Self-compassion as a mediator between attachment anxiety and body appreciation: An exploratory model

Trisha L. Raque-Bogdan a,*, Sarah Piontkowski b, Kayi Hui c, Kathryn Schaefer Ziemer d, Patton O. Garriott e

a University of Denver, Department of Counseling Psychology, Katherine A. Ruffatto Hall, 263, 1999 E. Evans Ave., Denver, CO 80208, USA
b Boston College, University Counseling Services, Gasson 001, Chestnut Hill, MA 02467, USA
c The Ohio State University, Counseling and Consultation Service, Youkin Success Center, 4th Floor, 1640 Neil Avenue, Columbus, OH 43201, USA
d Virginia Tech, Biocomplexity Institute of Virginia Tech (0379), National Capitol Region, 900 N. Glebe Road, Arlington, VA 22203, USA
e Department of Counseling Psychology, University of Denver, 1999 E. Evans Ave., KRH 201A, Denver, CO 80208, USA

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Body appreciation has been found to be linked to interpersonal and intrapersonal factors, with attachment styles and self-compassion separately identified as important correlates. The present study examined these variables together in a model, and we hypothesized that maternal attachment anxiety was related to peer and romantic attachment anxiety, which, in turn, was associated with self-compassion and body appreciation. Using structural equation modeling, this cross-sectional study with a sample of 1306 incoming first year college women found that the proposed model explained 40% of the variance in body appreciation. Results further revealed that peer and romantic attachment anxiety mediated the relationships between maternal attachment anxiety and self-compassion, and that self-compassion mediated the associations between peer and romantic attachment anxiety and body appreciation. Self-compassion appears to hold a central role in explaining the relation between attachment anxiety and body appreciation.

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I n t r o d u c t i o n

Scholars have suggested that positive body image is an essential component to understand how to best protect against body dissatisfaction and disordered eating (Cook-Cottone, 2015; Grogan, 2010; Piran, 2015; Striegel-Moore & Cachelin, 1999; Tylka, 2011; Tylka & Wood-Barcalow, 2015b), as well as enhance individuals’ intuitive eating (Iannantuono & Tylka, 2012). Body appreciation is one key component of positive body image (Avalos, Tylka, & Wood-Barcalow, 2005; Tylka & Wood-Barcalow, 2015b; Wood-Barcalow, Tylka, & Augustus–Horvath, 2010). It is comprised of (a) positive opinions of the body, regardless of the imperfections that individuals perceive about their weight, shape, and appearance; (b) an awareness of and attention to the body’s needs; (c) participation in behaviors that promote the body’s health; and (d) safeguarding the body by rejecting unrealistic body ideals portrayed in the media (Avalos et al., 2005; Tylka & Wood-Barcalow, 2015a). A burgeoning literature connects body appreciation to interpersonal relationships and intrapersonal dynamics (e.g., Iannantuono & Tylka, 2012), with attachment styles and self-compassion separately identified as important correlates of body appreciation (Iannantuono & Tylka, 2012; Schoenefeld & Webb, 2013). However, theoretical models of body appreciation that identify predictors and explanatory pathways are needed to better inform interventions aimed at enhancing body appreciation (Halliwell, 2015).

The goal of the current study was to present an exploratory model in which self-compassion, the ability to be kind to oneself in the midst of difficulties (Neff, 2003), accounts for the relationship between attachment anxiety and body appreciation in a large sample of college women. Specifically, we examined how attachment anxiety in maternal relationships relates to attachment anxiety in peer and romantic relationships. Self-compassion was hypothesized to mediate, or explain, the relations of attachment anxiety with peers and attachment anxiety with romantic partners to body appreciation. Previous studies have shown that self-compassion mediates the relation between attachment and general well-being (Neff & McGehee, 2010; Raque-Bogdan, Ericson, Jackson, Martin, & Bryan, 2011; Wei, Liao, Ku, & Shaffer, 2011), and that
self-compassion is a relevant construct when exploring body image (e.g., Schoenfeld & Webb, 2013). Further, self-compassion training has predicted lower levels of body dissatisfaction and higher levels of body appreciation (Albertson, Neff, & Dill-Shackleford, 2015). Thus, we expect that self-compassion may represent one mechanism by which attachment anxiety connects to body appreciation. Furthermore, college women were selected for this study because high attachment anxiety has been connected to lower body satisfaction for women, but not for men (Hui & Brown, 2013).

