Attachment security moderating the effects of social media use on body dissatisfaction in adolescent girls

Jenna Walters

Follow this and additional works at: https://commons.emich.edu/honors

Part of the Psychology Commons
Attachment security moderating the effects of social media use on body dissatisfaction in adolescent girls

Abstract
Social relationships are important for the vast majority of people, especially adolescents. Social media has become increasingly common in people under the age of 30 and has been associated with body dissatisfaction and stress; furthermore, insecure attachment styles have also been associated with body dissatisfaction in adolescents. Using the survey results from 104 adolescent girls from a Midwestern metropolitan area, this study examined how attachment style potentially moderates the relationship between three social media variables (frequency of use, emotional investment in social media, and pressure felt from media) and body dissatisfaction in adolescent girls. Controlling for age and body mass index percentile, attachment anxiety ($b = .16$, SE $= .06$, $p = .01$) and media pressure ($b = .45$, SE $= .09$, $p < .001$) were found to be significant predictors of body dissatisfaction in a hierarchical regression model. Despite this, no significant moderation effects were found. This suggests that while attachment insecurity may potentially exacerbate effects of social media use, secure attachment may not be able to mitigate them. Similarly, time spent on social media alone may not engender body dissatisfaction in adolescent girls, but rather what messages they are exposed to during their usage may have a greater impact. These are both important for those working closely with adolescents to consider when trying to help prevent body dissatisfaction in this population.

Degree Type
Open Access Senior Honors Thesis

Department or School
Psychology

First Advisor
Chong Man Chow, Ph.D.

Second Advisor
Rusty McIntyre, Ph.D.

Third Advisor
Natalie Dove, Ph.D.

Keywords
adolescent girls, attachment style, media pressure, body dissatisfaction

Subject Categories
Psychology
ATTACHMENT SECURITY MODERATING THE EFFECTS OF SOCIAL MEDIA USE ON BODY DISSATISFACTION IN ADOLESCENT GIRLS

By

Jenna Walters

A Senior Project Submitted to the

Eastern Michigan University

Honors College

In Partial Fulfillment of the Requirements for Graduation

with Departmental Honors in Psychology

and with Highest Honors

Approved in Ypsilanti, MI on April 20th, 2023

Project Advisor: Chong Man Chow, Ph.D.
Departmental Honors Advisor: Rusty McIntyre, Ph.D.
Department Head: Natalie Dove, Ph.D.
Dean of The Honors College: Ann R. Eisenberg, Ph.D.
# Table of Contents

Social Media, Attachment, & Body Dissatisfaction  

Abstract 3  

Introduction & Literature Review 4  
  Social Media and Body Image 4  
  Attachment Security and Body Image 6  
  The Current Study 8  

Method 9  

Results 11  

Discussion 15  

Limitations and Future Research 17  

References 19  

Appendix A: IRB Initial Approval Letter 26  

Appendix B: IRB Renewal Approval Letter 27  

Appendix C: Study Promotion Flyer 28  

Appendix D: Eating Disorder Inventory - Body Dissatisfaction Scale 29  

Appendix E: Relationship Structures Questionnaire 30  

Appendix F: Social Media Use Integration Scale 31  

Appendix G: Social Media Use Questionnaire 32  

Appendix H: Sociocultural Attitudes Towards Appearance Questionnaire 33
Abstract

Social relationships are important for the vast majority of people, especially adolescents. Social media has become increasingly common in people under the age of 30 and has been associated with body dissatisfaction and stress; furthermore, insecure attachment styles have also been associated with body dissatisfaction in adolescents. Using the survey results from 104 adolescent girls from a Midwestern metropolitan area, this study examined how attachment style potentially moderates the relationship between three social media variables (frequency of use, emotional investment in social media, and pressure felt from media) and body dissatisfaction in adolescent girls. Controlling for age and body mass index percentile, attachment anxiety ($b = .16$, $SE = .06$, $p = .01$) and media pressure ($b = .45$, $SE = .09$, $p < .001$) were found to be significant predictors of body dissatisfaction in a hierarchical regression model. Despite this, no significant moderation effects were found. This suggests that while attachment insecurity may potentially exacerbate effects of social media use, secure attachment may not be able to mitigate them. Similarly, time spent on social media alone may not engender body dissatisfaction in adolescent girls, but rather what messages they are exposed to during their usage may have a greater impact. These are both important for those working closely with adolescents to consider when trying to help prevent body dissatisfaction in this population.

