family relationships between parents and children are associated with a number of



health concerns that can include fluctuating weight, poorer eating habits, and emotional disorders (Kouros & Garber, 2014). Likewise, emotional disorders (such as depression and anxiety) may develop and are also linked to behaviors more likely to affect overall health (Hollis, Carmody, Connor, Fey, & Matarazzo, 1986; Orzolek-Kronner, 2002). Anxiety and depression are also vulnerabilities tied to fluctuations in BMI that can persist into adulthood (Opel, et al; 2015; Mumford, Liu, Hair, & Yu, 2013). Similarly, family discord and abuse of children have been linked to health risks which could impact weight. (Dube, et al, 2001; Fuller-Thompson, Fillepelli, & Lue-Crisostomo, 2013; Bentley & Widom, 2009).

In addition, research has shown that parental stress can influence a child's weight and health (Stenhammar, et al., 2010). For example, external stresses on the family such as chronic financial strain, lower income, and lower education attainment have been linked to childhood obesity (Strauss & Knight, 1999). When there is overt family dysfunction that is likely to stress children, such as abuse, the children are more likely to have both general health problems and obesity as adolescents and adults (Bently & Widom, 2009; Keeshin, et al, 2013). Other strains at the parental level, such as drug addictions, increase the likelihood of excess stress, dysfunction, abuse, and later mental illness (Dube, et al, 2001; Fuller-Thompson, Katz, Phan, Liddycoat, & Brennenstuhl, 2013). Interestingly, there is some indication that a more supportive parental relationship with children can help buffer some of the negative effects of family stress (Lee, Wikrama & Simons, 2013). Therefore, the research suggests an environment that fosters support and stability is less likely to produce children with later physical and mental health vulnerabilities in adulthood (Price-Robertson, Smart, & Bromfield, 2010). This indicates that family stress is an important factor for children concerning their later adult health and weight, which supports the use of the VSA model.



#### **Couple Relationships, Health and Weight**

Just as FOO stress can play a role in developing problematic patterns that influence BMI in adulthood, research has shown that a couples' romantic relationship can play a role in the development of health patterns (Pietromonaco, Uchino, & Dunkel Schetter, 2013; Meltzer, Novak, Mcnulty, Butler, & Karney, 2013). Specifically, the level of secure attachment in the relationship seems to influence physical and mental health (Hammill, 2010; Temblay & Sullivan, 2010). Healthy attachment allows for a secure connection between spouses and is linked with a sense of safety in the relationship (Volling, Notaro, & Larsen, 1998). Secure attachment may influence physical health because secure couples tend to have more shared interests in their social networks (Volling, Notaro, and Larsen, 1998), which leads to not only greater stability in the relationship, but also a strong, mutual support network to rely on in times of change, stress, or other issues that may arise (Sikora, 2013). This may reduce the likelihood of using unhealthy coping mechanisms during these times.

In addition, research suggests that general support and connection can affect both weight gain and lifestyle practices that lead to weight gain for couples. For example, spousal support is related to greater physical activity levels (Hong et al., 2005; Khan, Stephens, Franks, Rook, & Salem, 2012). More specifically, one study found that individuals with secure attachment styles had better health behaviors that are likely to affect weight such as activity level, junk food consumption, and alcohol or drug use (Huntsinger & Lueken, 2004). Two studies particularly indicate a relationship between weight and couples' interactions. A study by Gallagher and associates (2013) indicated that spousal support with healthy eating or exercise was related to lower weight.



Also, research by Meltzer and associates (2012) indicated that being able to support or motivate a spouse in a way that is complementary to their partner's motivation can be important for couples. For example, when men exhibited less motivation (by complaining for example) to reach their goal, having a spouse that responded with oppositional support (such as confrontation) were more likely to reach their goal. When they exhibited greater personal motivation having a spouse who gave more positive feedback was more helpful. For women, there were no significant differences. Still, this may indicate that being able to engage in congruent support that matches the needs of the spouse could be a significant factor in maintaining weight goals.

The relationship between attachment and weight can be seen particularly in newly married couples. Most people, once married, show some increase in BMI early in their marriage (Shafer, 2010). This is likely tied to the fact that early marriage is related to a reduction in health promoting activities such as physical activity (Ortega, et al, 2010). Though this occurs in most couples, the BMI increase is lower for couples with greater levels of closeness (Wikrama & Bryant, 2012). This indicates that secure attachment between couples may in some way moderate the vulnerabilities that lead to increased BMI in early marriage that may set preliminary patterns for weight through their life.