Given the specific stressors faced by college-aged women and the unique relationship between positive body image and well-being not captured fully by negative body image (Avalos et al., 2005; Tylka & Wood-Barcalow, 2015a), it may be especially important to identify predictors of body appreciation for this population. Body appreciation is positively associated with intuitive eating (i.e., eating in response to hunger satiety cues; Augustus-Horvath & Tylka, 2011; Avalos & Tylka, 2006) and negatively associated with eating pathology (Ferreira, Pinto-Gouveia, & Duarte, 2011). Furthermore, preliminary studies on body appreciation suggest that positive body image has distinct associations with indicators of psychological well-being and adaptive eating behaviors that are not fully captured by negative body image (Tylka & Wood-Barcalow, 2015a). More specifically, after accounting for negative body image, body appreciation explained unique variance in U.S. college women’s levels of self-esteem, proactive coping, and optimism (Avalos et al., 2005) and in Australian women's levels of engagement in unhealthy weight-loss practices (Andrew, Tiggemann, & Clark, 2016). Thus, negative body image and positive body image are not opposite ends of the same construct. In other words, a high level of positive body image does not reflect a low level of negative body image (Tylka, 2011). More research is needed on predictors of body appreciation, including interpersonal and intrapersonal variables.

Body image is a component of self-concept that emerges based on interactions with significant others, including early attachment figures (Kearney-Cooke, 2002). In a qualitative study with college women, Wood-Barcalow et al. (2010) reported that positive and unconditional acceptance from family, friends, and partners were perceived by women to be integral to the development and maintenance of their positive body image. Bowlby’s attachment theory (Bowlby, 1969, 1980, 1988) explains how early experiences with caregivers shape mental representations, or working models, that individuals develop of significant others and of themselves. Secure attachment develops from receiving consistent and caring messages and support from early caretakers, thereby providing a model for how to develop and maintain strong interpersonal relationships (Bowlby, 1980). In contrast, negative working models (or insecure attachment) are described as being higher on the two continuous, orthogonal attachment dimensions of anxiety and avoidance (Mikulincer, Shaver, & Perger, 2003; Shaver & Fraley, 2004). Specifically, individuals who are high in attachment anxiety are preoccupied with feelings of unworthiness and excessive worry about the availability and responsiveness of their significant others. Individuals high in attachment avoidance experience discomfort with intimacy, are likely to suppress emotional responses, and become excessively self-reliant during times of distress (Fraley & Shaver, 2000). Individuals who have negative working models may develop a poor self-concept that results in decreased body satisfaction and greater concern about weight (Perry, Silvera, Neilands, Rosenvinge, & Hansen, 2008). In contrast, a positive working model (or secure attachment) is indicated when attachment anxiety and avoidance are both low. Those with a positive working model may have a stronger self-concept that is linked to fewer body image problems (Ackard, Neumark-Sztainer, Story, & Perry, 2006; Panfils, Rabbaglio, Rossi, Zita, & Maggini, 2003). Attachment anxiety has been identified as a relevant interpersonal barrier to body appreciation (Iannantuono & Tylka, 2012). Previous studies have found that adult attachment anxiety, but not avoidance, was associated with lower body satisfaction (Cash, Theriault, & Annis, 2004; Cheng & Mallinckrodt, 2009) and lower body appreciation (Iannantuono & Tylka, 2012; van den Brink, Smeets, Hessen, & Woertman, 2015).

Prior research on attachment anxiety and body image has focused on adult attachment style that is theorized to have developed out of relationships with parental or other early caregivers. In particular, mothers are considered a primary attachment figure across developmental stages (Freeman & Brown, 2001), and have significant influence on later attachment relationships with peers and romantic partners (Guarnieri, Smorti, & Tani, 2015). In regards to body image, maternal relationships have been reported to have unique associations with the development of positive body image for Hispanic, Anglo (Hahn-Smith & Smith, 2001), and African American female adolescents (Pope, Corona, & Belgrave, 2014). Sira and Ballard (2009) also reported that maternal attachment was strongly associated with positive body image for White female college students. Given the increasing importance that peer and romantic relationships take on in young adulthood (Doyle, Lawford, & Markiewicz, 2009), accounting for maternal attachment anxiety and how it relates to other relationship domains may be helpful for identifying interpersonal correlates of body image.