Keywords: adolescent girls, attachment style, media pressure, body dissatisfaction
Attachment Security Moderating the Effects of Social Media Use on Body Dissatisfaction in Adolescent Girls

Social Media has become increasingly more common in everyday life over the past decade with almost 70% of American adults having used a social media platform (Auxier & Anderson, 2021). This number increases to 84% when looking at people under the age of 30, according to the Pew Research Center (2021). Given that young people seem to be the most frequent users of social media, there are questions about what kind of impact social media may have on adolescents, especially in regards to how they view themselves. In adolescent girls, research suggests that increased time spent on social media platforms is associated with increased body dissatisfaction (Charmaraman et al., 2021; Saloman & Brown, 2019; Scully et al., 2020; Tiggemann et al., 2020) and stress in adolescents (Appel et al., 2020; Alsunni & Latif, 2021; Beyens et al., 2016). Furthermore, body dissatisfaction in adolescent girls is also related to their social relationships quality, especially in regards to loneliness (Brajdić Vuković et al., 2018; Cauberghe et al., 2020; Forste et al., 2019) and their attachment security (Lev-Ari et al., 2014; Szalai et al., 2017). Therefore, investigating how attachment style and social media use may interact could inform us more about the development of body image issues in adolescent girls.

Social Media and Body Image

As established previously, increased time spent on social media sites correlates with greater body dissatisfaction in girls (Charmaraman et al., 2021; Saloman & Brown, 2019; Scully et al., 2020). According to the results of a meta-analysis done by Appel and colleagues (2020), greater time spent on social media was also associated with greater loneliness and reported depression symptoms, as well as lower self-esteem and life satisfaction. This is unsurprising given that adolescents report using social media sites more frequently to combat loneliness,
though data suggests that it does not help (Cauberghe et al., 2020). Nonetheless, though social media may have multiple impacts on adolescent girls’ social and emotional well-being, body image seems to be the most greatly affected. Literature suggests that appearance-focused social media use—entailing activities such as posting or looking at photos of oneself or others—has a stronger relationship with body dissatisfaction in adolescent girls than general use (Cohen et al., 2017). Little is known, however, whether emotional investment in social media may also have an impact on adolescent girls’ body dissatisfaction.

*Emotional Investment in Social Media.*

Emotional investment in social media is how important adolescents perceive social media to be to connect with others (Jenkins-Guarnieri et al., 2013). It may also be an aspect of appearance-focused social media use that contributes to body dissatisfaction in adolescent girls. Taking time to consider different options and editing photos to post on social media, and wanting others to comment on said photos all are associated with greater body dissatisfaction in adolescents of any gender (Lonergan et al., 2019; McLean et al., 2015; Terán et al., 2020; Tiggemann et al., 2020). Lonergan and colleagues (2019) suggest that this may be due to adolescents’ concern over how others will view them and this sort of “appearance anxiety” was also associated with greater self-objectification in adolescent girls, as well as greater investment in receiving feedback (i.e., likes and comments) on their posts (Terán et al., 2020). Similar to how adolescents use social media more often to unsuccessfully cope with loneliness (Brajdić Vuković et al., 2018; Cauberghe et al., 2020; Forste et al., 2019), editing pictures of oneself to appear more attractive led directly to greater body and facial dissatisfaction (Tiggemann et al., 2020). In conclusion, emotional investment in social media may be a potent predictor of adolescent girls’ body image.
**Pressure from Social Media.**

Examining what sort of pressures adolescents feel from social media to engage in these behaviors may further explain their relationship to body dissatisfaction. The more time adolescent girls spend on social media, the more likely they are to internalize the thin ideal (Tiggemann & Slater, 2019). The thin ideal is often defined as the societal standard that being skinny is attractive. This ideal is often presented to us through movies, television, and social media, though how impactful the source is can vary (Ferguson et al., 2014). While there is some data to suggest that social media use doesn’t directly contribute to thin ideal internalization (Appel et al., 2020; Ferguson et al., 2014), literature indicates that girls who seek approval from others are more likely to internalize the thin ideal while also showing greater body dissatisfaction (Butkowski et al., 2019; Li & Mustillo, 2020) and body surveillance (Salomon & Brown, 2019). Other research indicates that adolescents often engage in appearance-focused social media use in order to gain approval from others, which also contributes to body image issues (Cohen et al., 2017; Lonergan et al., 2019; McLean et al., 2015; Terán et al., 2020; Tiggemann et al., 2020). Therefore, susceptibility to the thin ideal may help explain these detrimental appearance-focused behaviors. This means it is important to understand how real-life relationships—that adolescents are seeking approval from and are afraid to be rejected by—impact this dynamic.