Whether in early marriage or later in life, when managing weight concerns or altering health practices, having a supportive and affirmative spouse is an important factor related to making and maintaining changes (Meltzer, McNulty, & Karney, 2012; Kiecolt-Glaser & Newton, 2001). For example, a number of studies have shown that weight loss is significantly higher when couples are supporting each other (Black, Gleser, & Kooyers, 1990; Gallagher, et al, 2013). In contrast, insecure attachment is strongly related to marital conflict, distress, and dissatisfaction



(Mondor, McDuff, Lussier,& Wright, 2011). Insecurity is also linked with greater disengagement with one's spouse and stronger marital distress (Barry & Lawrence, 2013). Such marriages tend to report more health problems (Hawkins & Booth, 2005). These studies indicate that the strength of marital attachment affects couple and individual well-being. These couple dynamics can influence overall health as well as weight gain (Umberson, Williams, Powers, Liu, & Needham, 2006). In summary, research on couples and weight gain show that beyond common newlywed weight gain, couple dynamics and the experience of safety and security (attachment) in the relationship can influence body weight for better or for worse. This may suggest that attachment could moderate potential vulnerabilities surrounding weight concerns.

#### **Summary and Research Questions**

The current research indicates that FOO factors and couple attachment can influence BMI. Higher levels of stress or poorer relations in FOO seem to negatively influence physical activity levels, overall health, and BMI, which can influence health practices into adulthood. Secure attachment, on the other hand, seems to be related to better health and lower BMI. Therefore, the purpose of this study is to determine if FOO stressors negatively influence adult BMI, and if secure couple attachment can moderate that relationship. Therefore, based on the previous review of literature and the purpose statement of this study, this paper will attempt to address the following research questions:

Are FOO stressors related to higher levels of body mass index for adult males and females?
 Is secure couple attachment related to body mass index for males and females?
 Does secure attachment moderate the relationship between FOO stressors and body mass index for partners in a heterosexual couple relationship?



#### Methods

#### **Participants**

The analytic sample includes couples who volunteered to complete the Relationship Evaluation Questionnaire (RELATE; Busby, Gardner, & Tamiguchi, 2001). The data was paired for couples that are either married or cohabiting. There were 1214 participants in this study. Among the participants, approximately half are cohabiting, and the remainder of the participants are either in their first marriage or are remarried. On average men were 31 years old and women were 29 years old, both with a college education. Male's annual income averaged between \$40-60,000 and females' averaged \$20-40,000. Male racial demographics included 81% white, 6.5% black, 4% Latino, 3% Asian, 2.5% biracial/mixed, and .4% Native American. Female racial demographics were 78% white, 6% Asian, 5% black, 4% biracial/mixed, and 4% Latino. Religious affiliation for both men and women was largely a Christian affiliation (70% for men, 69% for women), followed by no religious affiliation (18%, 15%), other religion (8%, 10%), and Jewish (2%, 3%).

#### Procedure

The data for this study was taken from the Relationship Evaluation Questionnaire, which was developed in 1997 (RELATE; Busby, Gardner, & Taniguchi, 2001). Couples voluntarily completed a survey with various questions regarding themselves and their relationships. Participants were recruited through various forms of advertising as well as referrals from professors, researchers, and therapeutic professionals. The assessment was accessed online where participants answered questions regarding perceptions of themselves and their partners in four main domains: individual, couple, family, and social (Relate-institute.com). Upon



completion of the survey, participants were offered a printout that summarizes their responses. Couples were charged \$40 to view their results.

For the purposes of this study, scales related to attachment and health measures will be included. The measures included in RELATE have withstood rigorous validity and reliability testing, demonstrating good test-retest and internal consistent reliability and content, construct, and concurrent validity (Busby, Holman, & Taniguchi, 2001). Most of the measures scored between .70 and .90 for internal consistency and 2 test-retest samples, including a test-retest of a Hispanic version. Investigation of construct validity showed that 92% of the items loaded on the correct subscale and further examination of overlap showed appropriate correlations for similar items while still remaining distinct (range between .45 and .65). In order to measure concurrent validity, measures of RELATE have been compared with scales from the Revised Dyadic Adjustment Scale (RDAS) (Busby, Crane, Larson, & Christensen, 1995). Every subscale that was compared showed strong, positive correlations.