The development of peer and romantic relationships is considered one of the most important social milestones during adolescence and early adulthood, and these relationships have been connected to young women’s body image. O’Koon (1997) found that in a sample of high school students, peer attachment was related to body and self-image, whereas maternal attachment was not. O’Koon concluded that relationships with one’s peers, especially for female students, were more important for their body image than their relationships with their mother. Yet, this study examined separate correlations between peer and maternal attachment with body image, failing to account for the relationship between maternal and peer attachment. When accounting for the link between maternal and peer attachment, Patton, Beaupre, and Benedict (2014) reported that peer attachment anxiety was one mediational pathway through which parental care was indirectly connected to body image dissatisfaction, and that the relationship with one’s mother continued to make a unique contribution to body image dissatisfaction after accounting for other variables. Moving beyond a deficit model of body image, additional research is needed to identify what unique and overlapping contributions maternal and peer attachment anxiety make to understanding how young women might develop positive opinions of their bodies.

In addition to peers, romantic attachment has been indicated as becoming increasingly important for body image as individuals age (Tantleff-Dunn & Gokee, 2002). High levels of romantic attachment anxiety have predicted higher levels of body dissatisfaction whereas romantic attachment avoidance failed to be a significant predictor (Cash et al., 2004; Hardit & Hamnum, 2012). Only two studies thus far has examined romantic attachment anxiety and body appreciation, finding that anxiety in this particular relationship domain was negatively related to body appreciation (Iannantuono & Tylka, 2012; van den Brink et al., 2015). Feeling less anxious in their romantic relationships may help young women feel more connected to their bodies in positive ways.

In addition to exploring attachment anxiety in relation to body appreciation, research indicates that attachment processes may play an important role in the development of self-compassion (Neff & McGhee, 2010), and self-compassion has been linked to body image (e.g., Wasyliw, MacKinnon, & MacLellan, 2012). Self-compassion is conceptualized as being composed of the three basic components of self-kindness, common humanity and mindfulness, which are contrasted, respectively, with self-judgment, isolation, and over-identification (Neff, 2003). Self-kindness involves
extending kindness to oneself rather than harsh judgment or self-criticism. Common humanity involves seeing one’s experiences as part of the larger human experience as opposed to seeing them as separating and isolating. Mindfulness involves being present in the moment, cultivating self-awareness of one’s experiences, facing personal weaknesses and life challenges with clarity of feeling, and being able to repair emotional states without emotional overreactions. A caring parenting style and secure attachment may help individuals develop a greater level of care for the self, thereby fostering self-compassion (Neff & McGehee, 2010). However, a non-supportive parenting style and anxious attachment, characterized by mistrust, doubt, or dependence, may lead to harsh self-criticism rather than self-compassion. Theory and research suggest that once a negative working model of anxious attachment develops, the underlying beliefs about relationships can be resistant to change (Kirkpatrick & Hazan, 1994) due to the effects of selective perception (Bowlby, 1988) and a lack of social competencies needed to recruit supportive friendships (Hinderlie & Kenny, 2002; Malinckrodt & Wei, 2005). Thus, self-compassion, as compared to anxious attachment, shows promise as a point of intervention, and understanding its relationship to body appreciation may assist researchers and practitioners in increasing positive body image among college women.

Self-compassion may represent one link between internalized working models and how women feel about their bodies. This would be an extension of research identifying the role of self-compassion as a mediator in the relationship between attachment and well-being (Neff & McGehee, 2010; Raque-Bodgan et al., 2011; Wei et al., 2011). Specifically, self-compassion has been found to mediate the relationship between attachment anxiety and well-being, indicating that those who have higher attachment anxiety are more likely to have lower self-compassion, which in turn is associated with lower levels of well-being (Neff & McGehee, 2010; Raque-Bodgan et al., 2011; Wei et al., 2011).

In regards to body image-related constructs, higher self-compassion is associated with fewer body concerns (Wasyliw et al., 2012) and disordered eating behaviors (Kelly, Vimalakantan, & Carter, 2014; Webb & Forman, 2013) and lower levels of internalization of social media pressure to achieve the “thin ideal” (Tylka, Russell, & Neal, 2015). Additionally, self-compassion has been linked to higher levels of intuitive eating (Schoenefeld & Webb, 2013), and mindfulness, which is an aspect of self-compassion, has also been positively associated with body satisfaction among women (Dijkstra & Barelds, 2011). Further, Schoenefeld and Webb (2013) found that self-compassion was associated with intuitive eating, with body image flexibility as a mediator of this relationship. A recent randomized controlled trial of a 3-week self-compassion meditation training for women found that participants in the intervention group reported decreased body dissatisfaction and body shame and increased body appreciation compared to the control group, with these changes maintained three months later (Alberston et al., 2015). Cultivation of self-compassion may be one method for increasing women’s body appreciation, and additional research is needed to clarify the importance of socio-ecological factors that are associated with self-compassion (Schoenefeld & Webb, 2013), such as the role of maternal, peer, and romantic relationships.