**Attachment Security and Body Image**

Attachment theory was originally formulated to explain the “...lasting psychological connectedness between human beings” (Bowlby, 1969). In 1978, Ainsworth and colleagues constructed four categories of attachment styles that children exhibited: Secure, anxious, avoidant, and disorganized. Securely attached children received regular affection from their primary caregiver and directly sought comfort from the caregiver after being left alone with a
stranger. Conversely, those with anxious or avoidant styles were seen as insecurely attached. This is due to these children not seeking comfort from their caregiver when upset (avoidant attachment) or are excessively clingy or upset when a caregiver leaves (anxious attachment). Disorganized attachment developed from inconsistent parental affection, leaving the child unsure of how to interact with the parent. These early patterns of socialization can stay with people well into adulthood and influence their interactions in future social relationships in similar ways (Simson & Rholes, 2012).

**Interaction between Attachment and Social Media on Body Image**

Normally, attachment may not have a large impact on individuals and their relationships throughout daily life; however, our attachment and working models activate during stressful situations (Simpson & Rholes, 2012). Social media has been shown to stress adolescents, as teens that experience greater fear of missing out also feel more unpopular and use social media more intensely (Beyens et al., 2016). Greater social media use also leads to sleep latency (van der Shuur et al., 2019; Woods & Scott, 2016) as well as loneliness, depression, and lower self-esteem in adolescents (Appel et al., 2020; Alsunni & Latif, 2021). These all indicate some form of social, emotional, or physical stress that adolescents may experience in relation with social media use. Therefore, it is important to look at attachment models in regards to adolescent girl’s social media use and body dissatisfaction, especially since insecure attachment is associated with body dissatisfaction (Lev-Ari et al., 2014; Szalai et al., 2017).

It is unsurprising that the people in our lives have a significant impact on us. This fact is further illustrated by a study from Burnette and colleagues (2017) that suggests our real-life connections may have more impact on us than our online ones. Specifically, their study found that parental support and a positive school environment may help mitigate some effects social
media may have on body dissatisfaction in young girls. The results from a study by Goossens and colleagues (2019) also showed that the opposite is true; girls who have insecure attachments to their mothers are more likely to develop eating pathology. These findings are in alignment with the attachment diathesis-stress process model, which purports that stressors trigger our attachment model (diathesis) and that influences if and how we seek out emotional support from close others (Simpson & Rholes, 2012). Familial relationships are still significant sources of emotional support for many adolescents, meaning these relationships can either promote or prevent negative consequences of social media use according to this model. Given what has been established about fear of rejection and susceptibility to thin idealization and body dissatisfaction in adolescent girls (Butkowski et al., 2019; Salomon & Brown, 2019), it is important to see how attachment style mirrors this relationship. Adolescents with insecure—especially anxious—attachment styles are more likely to use social media platforms in intensive and dysfunctional ways (D’Arienzo et al., 2019; Worsely et al., 2018). Anxious attachment can culminate in a fear of rejection (Goossens et al., 2019), indicating that attachment style plays some role in the relationship between social media use and body dissatisfaction.

**The Current Study**

Previous studies have established that both attachment security and social media influence adolescent girls’ body image development. However, these factors have not been looked at together to determine how they interact to impact adolescent body image outcomes. Therefore, the current study investigated how attachment style moderates the relationship between social media use and body dissatisfaction in adolescent girls. Given that insecure attachment (Lev-Ari et al., 2014; Szalai et al., 2017) and greater social media use are associated with lower body image (Charmaraman et al., 2021; Saloman & Brown, 2019; Scully et al., 2020;
Tiggemann & Slater, 2019), insecurely attached adolescents who use more social media the most frequently would be expected to experience the poorest body image. Conversely, adolescents who are securely attached and infrequently use social media would have lower body dissatisfaction.