#### Measures

Attachment. The RELATE scales measuring attachment consisted of a subscale in the RELATE survey: The Brief Accessibility, Responsiveness, and Engagement Scale (BARE; Sandberg et al., 2012). This scale was developed to help clinicians look at the attachment behaviors that predict marital satisfaction. Participants responded to statements from three subscales that measure both individuals' and their partners' accessibility, responsiveness, and engagement (Cronbach's alpha for males was .684, and for females was .738). The scores from each of the three domains were combined to create an overall rating of attachment. Responses to statements were chosen from five-point Likert scales, where answers vary from "Never True" to "Always True" (1-5). Sample items from these scales include: "It is hard for my partner to get



my attention," "I am confident my partner reaches out to me," and "It is hard for me to confide in my partner." The BARE, with test-retest scores ranging from .60 to .75, shows high concurrent reliability and validity (Sandberg et al., 2012).

**Family-of-origin stress.** The variables measured using RELATE were perceptions of each partner's own FOO stress. To measure perceptions of FOO, the scales from the Family Stressors items were used. Overall evaluation of family stress (Cronbach's alpha = 0.686) contained four items that were measured on a five-point Likert scale ranging from "Never" to "Very Often" (1-5). These items read "there were financial strains such as loss of jobs, bankruptcy, large debts, or going on welfare," "there were family members who experienced emotional problems such as: severe depression, anxiety attacks, eating disorders, or other mental/emotional problems," "there were physical strains such as member(s) being physically handicapped, hospitalized for a serious physical illness or injury, or becoming premaritally pregnant," and "there were one or more family members who struggled with addictions to alcohol or other drugs."

**BMI.** This was measured through two items. Participants self-reported their weight and their height. These responses were used to calculate BMI, using the basic formula for BMI: (Weight (lb) x 703) / Height<sup>2</sup> (in<sup>2</sup>).

#### **Analytic Strategy**

After reporting percentages and average scores on demographics and for each measure using descriptive statistics, the relationships among FOO stress, attachment behaviors, and body mass index was tested using standard regression. To test the potential moderating effect of attachment on the relationship between FOO stress and body mass index, an interaction term (FOO stress x attachment) was created. In the second step of the regression, the interaction term



was added to the model. The model was run separately for males and females to avoid interdependence issues with the data.

#### Results

Results of the descriptive statistics show that on average the sample is healthy with low BMI, low FOO stress, and above average attachment behaviors (see table 1). Bivariate correlations were conducted with the three main variables for each gender separately. The results for the women showed that correlations were in the expected direction and all variables were significantly correlated at appropriate levels (see table 2). For the men, BMI and family stress, as well as attachment behaviors and family stress, were significantly correlated, but not BMI and attachment behaviors (see table 2).

Results of regression for females indicated that FOO stress is significantly and positively related to BMI for women (B=.080, SE=.024, p=.001; B represents the unstandardized coefficient in all results). Female attachment was also significantly negatively related to BMI (B=-.015; SE=.004; p=.001). The model predicted 2% of the variance in BMI. These results suggest that FOO stress for women is significantly associated with BMI, or as stress goes up so does BMI. The results also suggests that attachment for women is significantly associated with BMI in that as attachment increases, BMI decreases; but the effect is small.

Results of regression for males indicated that FOO stress is significantly and positively related to BMI for men (B=.071, SE=.024, p=.003). Male attachment, though, was not significantly related to BMI (B=-.006 SE=.004; p=.136). The model predicted 1% of the variance in BMI. These results suggest that FOO stress for men is significantly associated with BMI, or as stress goes up so does BMI; the effect is also small. The results suggest that attachment for men is not significantly associated with BMI.



When the interaction term was added to the model for women, both FOO stress (B = -.016, SE = .188, p = .931) and couple attachment (B = -.025, SE = .020, p = .212) became nonsignificant. The interaction term between FOO stress and couple attachment was also nonsignificant (B = .004, SE = .007, p =60). For the men, both FOO stress (B = .148, SE = .481, p = .391) and couple attachment (B = .002, SE = .019, p = .900) were also non-significant. The interaction term between FOO stress and couple attachment was likewise non-significant (B = . .003, SE = .007, p = .650). The results suggest that attachment behaviors do not moderate the relationship between FOO stress and BMI for males or females.