The current study examined the relationships between maternal attachment anxiety, peer attachment anxiety, romantic attachment anxiety, self-compassion, and body appreciation within a model utilizing a large sample of college women. Based on prior research reviewed above, the following hypotheses were made:

**Hypothesis 1:** Maternal attachment anxiety will be positively associated with peer and romantic attachment anxiety.

**Hypothesis 2:** Peer and romantic attachment anxiety will be negatively associated with self-compassion.

**Hypothesis 3:** Self-compassion will be positively related to body appreciation.

**Hypothesis 4:** Peer and romantic attachment anxiety will mediate the link between maternal attachment anxiety and self-compassion.

**Hypothesis 5:** Self-compassion will mediate the links between peer and romantic attachment anxiety and body appreciation.

### Method

#### Participants and Procedure

Participants were a diverse, representative sample of incoming first-year college women from a Mid-Atlantic University (N = 1306), as determined by comparing participants’ demographics to those of the first year class. Six hundred and fifty-six (50.2%) participants self-identified as White, 195 (14.9%) as Asian, 214 (16.4%) as Black/African, 65 (5.1%) as Latina, 7 (0.5%) as American Indian/Alaska Native, 5 (0.4%) as Hawaiian and 164 (12.6%) as bi-racial/multi-racial. The average age of the participants was 18.73 (SD = 2.77).

Institutional review board approval was received prior to study procedures. Data for this study were collected as part of the selected measures administered through a larger data collection called the University New Student Census (UNSC) that explored the experiences, characteristics, attitudes, behaviors, and educational and career aspirations of incoming first-year college students. The UNSC is an online questionnaire and was distributed via email to 3906 (women = 1897 or 48%) incoming first-year students directly admitted from high school. Participants were first presented an informed consent form, followed by the online questionnaire. A total of 1593 college women responded to the survey (response rate = 83%), of which 85% indicated that they were thinking about their mother when completing the parental attachment measures. A high response rate is typical for the annual administration of the UNSC survey. The survey was distributed in conjunction with first-year students’ orientation to their university, and the researchers have found that students are especially willing to participate in research upon their college entrance. Participants did not receive any kind of credit or incentive for completing the survey.

#### Instruments

**Adult attachment styles.** Adult attachment styles were measured using the 9-item Experiences in Close Relationships – Relationship Structures scale (ECR-RS; Fraley, Hefferman, Vicary, & Brumbaugh, 2011). This questionnaire is a self-report instrument designed to assess attachment patterns in close relationships. The same nine items are used to assess attachment styles with respect to four “target” individuals: mother, father, romantic partner, and friend. In the current study, participants were asked to respond to the scale three times: once thinking about their mother or father, once thinking about their best friend; and once thinking about their current romantic partner (or their former partner, or a relationship they would like to have with someone, if they were not currently in a dating or marital relationship). In the final scenario, participants were asked to state, before responding to the scale items, whether they were thinking about their mother or father. Because of the small number of participants who indicated that they were thinking of their fathers when completing the ECR-RS, only participants who reported they were thinking about their mother were included in this study.
The ECR-RS contains two subscales that measure attachment-related avoidance and attachment-related anxiety. Only responses on the attachment anxiety subscale are reported in the current study. Responses are rated on a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree). An example item from the anxiety subscale is “I often worry that this person doesn’t really care for me.” The anxiety score is computed by averaging items 7–9. Higher scores indicate higher levels of attachment anxiety. Subscale scores were computed separately for each “target” individual. In samples of college students, test-retest reliability estimates over one month were .80 for the parental domain and .65 for the romantic relationship domain (Fraley, Vicary, Brambaugh, & Roisman, 2011). ECR-RS scores demonstrate good construct validity, and high internal consistency has been found for anxiety subscale scores across domains (mother: $\alpha = .88$, partner: $\alpha = .91$, friend: $\alpha = .90$; Fraley, Vicary, et al., 2011; Wilson & Gore, 2013). In the current sample, Cronbach’s $\alpha$ estimates were .91 for the maternal attachment anxiety subscale scores, .88 for the friend attachment anxiety subscale scores, and .93 for the romantic partner attachment anxiety subscale scores.