**Method**

**Participants**

Data for this study was collected from 104 mother-daughter dyads from a Midwestern metropolitan area. On average, the daughters were 15.75-years-old with a range of 11 to 21-years-old \( (SD = 2.51) \). Most of the daughters were in the 6th grade (17.31%) or the 9th grade (15.38%), with 10.58% in the 7th, 14.42% in the 8th, 27.89% were between the grades of 10th and 12th, and 14.43% were in college. The majority of the daughters self-reported their ethnicity as Caucasian (61.9%), followed by African American (16.2%), Other (13.3%), Hispanic/Latino (6.7%), and American or Alaskan Native (1.9%), with none of them reporting being Middle Eastern or Arab American (0%). Furthermore, 72% of the mothers reported that they had an annual income of $49,000 or more. Daughters provided their height and weight for their BMIs and BMI percentiles to be calculated \( (\overline{BMI} = 22.0, SD = 4.75, \overline{BMIP} = 56.9, SD = 29.3) \). The majority of daughters also reported not being in a romantic relationship (87.6%).

**Procedures**

One hundred and four mother-daughter pairs were recruited to participate in this study through flyers posted online (e.g., Craigslist and Facebook) and in the community (e.g., inside of schools and on college campuses). Before participating, the mothers and daughters both individually had to sign a written informed consent form. Once the consent forms were both
received, the mother and daughter were asked to complete a computer-administered survey on their own. As compensation, the mother and daughter were each given a $20 gift card.

**Measures**

*Attachment*

Daughters were asked to report how close they felt in relationships through a series of questions from the Relationship Structures Questionnaire (Fraley et al., 2011). Questions included “I find it easy to depend on others” and “I’m afraid others may abandon me.” The 9 items used from this questionnaire were rated on a 7-point scale with 1 being “strongly disagree” and 7 being “strongly agree.” For this study, both the 6 items on attachment avoidance and 3 items on attachment anxiety subscales were deemed reliable with alpha coefficients of .87 and .93 respectively.

*Social Media Use Frequency*

The Social Media Use Questionnaire was used to measure the frequency of adolescent daughter’s social media use (Meier & Gray, 2014). Questions included “Do you have any active social media accounts” and “In a typical week, how often do you use social media?” For the latter question, daughters were asked to provide an estimate of how many hours they use social media per day with options ranging from “Never/almost never” to “More than 3 hours per day.”

*Importance of Social Media*

In order to measure how emotionally important social media was to daughters, they were asked to answer 10 questions from the Social Media Use Integration Scale (Jenkins-Guarnieri et al., 2013). These questions (e.g., “I enjoy checking my social media accounts”) were rated on a 6-point scale with 1 being “strongly disagree” and 6 being “strongly agree” (α = .86).
Pressure from Internet Use

Pressure that adolescent girls felt about their appearance from social media was also measured using the Pressure subscale from the Sociocultural Attitudes Towards Appearance Questionnaire (Thompson et al., 2004). This was modified to exclude magazines and include internet use. Sample questions included “I’ve felt pressure from TV or the internet to change my appearance” and “I’ve felt pressure from TV or the internet to be aware of what I’m eating.” Responses were rated on a 5-point scale with 1 signifying “Definitely disagree” and 5 signifying “Definitely agree” (α = .95).

Body Dissatisfaction

Body dissatisfaction was measured using the body dissatisfaction subscale of the Eating Disorder Inventory (EDI-BDS) (Garner et al., 1983). Sample questions included “I think my thighs are too large” and “I am satisfied with the shape of my body.” Adolescent girls rated items on a 6 point scale where 1 was “never” and 6 was “always” (α = .90).

Results

On average, the daughters in this study were in the 56.9 percentile for BMI (SD = 29.3). They used social media for an average of 3.85 hours per day (SD = 1.13) and reported social media as being mildly important (M = 3.67, SD = 1.09) with some pressure from it (M = 2.79, SD = 1.28). On the 6-point EDI-BDS, the adolescents reported a mean score of 2.86 (SD = 1.14). Scores for anxious attachment and avoidant attachment respectively averaged 3.47 (SD = 1.98) and 4.39 (SD = 1.39). There was a strong, statistically significant relationship between the frequency of social media use and adolescent girls’ emotional investment in social media, r (79) = .66, p < .001. Body dissatisfaction was significantly related to an anxious attachment style, r
(102) = .36, *p < .001. As well, body dissatisfaction was significantly associated with pressure from social media, *r (102) = .60, *p < .001. All correlations were reported in Table 1.