#### Discussion

This research focused on answering three questions about FOO, BMI, and Attachment in relationships for men and women: 1.) Are FOO stressors related to higher levels of body mass index for adult females and males? 2.) Are attachment behaviors in couple relationships related to body mass index for males and females? 3.) Do secure attachment behaviors moderate the relationship between FOO stress and body mass index for partners in a heterosexual couple relationship?

Question 1: Results suggest that FOO stressors were negatively associated with BMI for both men and women. Previous research supports this finding, which indicated that varying forms of family stress are associated with prolonged health concerns and weight problems (Bently & Widom, 2009; Keeshin, et al, 2013; Kouros & Garber, 2014). Likewise, research indicates that more supportive parental relationships and stable home environments decrease the likelihood for later physical and mental health problems in adulthood (Price-Robertson, Smart, & Roberston, 2010).



One possible explanation for these results is that a stressful family environment may foster poor health patterns. For example, in chaotic homes there may be fewer regular meals, which can contribute to poor eating habits. In homes that are financially strained, parents are likely to work outside the home and healthier food options may be considered expensive; this can reduce the quality and time spent on meals for children. Also, FOO stressors increase mental and emotional problems, such as depression, which are also linked to greater weight gain and chronic illnesses (Dube, et al, 2001).

Question 2: Findings suggest attachment behaviors are related to BMI for women, but not for men. These results conflict with one study that indicated that support was more pertinent for men than women (Meltzer, McNulty, & Karney, 2012). This may be attributed to the variables studied and the population. The Meltzer and associates (2012) research focused on specific forms of support and self-motivation for people who were actively trying to lose weight. In contrast, the RELATE data does not focus on populations actively seeking weight loss and only reports on a general sense of support and security in their relationships. A study that also used data from RELATE found similar results, namely that increased marital satisfaction was related to fewer concerns about weight (Schade, Sandberg, & Busby, 2014).

This may indicate that for women, where there is support and attachment security, there may be an additional sense of safety to focus on their concerns about their BMI without relationship stability concerns. For men, the seeming conflict between the research and these findings may be due to differences in life phase. Secure attachment behaviors for men may be related to BMI when or if there is an active pursuit to lose weight or maintain weight changes. Without an active goal surrounding weight or health, concerns related to BMI may become irrelevant, especially in secure relationships (Schade, Sandberg, & Busby, 2014). This irrelevance may be because men



experience less pressure regarding weight from society (Meltzer, McNulty, & Karney, 2012). It may also simply be due to the low reliability in the results for men.

Question 3: The results suggest there was no significant moderating effect for attachment behaviors. These results were unexpected due previous research; however the research itself is mixed and did not look at a moderating relationship. For example, there are a number of studies that show a link between supportive relationships and better weight maintenance (Meltzer, et al, 2012; Gallagher et al, 2013), yet there is also research that indicates supportive behaviors may not affect partners equally (Meltzer, et al, 2012).

The current results suggest that attachment behaviors only predict a small amount of variance in BMI. The lack of moderation may be due to the exclusion of certain variables. For example, the Meltzer et al. study (2012) suggests spousal support is a key variable to couple related weight concerns. It may be that attachment behaviors do not tap into social support behaviors that have been significant in previous research. Likewise it may be there is a selection bias at play regarding partner choice and healthy lifestyle patterns. For example, if both have poor health habits, secure attachment behaviors may not influence the relationships between FOO stress and BMI because weight concerns are likely to persist due to less external pressure to change for either partner. In addition, the absence of a health behaviors/practices variable may be a key factor in the moderation findings (Davis, Sandberg, Bradford, & Larsen, in press). Specifically, the Davis et al. study suggests attachment behaviors directly influence health behaviors, which may then influence weight.

## **Implications for Clinicians**

The findings of this study reiterate the association between FOO and BMI concerns for both men and women. When working with clients who are struggling with weight or other



related health concerns, it may be beneficial for the therapists to utilize models that place an emphasis on intergenerational interactions. For example, from a contextual therapy perspective, parents may have left their children with an unbalanced ledger resulting in poor dietary and exercise behaviors, and stress management practices (Boszormenyi-Nagy & Kasner, 1986). Nazy's four dimensions to relational realities would especially apply in the sense of mapping out persona and relational behaviors, noting individual psychological concerns such as motivations for weight, intergenerational and couple transactional patterns, and then to begin to develop trust between partner to facilitate a more comprehensive treatment for weight concerns. This model of therapy may help clients acknowledge the consequences of past family patterns surrounding these issues, find immediate methods to combat the pattern, and also find longer lasting interventions to help them break the intergenerational pattern for future generations (Boszormenyi-Nagy & Kasner, 1986).