Self-compassion. Self-compassion was measured using the 26-item Self Compassion Scale (SCS; Neff, 2003). The SCS assesses how open and non-judgmental participants are to themselves, their suffering, and their inadequacies, and how much they recognize their experience as part of the common human experience (Neff, 2003). Sample items include, “When things are going badly for me, I see the difficulties as part of life that everyone goes through” and “I’m disapproving and judgmental about my own flaws and inadequacies” (reverse-scored). Responses are made on a 5-point scale from 1 (almost never) to 5 (almost always), and summed, with higher scores indicating greater self-compassion (Neff, 2003). Total SCS scores yield evidence of internal consistency reliability, test–retest reliability, discriminant validity, and concurrent validity in samples of university students (Leary, Tate, Adams, Allen, & Hancock, 2007; Neff, 2003; Neff et al., 2005). In the current study, Cronbach’s $\alpha$ for the SCS was .93.

Body appreciation. Body appreciation was measured using the 13-item Body Appreciation Scale (BAS; Avalos et al., 2005). The BAS is a self-report questionnaire that assesses the extent to which participants accept, appreciate, and care for their bodies, despite perceived flaws. Example items include, “I am attentive to my body’s needs” and “My feelings toward my body are positive, for the most part.” Participants respond on a 5-point scale ranging from 1 (never) to 5 (always). Responses are averaged across items to calculate a cumulative score, with higher scores indicating greater body appreciation. Scores on the BAS have demonstrated high internal consistency (Cronbach’s $\alpha = .90$–.94); stability over a 3-week period (r = .90); and a unidimensional factor structure in samples of college women (Avalos et al., 2005; Lamantutono & Tyllka, 2012; Swami, 2009). Construct validity has been demonstrated through the inverse relationship between the BAS scores and measures of body dissatisfaction, and a positive relationship with measures of self-esteem (Avalos et al., 2005). In the current sample, Cronbach’s $\alpha$ for BAS scores was .92.

Results

Preliminary Analyses

Data screening. The percentage of individual items that were missing was 1.5%, and data were missing completely at random, as evidenced by Little’s MCAR failing to be significant, $\chi^2 = 2867.41$ (11,815, N = 1354), $p = .99$. Thus, expectation maximization (EM) was utilized to calculate values for missing data using SPSS 22.0. However, 18 participants had excessive (i.e., >20% items missing on one of the scales) missing data, and were deleted from the dataset. Furthermore, 30 participants had Mahalanobis distance values that exceeded the acceptable critical value, $\chi^2 (5, N = 1336) = 20.52$) and were deleted as multivariate outliers, leaving a total sample of $N = 1306$. Skewness was <3 and kurtosis<10 for all variables except for maternal attachment anxiety, which had a skewness of 3.75 and a kurtosis of 15.58. Therefore, robust maximum-likelihood (MLR) estimation was used in the SEM analyses to address potential concerns about non-normally distributed data.

Structural equation modeling was conducted using Mplus 7.2 (Muthén & Muthén, 2012) statistical package. The comparative fit index (CFI), standardized root mean square residual (SRMR), and root mean square error approximation (RMSEA) were examined to determine adequacy of model fit. The two-index joint criteria (CFI $\geq .96$ and SRMR values $\leq .06$ or RMSEA values $\leq .09$) recommended by Hu and Bentler (1999) were utilized to assess the model fit. These joint criteria decrease the probability that an adequate fitting model is rejected or that in inadequate fitting model is retained. The model was retained if either of the two joint criteria were met.

Measurement model. Item parceling was used to create latent variables and better account for measurement error. Individual items for the attachment anxiety subscales for mothers, peers, and romantic relationships were used as indicators for these latent variables due to each containing only a limited number of items. Items for the self-compassion, and body appreciation scales were subjected to maximum-likelihood exploratory factor analysis (EFA) and assigned to parcels based on factor loadings with high, medium, and low item factor loadings balanced for each parcel (Weston & Gore, 2006). The self-compassion variable included three parcels, with two parcels containing nine items and one parcel containing eight items. The body appreciation variable included three parcels, with two parcels containing four items and one parcel containing five items. Averaged values were computed when the parcels contained an unequal number of items. Confirmatory factor analyses were conducted to ensure parcels significantly loaded onto their respective factors (Hagtvet & Nasser, 2004).

The measurement model provided an adequate fit to the data (CFI = .984; RMSEA = .036 [90% CI = .030, .041]; SRMR = .022). Furthermore, all items and parcels significantly loaded ($p < .001$) onto their respective factors. Standardized factor loadings for parcels ranged from .76 to .86 for maternal attachment anxiety, .87 to .93 for romantic partner attachment anxiety, .74 to .89 for friend attachment anxiety, .88 to .92 for self-compassion, and .91 to .93 for body appreciation (all $p < .001$), indicating that the latent factors were measured adequately by the parcels.