### Table 1

*Correlations between Insecure Attachment, Social Media variables, and Body Dissatisfaction.*

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Anxious Attachment</td>
<td>3.47</td>
<td>1.98</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Avoidant Attachment</td>
<td>4.39</td>
<td>1.39</td>
<td>-.31*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Frequency of Use</td>
<td>3.85</td>
<td>1.13</td>
<td>.11</td>
<td>-.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Importance of Social Media</td>
<td>3.67</td>
<td>1.09</td>
<td>.12</td>
<td>.05</td>
<td>.66**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Media Pressure</td>
<td>2.79</td>
<td>1.28</td>
<td>.24*</td>
<td>.05</td>
<td>.06</td>
<td>.21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Body Dissatisfaction</td>
<td>2.86</td>
<td>1.14</td>
<td>.36**</td>
<td>-.00</td>
<td>-.09</td>
<td>-.03</td>
<td>.60**</td>
<td></td>
</tr>
</tbody>
</table>

*p < .05  **p < .01

To examine the hypothesis, a hierarchical multiple linear regression was conducted in JASP in order to determine the strength of the moderating effect of attachment on the relationship between the media use variables and body dissatisfaction. The results from this analysis can be found in Table 2. The first step of the regression revealed that the covariates age and BMI percentile of the daughters significantly accounted for 20% of the variance seen in body dissatisfaction scores, *Multiple R² = .20, F (2, 95) = 10.40, p < .001*. Specifically, the age of the adolescents was significantly associated with body dissatisfaction, *b = .05, SE = .05, p < .001.*
In combination to the covariates, addition of the media use and attachment variables in Step 2 revealed a significant regression model where all the predictors accounted for an additional 53% of the variance seen in body dissatisfaction scores, \( \text{Multiple } R^2 = .53 \), \( F(7, 69) = 8.14, p < .001 \). The model change from Step 1 to Step 2 was also significant, \( \Delta R^2 = .33 \), \( \Delta F(5, 69) = 9.54, p < .001 \). Inspection of the beta weights showed that pressure from social media was significantly predictive of body dissatisfaction in adolescent girls, \( b = .45, SE = .09, p < .001 \). Similarly, an anxious attachment style was also found to be associated with body dissatisfaction, \( b = .16, SE = .06, p = .01 \). All of the inspected beta weight results were consistent with the corresponding correlations presented in Table 1.

In Steps 3.1, 3.2, and 3.3, the interaction terms between the attachment and the media use variables were entered. Inconsistent with the hypothesis, none of the models examining the interaction effects in Steps 3.1 (\( \text{Multiple } R^2 = .53, p = .97, F(9,67) = 8.31, p < .001 \)), 3.2 (\( \text{Multiple } R^2 = .55, p = .19, F(9, 67) = 9.10, p < .001 \)), and 3.3 (\( \text{Multiple } R^2 = .53, p = .82, F(9, 67) = 8.39, p < .001 \)) were significant. Furthermore, the inclusion of these interaction effects did not change the model fit for Steps 3.1 (\( \Delta R^2 = .00, \Delta F(2, 67) = .04, p = .97 \)), 3.2 (\( \Delta R^2 = .02, \Delta F(2, 67) = 1.72, p = .19 \)), and 3.3 (\( \Delta R^2 = .00, \Delta F(2, 67) = .20, p = .82 \)). Naturally, inspection of beta weights did not reveal any significant interaction effects between attachment and media use variables on body dissatisfaction.
Table 2

*Predicting Adolescent Body Dissatisfaction from Social Media and Attachment Variables.*