According to the results, it would also be helpful for women to address couple attachment, as it was significantly associated with BMI. A model that is based in attachment theory, such as Emotionally Focused Therapy (EFT), may benefit both the overall couple relationship but also the women's sense of support when managing BMI concerns. Research has shown that a woman's couple relationship can be important for weight management, especially in marriage (Schade, Sandberg, & Busby, 2014; Bove & Sobal, 2011). Helping foster attachment behaviors between the couple may be key in helping women achieve and maintain a healthy weight.

#### **Limitations and Future Implications**

The main limitation to the research is related to the sample population. Most were young, college educated, Caucasian, and relatively healthy. The median BMI for men was 26.21 and for



women 23.83 (see table 1). This was within the normal range for women and just barely within the overweight category for men. Therefore, the sample represents a group that is unlikely to have active health concerns related to BMI. As a result, the study cannot provide insight to couples with major weight issues. Along with this, future studies may want to follow populations longitudinally to explore whether attachment behaviors may become more significant with age. Likewise, future studies should seek out more representative samples of ethnic minorities to better understand the unique concerns that may exist for differing cultural experiences (Shafer, 2010).

Another major limitation of the current study is that the predictor variables were not centered. Although there is some debate in the statistics literature, many agree that when running a moderation model the predictor variables should be centered so that multi-collinearity issues are taken into account (Aiken & West, 1991). It may be that attachment behaviors would moderate the relationship between family of origin stress and BMI if the variables were centered. It is also important to note that the cronbach alpha's for both male attachment and FOO were in the .69 range, just below preferred cutoffs. Therefore, the lack of significant findings may be related to the selection of an analysis strategy that did not take into account and adjust for these coefficients. Future research should address these limitations.

Another limitation of the study was the lack of variance explained which is likely due to measurement error. The reliabilities in this study were low and the correlations were weak. This means that the ability of any of these variable to predict variance in BMI is already going to be weak. The results suggest that there are variables that would have greater significance for couples. One such variable that is likely related to BMI, and was untested in this study, is health behaviors. Because of this, future research should focus on specific behaviors and attitudes



associated with attachment and weight. Research could also focus on how relational factors may affect dietary habits and exercise.

## Conclusion

This study focused on the moderating effect of couple attachment behaviors on FOO stressors and BMI. The results indicated that there was an association between FOO stress and adult BMI. For women there was also an association between attachment and BMI. Because of this, when weight concerns are brought up in therapy there should be a focus on FOO vulnerabilities and attachment concerns to better accomplish managing weight. Still, there was no moderating effect on the relationship between FOO stress and BMI for either men or women.



#### References

- Aiken, L.S., & West, S.G. (1991). Multiple regression: Testing and interpreting interactions. Thousand Oaks, CA: Sage Publications, Inc.
- Arkes, J. (2012). Longitudinal association between marital disruption and child BMI and obesity. *Obesity Journal, 20*(8), 1696-1702.
- Barry, R. A., & Lawrence, E. (2013). 'Don't stand so close to me': An attachment perspective of disengagement and avoidance in marriage. *Journal of Family Psychology*, *27*(3), 484-494. doi:10.1037/a0032867; 10.1037/a0032867.supp (Supplemental)
- Bentley, T., & Widom, C. S. (2009). A 30-year follow-up of the effects of child abuse and neglect on obesity in adulthood. *Obesity*, *17*(10), 1900-1905. doi:10.1038/oby.2009.160
- Black, D., Gleser, L., & Kooyers, K. (1990). A meta-analytic evaluation of couples weight-loss programs. *Health Psychology*, *9*, 330-347.
- Boszormenyi-Nagy, I. (1986). The four dimensions of relational reality. In Krasner B. R. (Ed.) *Between give and take* (pp.43-66). New York, NY.
- Bove, C. F. & Sobal, J. (2011). Body weight relationships in early marriage. Weight relevance, weight comparisons, and weight talk. *Appetite*, *57*(3),729-742.
- Busby, D. M., Gardner, B. C., & Taniguchi, N. (2001). RELATE: Relationship evaluation of the individual, family, cultural, and couple contexts. *Family Relations*, 50(4), 308-316. doi: 10.1111/j.1741-3729.2001.00308.x
- Busby, D. M., Crane, D. R., Larson, J. H., & Christensen, C. (1995). A revision of the Dyadic
  Adjustment Scale for use with distressed and non-distressed couples: Construct hierarchy
  and multidimensional scales. *Journal of Marital and Family Therapy*, 21(3), 289-308. doi:
  10.1111/j.1752-0606.1995.tb00163.x