Primary Analyses

Structural model. Means, standard deviations, and correlations among variables are included in Table 1. The hypothesized model in Fig. 1 was tested and provided an adequate fit to the data. The measurement model provided a good fit to the data (CFI = .984; RMSEA = .036 [90% CI = .030, .041]; SRMR = .022). Furthermore, all items and parcels significantly loaded ($p < .001$) onto their respective factors. Standardized factor loadings for parcels ranged from .76 to .86 for maternal attachment anxiety, .87 to .93 for romantic partner attachment anxiety, .74 to .89 for friend attachment anxiety, .88 to .92 for self-compassion, and .91 to .93 for body appreciation (all $p < .001$), indicating that the latent factors were measured adequately by the parcels.

<table>
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<th>Variable</th>
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<td>2. Peer Anxiety</td>
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<td>3. Romantic Anxiety</td>
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<td>4. Self-Compassion</td>
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<td>5. Body Appreciation</td>
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<td>1.27</td>
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<td>17.38</td>
<td>9.26</td>
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Note: All correlations are statistically significant at the $p < .001$ level.
data, with all fit indices meeting acceptable cut-off criteria, $\chi^2(84, N=1306) = 227.81, p < .001; CFI = .983; RMSEA = .036 (90% CI = .031, .041); SRMR = .035. All paths within the model were statistically significant. Hypothesis 1 was supported as maternal attachment anxiety positively related to peer and romantic attachment anxiety. Hypothesis 2 was supported with peer and romantic attachment anxiety negatively related to self-compassion. In support of Hypothesis 3, self-compassion strongly related to body appreciation ($\beta = .63, p < .001$). The structural model explained 40% ($p < .001$) of the variance in body appreciation, 22% ($p < .001$) of the variance in self-compassion, 9% ($p < .001$) of the variance in friend attachment anxiety, and 6% ($p < .001$) of romantic partner attachment anxiety. Fig. 2 contains the structural coefficients for the hypothesized model.

**Testing Mediation Effects**

To examine the mediation effects referred to in Hypotheses 4 and 5, we adopted the bootstrapping method (Mallinckrodt, Abraham, Wei, & Russell, 2006; Preacher & Hayes, 2008). This non-parametric approach allows researchers to increase statistical power without assuming multivariate normality when testing for significant indirect effects, and addresses the limitations of Baron and Kenny (1986) causal-steps approach to mediation analysis (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002; Mallinckrodt et al., 2006; Shrout & Bolger, 2002). To perform the test of mediation, we requested 5000 randomly calculated bootstrap samples and a 95% biased corrected (BC) confidence interval in Mplus. A significant mediation effect at the .05 level is indicated when the BC confidence interval does not contain zero (Mallinckrodt et al., 2006; Preacher & Hayes, 2008). We examined whether the direct relationship between predictors (i.e., maternal attachment anxiety) and criterion (i.e., self-compassion) continued to be significant after adding the mediators (i.e., peer attachment anxiety and romantic attachment anxiety). Each mediation analysis was tested separately.

Consistent with Hypothesis 4, results showed both peer attachment anxiety ($\beta = -.077, p < .001, CI = -.113, -.041$) and romantic attachment anxiety ($\beta = -.069, p < .001, CI = -.101, -.036$) mediated the relationships between maternal attachment anxiety and self-compassion. To test Hypothesis 5, we assessed self-compassion as a mediator between (a) peer attachment anxiety and body appreciation, and (b) romantic attachment anxiety and body appreciation. Both of these estimated mediation effects were significant. Self-compassion mediated the negative association between peer attachment anxiety and body appreciation ($\beta = -.109, p < .001,$
serving (i.e., romantic (with Fraley and maternal compared to self-compassion, on importance of nuanced findings and Hypotheses relate romantic anxiety. The anxious style of responding to friends and romantic partners may translate into difficulties in caring for the self, such that those who are low in self-compassion may struggle to appreciate their bodies. The mediation roles of peer and romantic attachment anxiety as well as self-compassion in body appreciation suggest the need to test longitudinally how an insecure interpersonal style is internalized in young women and, in turn, how they treat themselves and view their bodies.

The strength of the relationship between self-compassion and body appreciation is noteworthy. While several studies have found a significant, negative relationship between self-compassion and negative body image (e.g., Wasyliw et al., 2012), fewer studies have explored the link between self-compassion and positive body image. Our study indicates that not only is this link robust, but it is also present in the context of attachment-related anxiety with peers and romantic partners. These findings builds on previous research (e.g., Raque-Boggan et al., 2011) that suggests that self-compassion may be an important malleable mediating variable between attachment and well-being. Future research on the variables that may protect against the negative consequences of insecure attachment styles, and even enhance psychological outcomes despite insecure attachment styles, is critical.