<table>
<thead>
<tr>
<th></th>
<th>b</th>
<th>SE</th>
<th>β</th>
<th>p</th>
<th>R²</th>
<th>ΔR²</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STEP 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>1.17</td>
<td>.77</td>
<td>—</td>
<td>.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.05</td>
<td>.05</td>
<td>.10</td>
<td>&lt;.001</td>
<td>.20</td>
<td></td>
</tr>
<tr>
<td>BMI Percentile</td>
<td>1.67</td>
<td>.37</td>
<td>.43</td>
<td>.28</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>STEP 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>1.69</td>
<td>.81</td>
<td>—</td>
<td>.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>-.05</td>
<td>.05</td>
<td>-.10</td>
<td>.31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BMI Percentile</td>
<td>1.18</td>
<td>.36</td>
<td>.30</td>
<td>.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Use</td>
<td>-.10</td>
<td>.13</td>
<td>-.09</td>
<td>.44</td>
<td>.53</td>
<td>.33*</td>
</tr>
<tr>
<td>Emotional Investment</td>
<td>-.08</td>
<td>.13</td>
<td>-.07</td>
<td>.54</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Media Pressure</td>
<td>.45</td>
<td>.09</td>
<td>.48</td>
<td>&lt;.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxious Attachment</td>
<td>.16</td>
<td>.06</td>
<td>.26</td>
<td>.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avoidant Attachment</td>
<td>.04</td>
<td>.07</td>
<td>.04</td>
<td>.63</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>STEP 3.1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>2.08</td>
<td>1.74</td>
<td>—</td>
<td>.24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>-.053</td>
<td>.05</td>
<td>-.10</td>
<td>.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BMI Percentile</td>
<td>1.20</td>
<td>.38</td>
<td>.30</td>
<td>.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Use</td>
<td>-.19</td>
<td>.42</td>
<td>-.19</td>
<td>.64</td>
<td>.53</td>
<td>.00</td>
</tr>
<tr>
<td>Anxious Attachment</td>
<td>.11</td>
<td>.21</td>
<td>.18</td>
<td>.60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avoidant Attachment</td>
<td>-.01</td>
<td>.27</td>
<td>-.01</td>
<td>.97</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency * Anxious</td>
<td>.01</td>
<td>.05</td>
<td>.11</td>
<td>.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency * Avoidant</td>
<td>.01</td>
<td>.07</td>
<td>.07</td>
<td>.86</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>STEP 3.2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>1.45</td>
<td>1.53</td>
<td>—</td>
<td>.34</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>-.05</td>
<td>.05</td>
<td>-.1</td>
<td>.28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BMI Percentile</td>
<td>1.15</td>
<td>.36</td>
<td>.29</td>
<td>.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional Investment</td>
<td>-.01</td>
<td>.40</td>
<td>-.01</td>
<td>.98</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxious Attachment</td>
<td>.41</td>
<td>.18</td>
<td>.67</td>
<td>.03</td>
<td>.55</td>
<td>.02</td>
</tr>
<tr>
<td>Avoidant Attachment</td>
<td>-.14</td>
<td>.24</td>
<td>-.17</td>
<td>.55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investment * Anxious</td>
<td>-.07</td>
<td>.05</td>
<td>-.52</td>
<td>.17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investment * Avoidant</td>
<td>.05</td>
<td>.06</td>
<td>.28</td>
<td>.46</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>STEP 3.3</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>2.31</td>
<td>1.32</td>
<td>—</td>
<td>.09</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>-.06</td>
<td>.05</td>
<td>-.12</td>
<td>.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BMI Percentile</td>
<td>1.09</td>
<td>.40</td>
<td>.27</td>
<td>.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Media Pressure</td>
<td>.26</td>
<td>.35</td>
<td>.27</td>
<td>.46</td>
<td>.53</td>
<td>.00</td>
</tr>
<tr>
<td>Anxious Attachment</td>
<td>.09</td>
<td>.14</td>
<td>.14</td>
<td>.52</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avoidant Attachment</td>
<td>-.02</td>
<td>.17</td>
<td>-.02</td>
<td>.93</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pressure * Anxious</td>
<td>.03</td>
<td>.05</td>
<td>.21</td>
<td>.55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pressure * Avoidant</td>
<td>.02</td>
<td>.06</td>
<td>.13</td>
<td>.70</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p < .001
Discussion

The current study aimed to investigate the interaction between attachment style and social media use on body dissatisfaction as previous literature had only investigated the two separately. Previous research had found that greater body dissatisfaction in adolescent girls is associated with increased time spent on social media (Charmaraman et al., 2021; Saloman & Brown, 2019; Scully et al., 2020), appearance-based social media use (Cohen et al., 2017; Lonergan et al., 2019; McLean et al., 2015; Terán et al., 2020; Tiggemann et al., 2020), and insecure attachment (Butkowski et al., 2019; Salomon & Brown, 2019). Insecurely attached adolescents also are more likely to use social media in dysfunctional ways (D’Arienzo et al., 2019; Worsely et al., 2018), possibly due to a fear of rejection (Goosens et al., 2019). For these reasons, it was hypothesized that insecure attachment, pairing with unhealthy social media use, would predict higher body dissatisfaction in adolescent girls.