- Clark, J. M., & Brancati, F. L. (2000). The challenge of obesity-related chronic diseases. *Journal of General Internal Medicine*, *15*, 828-829.
- Davis, S.Y., Sandberg, J.G., Bradford, A.B., Larson, & J.H. (in press) Gender differences in couple attachment behaviors as predictors of dietary habits and physical activity levels. *Journal of Health Psychology*
- Dube, S. R., Anda, R. F., Croft, J. B., Edwards, V. J., Giles, W. H., & Felitti, V. J. (2001). Growing up with parental alcohol abuse: Exposure to childhood abuse, neglect, and household dysfunction. *Child Abuse & Neglect*, 25(12), 1627-1640.
- Epstein, L. H., Valoski, A., Wing, R. R., & McCurley, J. (1994). Ten-year outcomes of behavioral family-based treatment for childhood obesity. *Health Psychology*, *13*, 373-383.
- Flegal, K. M., Carroll, M. D., Ogden, C. L., & Curtin, L. R. (2010). Prevalence and trends in obesity among US adults, 1999-2008. JAMA - Journal of the American Medical Association, 303, 235-241.
- Fuller-Thomson, E., Filippelli, J., & Lue-Crisostomo, C. (2013). Gender-specific association between childhood adversities and smoking in adulthood: Findings from a population-based study. *Public Health (Elsevier)*, 127(5), 449-460. doi:10.1016/j.puhe.2013.01.006
- Fuller-Thomson, E., Katz, R.,B., Phan, V.,T., P.M. Liddycoat, J., & Brennenstuhl, S. (2013). The long arm of parental addictions: The association with adult children's depression in a population-based study. *Psychiatry Research*, 210(1), 95-101. doi:10.1016/j.psychres.2013.02.024
- Gallagher, P., Yancy, W. S., Jeffreys, A. S., Coffman, C. J., Weinberger, M., Bosworth, H. B., & Voils, C. I. (2013). Patient self-efficacy and spouse perception of spousal support are



associated with lower patient weight: Baseline results from a spousal support behavioral intervention. *Psychology, Health and Medicine, 18*, 175-181.

- Hammill, C. (2010). The relationship of childhood maltreatment and adult style to functional recovery in chronic fatigue syndrome and fibromyalgia. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, 70(9-B), 5820.
- Hasenboehler, K., Munsch, S., Meyer, A. H., Kappler, C., & Vögele, C. (2009). Family structure, body mass index, and eating behavior. *International Journal of Eating Disorders*, 42(4), 332-338. doi:10.1002/eat.20612
- Hawkins D.N., & Booth, A. (2005). Unhappily ever after: Effects of long term low-quality marriages on well-being. *Social Forces*, *84*(1), 451-471.
- Hollis, J. F., Carmody, T. P., Connor, S. L., Fey, S. G., & Matarazzo, J. D. (1986). The nutrition attitude survey: Associations with dietary habits, psychological and physical well-being, and coronary risk factors. *Health Psychology*, 5(4), 359-374. doi:10.1037/0278-6133.5.4.359
- Hong, T. B., Franks, M. M., Gonzalez, R., Keteyian, S. J., Franklin, B. A., & Artinian, N. T. (2005). A dyadic investigation of exercise support between cardiac patients and their spouses. *Health Psychology*, 24(4), 430-434. doi:10.1037/0278-6133.24.4.430
- Huntsinger, E. T., & Luecken, L. J. (2004). Attachment relationships and health behavior: The mediational role of self-esteem. *Psychology & Health*, 19(4), 515-526. doi:10.1080/0887044042000196728
- Johnson, B., Brownell, K. D., St. Jeor, S. T., Brunner, R. L., & Worby, M. (1997). Adult obesity and functioning in the family of origin. *International Journal of Eating Disorders*, 22(2), 213-218. doi:10.1002/(SICI)1098-108X(199709)22:2<213::AID-EAT14>3.0.CO;2-1



Jones, B. L. (2011). Sleep, body mass index, and work-family conflict: A gender comparison of U.S. workers. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, 72(3-B), 1826-1826.