Limitations and Future Research

This study contributes to our understanding of the relationships between attachment style, self-compassion, and body appreciation, but it is not without limitations. First, the sample studied was limited to incoming college women and cannot therefore be generalized to males or individuals outside of this developmental period. While college women were a key population of interest in the current study, the findings of the current study may not apply to individuals across the lifespan. Also, women planning to attend college represent a level of socioeconomic status that is not representative of all women at this developmental stage. Furthermore, college students’ relational matrices are different from those of individuals at other life stages. In particular, the roles of parents, peers, and romantic partners likely have different meaning for those at this stage of development than individuals at earlier or later stages (Liang, Tracy, Kenny, Brogan, & Gath, 2010). Thus, future research may wish to investigate the contributions that attachment and self-compassion make to the body image of girls and women across the lifespan, as well as in contexts and social classes represented outside of the university setting.

Second, we selectively focused only on participants who reported on their attachment to their mother. In this study, it was not possible analyze differences between participants who reported on their attachment to their father compared to their mother because a relatively smaller number of participants chose to reflect on their relationship with their father than with their mother. As previous studies have mostly explored attachment in general rather than focusing on specific relationships (Iannantuno & Tylka, 2012; Raque-Boggan et al., 2011), future research could further delineate how the nature of attachment may differ between parental figures. Additionally, future studies may consider cultural considerations that inform the family structure and the influence of each family member; perhaps for some individuals, grandparents or elders may play a key role in the development of their attachment styles rather than parents.

Discussion

When describing the future of positive body image research, Halliwell (2015) called for additional theoretical models that highlight critical predictors and mediational pathways of body appreciation. The current study presents a model of interpersonal (i.e., maternal, peer, and romantic attachment) and intrapersonal (i.e., self-compassion) variables that identifies relations with body appreciation. This model provided an overall good representation of how college women’s relationships with their mothers, friends, and romantic partners may relate to their ability to be compassionate with themselves and to appreciate their body. More specifically, the model offered support for Hypotheses 1–3, and explained 40% of the variance in body appreciation. Further, support was found for Hypotheses 4 and 5, with maternal attachment anxiety associated with higher peer and romantic attachment, and self-compassion serving an integral role in connecting anxiety in friendships and romantic relationships to body appreciation.

Generally, attachment anxiety in maternal relationships was connected to anxiety in both peer and romantic relationships. It is, therefore, important to consider the different relational contexts in which attachment anxiety can be expressed. In examining the nuanced associations between the varied contexts of attachment relationships and self-compassion, we found that anxiety in peer and romantic relationships mediated the relationship between maternal attachment anxiety and self-compassion. Overall, our findings offer further support that for college women, maternal styles are associated with attachment in other relationship domains, and that romantic and peer attachment anxiety serve as a link between maternal attachment anxiety and well-being outcomes (Guarnieri et al., 2015), such as self-compassion. Fears about whether one’s mother is emotionally present and available appear to relate to whether college women anticipate that their friends and romantic partners are emotionally present and available for them. The anticipation of emotional availability then relates to whether they feel that they can offer themselves kindness, mindfully approach difficult emotions, and remain connected to others when suffering. The salience of maternal attachment in this study is not surprising given research which suggests that a majority of college women feel that their relationship with their mothers, as compared with their fathers, was more communicative, emotionally intimate, comfortable, and involved (Nielsen, 2007).

Additionally, self-compassion played a key mediational role in our model of body appreciation. These findings suggested that peer and romantic attachment anxiety is associated with lower levels of self-compassion and, in turn, lower levels of body appreciation. The importance of romantic partners in our study is consistent with previous research indicating that attachment anxiety with romantic partners was associated with lower body appreciation (Iannantuno & Tylka, 2012). Further, our findings regarding the importance of peers to self-compassion and body appreciation makes a novel contribution to the literature, as much of the research on attachment and body image in college students has focused on the quality of attachment to parents and romantic partners (e.g., Fraley & Shaver, 2000; Hazan & Shaver, 1987; Iannantuno & Tylka, 2012), and less so on friends. To our knowledge, no previous studies have explored the specific link between attachment to friends, self-compassion, and body image, particularly positive body image. Thus, future researchers may want to replicate this finding by including a measure of attachment styles with friends (e.g., ECRRS, Fraley, Heffernan, et al., 2011), which would allow researchers to isolate this particular “target” group in their analyses.