Our results suggest that body dissatisfaction in adolescent girls is mostly prominently predicted by pressure felt from social media use. This is consistent with existing research. Pressure from social media can be interpreted as thin idealization, which has been associated with greater body dissatisfaction (Butkowski et al., 2019; Li & Mustillo, 2020), body surveillance (Salomon & Brown, 2019), and eating pathology (Goossens et al., 2019) in adolescent girls. Thin ideal internalization may culminate in greater appearance-driven social media use, which is also associated with greater body dissatisfaction in adolescent girls (Cohen et al., 2017; Lonergan et al., 2019; McLean et al., 2015; Terán et al., 2020; Tiggemann et al., 2020). Our results support these previous findings.

Anxious attachment was also a significant predictor of body dissatisfaction in our model, which is consistent with existing literature. Previous research has also found an association
between insecure attachment and body dissatisfaction (Lev-Ari et al., 2014; Szalai et al., 2017). Specifically, attachment anxiety has been suggested to culminate in a possible fear of rejection, which may manifest as greater adherence to social beauty standards, such as the thin ideal (Goossens et al., 2019). As established, thin idealization has been associated with greater body dissatisfaction (Butkowski et al., 2019; Li & Mustillo, 2020). Given that anxious attachment is associated with more intensive and dysfunctional social media use (D’Arienzo et al., 2019; Worsely et al., 2018), this could also theoretically explain adolescent girls’ desire to engage in appearance-driven social media use as they would gain approval from peers.

While the results found no significant interaction, this still provides researchers with further information on how both attachment style and social media relate to body dissatisfaction in adolescent girls, given the lack of preexisting research examining the interaction between the two. Although it was predicted that insecure attachment, pairing with unhealthy social media use, would predict higher body dissatisfaction in adolescent girls, this hypothesis was not supported. Indeed, it is very possible that the linkages between attachment styles and body dissatisfaction in adolescent girls could be mediated through their unhealthy social media use. Furthermore, some important covariates were not included in this study, such as maternal modeling. Literature shows that maternal modeling is associated with eating pathology symptoms in young girls (Hanford et al., 2018; Linville et al., 2011; McLaughlin et al., 2015; Yanez et al., 2007), suggesting that the same may be true for body dissatisfaction. Daughters who are more securely attached to their mother may be more susceptible to body dissatisfaction modeled by their mothers, complicating the relationship investigated in the study. Given that our study did not investigate this potential relationship, it is important for future research to take it into consideration.
Overall, it is important for parents and professionals working with young people to understand the impact that social media can have on an adolescent's body image. Given the results of this study and previous research, parents and guardians should pay attention to what their adolescents are being exposed to on social media to try to help teens navigate the space to avoid thin idealization messages. This may prevent or mitigate any impacts on body image that an adolescent may develop from social media use. Similarly, clinicians should take into account the felt pressure that adolescents have from media use, in addition to their frequency of use. This is important to take into consideration when making professional recommendations to clients in terms of social media use, given the growing social norm of using social media sites and the aforementioned impacts of them. Further research should be conducted in order to better understand this relationship and identify other possible mitigating factors to the association between social media and body image.

**Limitations and Future Research**

The results of this study were influenced by the fact that there was a small sample size. Data were collected from only 104 adolescent girls and not all of whom used social media. Similarly, roughly 62% of the sample identified as Caucasian. These both indicate that a larger sample size is needed for future research in order to represent greater diversity in both ethnicity and social media use tendency to make the results possibly more generalizable. Furthermore, the results of this study were also limited by the data being collected through a self-reported survey. Given the perceived sensitivity of the information being collected, some participants could have possibly misrepresented their answers. This may have biased the results in unforeseen ways and possibly contributed to the lack of significant moderation effects in this study. Potentially, more regular and periodic reminders of the confidentiality and anonymity of the survey should be
included in order to encourage participants to give more accurate information. Future research should keep these factors in mind when conducting similar studies.