Keeshin, B. R., Luebbe, A. M., Strawn, J. R., Saldaña, S. N., Wehry, A. M., & DelBello, M. P. (2013). Sexual abuse is associated with obese children and adolescents admitted for psychiatric hospitalization. *The Journal of Pediatrics*, *163*(1), 154-159. doi:10.1016/j.jpeds.2012.12.091

- Karney, B. R., & Bradbury, T. N. (1995). The longitudinal course of marital quality and stability: A review of theory, method, and research. *Psychological Bulletin*, *118*(1), 3–34. doi:10.1037/0033-2909.118.1.3.
- Khan, C. M., Stephens, M. A. P., Franks, M. M., Rook. K. S., & Salem, J. K. (2012). Influences of spousal support and control on diabetes management through physical activity. *Health Psychology*, 32(7), 739-747. doi: 10.1037/a0028609
- Kiecolt-Glaser, J. K. & Newton, T. L. (2001). Marriage and health: His and hers. *Psychological Bulletin*, *127*(4), 472-503.
- Knapp, D.J., Norton, A.M., & Sandberg, J.G. (2015). Family-of-origin, relationship self-regulation, and attachment in marital relationships. *Contemporary Family Therapy*, Advanced online publication. doi:10.1007/s10591-015-9332-z
- Kouros, C. D., & Garber, J. (2014). Trajectories of individual depressive symptoms in adolescents: Gender and family relationships as predictors. *Developmental Psychology*, *50*(12), 2633-2643. doi:10.1037/a0038190.supp (Supplemental)



- Lee, T. K., Wickrama, K. A. S., & Simons, L. G. (2013). Chronic family economic hardship, family processes and progression of mental and physical health symptoms in adolescence. *Journal of Youth and Adolescence, 42*(6), 821-836.
- Meltzer, A. L., McNulty, J. K., & Karney, B. R. (2012). Social support and weight maintenance in marriage: The interactive effects of support seeking, support provision, and gender. *Journal of Family Psychology*, 26(5), 678-687. doi:10.1037/a0029364
- Meltzer, A. L., Novak, S. A., McNulty, J. K., Butler, E. A., & Karney, B. R. (2013). Marital satisfaction predicts weight gain in early marriage. *Health Psychology*, 32(7), 824-827. doi:10.1037/a0031593
- Moens, E., Braet, C., Bosmans, G., & Rosseel, Y. (2009). Unfavourable family characteristics and their associations with childhood obesity: A cross-sectional study. *European Eating Disorders Review*, 17(4), 315-323.

Mondor, J., McDuff, P., Lussier, Y., & Wright, J. (2011). Couples in therapy: Actor-partner analyses of the relationships between adult romantic attachment and marital satisfaction. *American Journal of Family Therapy*, 39(2), 112-123. doi:10.1080/01926187.2010.530163

- Mumford, E. A., Liu, W., Hair, E. C., & Yu, T. (2013). Concurrent trajectories of BMI and mental health patterns in emerging adulthood. *Social Science & Medicine*, 98, 1-7. doi:10.1016/j.socscimed.2013.08.036
- Opel, N., Redlich, R., Grotegerd, D., Dohm, K., Heindel, W., Kugel, H., & Dannlowski, U. (2015). Obesity and major depression: Body-mass index (BMI) is associated with a severe course of disease and specific neurostructural alterations. *Psychoneuroendocrinology*, *51*, 219-226. doi:10.1016/j.psyneuen.2014.10.001