Furthermore, self-compassion appears to play a central role in how anxiety in friendships and romantic relationships relate to body appreciation. From a theoretical perspective, individuals with high attachment anxiety tend to be preoccupied and hypervigilant about their relationships, and burdened with feelings of unworthiness (e.g., Mikulincer et al., 2003; Shaver & Fraley, 2004). This anxious style of responding to friends and romantic partners may translate into difficulties in caring for the self, such that those who are low in self-compassion may struggle to appreciate their bodies. The mediation roles of peer and romantic attachment anxiety as well as self-compassion in body appreciation suggest the need to test longitudinally how an insecure interpersonal style is internalized in young women and, in turn, how they treat themselves and view their bodies.

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Furthermore, as the current study relied exclusively on self-report measures that were not counterbalanced, future research may wish to include other sources of data to counteract the potential influence of mono-method bias and order effects. The attachment measure utilized in this study required repeating the same nine items for the different relational contexts, which could have affected the participants’ attention and quality of responses given to these items. Moreover, this measure of attachment was limited in capturing only negative aspects of attachment relationships and not positive attachment orientations (i.e., secure attachment). No existing measure, to our knowledge, captures secure attachment while assessing attachment across relational contexts. Future research could identify new tools for assessing secure attachment in a multitude of relationship domains, given the importance of examining attachment orientations in different relational contexts, and examining positive indicators of mental health in addition to negative indicators.

Additionally, causality cannot be deduced from the cross-sectional design of the current study, and the mediation effects in the current study should be interpreted with caution. Maxwell and Cole (2007) elucidate the potential for biased estimates of longitudinal parameters in cross-sectional designs that utilize mediational analyses. Using correlational data, the current study provides a helpful foundation for identifying important areas for future research (e.g., attachment in relation to positive body image), but fails to identify causal sequences of the model’s variables. Future studies may wish to utilize a longitudinal design to capture the temporal dimension of the proposed model. For instance, a longitudinal design may be especially important in establishing the role of maternal anxiety attachment orientations in influencing peer and romantic attachment orientations. Such a study design could collect data over multiple time points, accounting for the initial levels of the model’s variables, to provide more information about the directionality of attachment styles, self-compassion, and body appreciation.

**Implications for Practice**

While the research on the relationship between attachment anxiety, self-compassion, and body appreciation is still relatively new, our findings, especially if replicated and extended in future studies, hold practical implications. First, our results suggest that attachment to friends and romantic partners is linked to college women’s ability to self-soothe and appreciate and accept their bodies. Therefore, it may be important to consider the quality of friendships and choice of romantic partners when promoting both relational and body satisfaction. Interventions that strengthen interpersonal skills, or provide psychoeducation on healthy relationships to lessen attachment anxiety, may help young women to make informed and sound choices in regard to their friends and romantic partners.

Second, given the strength of the relationship between self-compassion and body appreciation, and the malleability of self-compassion, practitioners may explore the possibility of implementing interventions aimed at increasing self-compassion and then examine whether these interventions also increase body appreciation. Previous research has explored the efficacy of different types of interventions for increasing self-compassion. For instance, a brief writing intervention, where participants respond to prompts for self-kindness, common humanity, and mindfulness, has been shown to increase levels of self-compassion, with those who wrote about self-compassion reporting lower negative affect than participants who wrote about self-esteem, emotional disclosure, or nothing at all (Leary et al., 2007). Neff and Germer (2013) reported that community participants in their 8-week mindfulness self-compassion workshop described increases in their levels of self-compassion and well-being that were maintained one year later. While additional research is still needed to support clinical implications, therapists may also wish to consider helping female clients compose self-talk that embodies self-compassion, including self-talk that acknowledges the capacities of their bodies and helps them respect and appreciate their bodies. Other forms of meditation based on self-compassion may also be helpful in nurturing body appreciation and helping young women become more aware of their body’s needs.

**Conclusion**

While attachment styles are relatively unchangeable (e.g., Bowlby, 1988; Kirkpatrick & Hazan, 1994), interventions have been efficacious at enhancing self-compassion (e.g., Baker & McNulty, 2011; Leary et al., 2007; Zabelina & Robinson, 2010), and self-compassion interventions have been found to foster body appreciation in women (Albertson et al., 2015). Our final model suggests that interpersonal and intrapersonal factors in conceptualizing body appreciation offered a good fit with incoming college women. In particular, self-compassion was identified as having a central role in explaining the relation between attachment anxiety in peer and romantic relationships and body appreciation, suggesting that it may be an especially important target variable for intervention.

**References**