- Ortega, F. B., Brown, W. J., Lee, D., Baruth, M., Sui, X., & Blair, S. N., (2010). In fitness and health? A prospective study of changes in marital status and fitness in men and women. *American Journal of Epidemiology*, 173(3), 337-344.
- Orzolek-Kronner, C. (2002). The effect of attachment theory in the development of eating disorders: Can symptoms be proximity-seeking? *Child & Adolescent Social Work Journal, 19*(5), 421-435.
- Pietromonaco, P. R., Uchino, B., & Dunkel Schetter, C. (2013). Close relationship processes and health: Implications of attachment theory for health and disease. *Health Psychology*, 32(5), 499-513. doi:10.1037/a0029349
- Price-Robertson, R., Smart, D., & Bromfield, L. (2010). Family is for life: Connections between childhood family experiences and wellbeing in early adulthood. *Family Matters*, *85*, 7-17.
- Schade, L. C., Sandberg, J., & Busby, D. (2014). Does this marriage make me look fat? Marital quality as a predictor of perceptions of body weight, activity level, and eating habits. *American Journal of Family Therapy*, *42*(1), 42-52. doi:10.1080/01926187.2013.767617
- Shafer, F. E. (2010). The effect of marriage on weight gain and propensity to become obese in the african american community. *Journal of Family Issues*, *31*(9), 1166-1182. doi:10.1177/0192513X10366006
- Sikora, J. E. (2013). *Three essays on the health and family behavior*. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 73(8-A) Retrieved from http://search.proquest.com/docview/1322724398?accountid=4488.



Stenhammar, C., Olsson, G. M., Bahmanyar, S., Hulting, A., Wettergren, B., Edlund, B., & Montgomery, S. M. (2010). Family stress and BMI in young children. *Acta Paediatrica*, 99(8), 1205-1212. doi:10.1111/j.1651-2227.2010.01776.x

- Strauss, R. S., & Knight, J. (1999). Influence of the home environment on the development of obesity in children. *Pediatrics*, 103, A74.
- Tremblay, I., & Sullivan, M. (2010). Attachment and pain outcomes in adolescents: The mediating role of pain catastrophizing and anxiety. *The Journal of Pain*, *11*(2), 160–171.
- Umberson, D., Williams, K., Powers, D. A., Liu, H., & Needham, B. (2006). You make me sick:
  Marital quality and health over the life course. *Journal of Health and Social Behavior*, 47(1), 1-16. doi:10.1177/002214650604700101
- Volling, B. L., Notaro, P. C., & Larsen, J. J. (1998). Adult attachment styles: Relations with emotional well-being, marriage, and parenting. *Family Relations: An Interdisciplinary Journal of Applied Family Studies*, 47(4), 355-367. doi:10.2307/585266
- Wang, Y. C., McPherson, K., Gortmaker, S. L., Marsh, T., & Brown, M. (2011). Health and economic burden of the projected obesity trends in the USA and the UK. *The Lancet*, 378, 815-825.
- Wickrama, T., & Bryant, C. M. (2012). Association between body mass index and depressive symptoms of african american married couples: Mediating and moderating roles of couples' behavioral closeness. *Journal of Family Issues*, 33(5), 613-638.

doi:10.1177/0192513X11418600

Zach, S., & Netz, Y. (2007). Like mother like child: Three generations' patterns of exercise behavior. *Families, Systems, & Health, 25*(4), 419-434. doi:10.1037/1091-7527.25.4.419



# Appendix

# Table 1

Descriptive Statistics of Study Variables

| Variable                | N    | М     | SD   | Range         |  |
|-------------------------|------|-------|------|---------------|--|
| Men                     |      |       |      |               |  |
| Attachment Behavior     | 1207 | 25.30 | 3.47 | 12.00 - 30.00 |  |
| BMI                     | 1214 | 26.21 | 5.27 | 13.95 - 63.59 |  |
| Family-of-Origin Stress | 1214 | 7.52  | 3.35 | 4.00 - 20.00  |  |
| Women                   |      |       |      |               |  |
| Attachment Behavior     | 1209 | 26.09 | 3.24 | 14.00 - 30.00 |  |
| BMI                     | 1214 | 23.83 | 5.51 | 15.46 - 87.88 |  |
| Family-of-Origin Stress | 1214 | 8.11  | 3.56 | 4.00 - 20.00  |  |



# Table 2

## Bivariate Correlations of Variables

|                         | Attachment Behavior | BMI    | Family of Origin<br>Stress |
|-------------------------|---------------------|--------|----------------------------|
| Attachment Behavior     |                     | 049    | 070**                      |
| BMI                     | 105**               |        | .084**                     |
| Family-of-Origin Stress | 070**               | .102** |                            |

*Note.* Pearson's r for men is on the upper half of the diagonal and for women, the lower half. \*\*p < .01 level.