Further research may also want to consider adolescent girls’ self-esteem in the model (Griffiths & McCabe, 2000; Mäkinen et al., 2012; Scully et al., 2020; Steinsbekk et al., 2021; Timeo et al., 2020). Daughters with poorer self-esteem may be more susceptible to media pressure than those with higher self-esteem, despite being securely attached. These variables could be possible moderators or mediators in the relationship; therefore, future research should investigate them as such or potentially control for them in order to get a broader understanding of the nature of the investigated relationship.

In summary, identifying variables that play a more direct and significant role in predicting body dissatisfaction in adolescents is important. It gives researchers and clinicians who work with adolescents directions on how to best support them as they navigate the ever-changing and increasingly popular space that is social media.
References


https://doi.org/10.1016/j.chb.2020.106528

http://dx.doi.org/10.1007/s10826-016-0626-z

http://dx.doi.org/10.1080/17482798.2019.1697319

https://doi.org/10.1002/eat.10257

http://dx.doi.org/10.1016/j.bodyim.2020.03.002

https://doi.org/10.1002/eat.22141


Appendix A: IRB Initial Approval Letter

Sep 6, 2018 9:48 AM EDT

Chong Man Chow
Psychology

Re: Expedited Review - Initial - UHSRC-FY18-19-10 Attachment Security and Weight Status in Adolescence: Disinhibited Eating Behaviors as Mediators

Dear Dr. Chong Man Chow:

The Eastern Michigan University Human Subjects Review Committee has rendered the decision below for Attachment Security and Weight Status in Adolescence: Disinhibited Eating Behaviors as Mediators. You are approved to conduct your research.

Decision: Approved

Selected Category:

Findings: You must use stamped copies of your recruitment and consent forms.

To access your stamped documents, follow these steps: 1. Open up the Dashboard; 2. Scroll down to the Approved Studies box; 3. Click on your study ID link; 4. Click on "Attachments" in the bottom box next to "Key Contacts"; 5. Click on the three dots next to the attachment filename; 6. Select Download.

Renewals: This approval is valid for one year and expires on September 5, 2019. If you plan to continue your study beyond September 5, 2019, you must submit a continuing review application in Cayuse IRB at least 14 days prior to September 5, 2019 so that your approval does not lapse.

Modifications: All changes to this study must be approved prior to implementation. If you plan to make any changes, submit a modification request application in Cayuse IRB for review and approval. You may not implement your changes until you receive a modification approval letter.

Problems: All deviations from the approved protocol, unanticipated problems, adverse events, subject complaints, or other problems that may affect risk to human subjects or alter their willingness to participate must be reported to the UHSRC. Complete the incident report application in Cayuse IRB.

Please contact human.subjects@emich.edu with any questions or concerns.

Sincerely,

Eastern Michigan University Human Subjects Review Committee
Appendix B: IRB Renewal Approval Letter

Aug 6, 2019 7:16 AM EDT

Chong Man Chow
Psychology

Re: Renewal - UHSRC-FY18-19-10 Attachment Security and Weight Status in Adolescence: Disinhibited Eating Behaviors as Mediators

Dear Dr. Chong Man Chow:

The Eastern Michigan University Human Subjects Review Committee has renewed your approval for Attachment Security and Weight Status in Adolescence: Disinhibited Eating Behaviors as Mediators. The approval is effective from September 6, 2019 through September 4, 2020. You may continue your research.

Findings: You must use stamped copies of your consent and recruitment documents.

To access your stamped documents, follow these steps: 1. Open up the Dashboard; 2. Scroll down to the Approved Studies box; 3. Click on your study ID link; 4. Click on "Attachments" in the bottom box next to "Key Contacts"; 5. Click on the three dots next to the attachment filename; 6. Select Download.

Renewals: This approval is valid for one year and expires on September 4, 2020. If you plan to continue your study beyond September 4, 2020, you must submit a continuing review application in Cayuse IRB at least 30 days prior to September 4, 2020 so that your approval does not lapse.

Modifications: All changes to this study must be approved prior to implementation. If you plan to make any changes, submit a modification request application in Cayuse IRB for review and approval. You may not implement your changes until you receive a modification approval letter.

Problems: All deviations from the approved protocol, unanticipated problems, adverse events, subject complaints, or other problems that may affect risk to human subjects or alter their willingness to participate must be reported to the UHSRC. Complete the incident report application in Cayuse IRB.

Please contact human.subjects@emich.edu with any questions or concerns.

Sincerely,

Eastern Michigan University Human Subjects Review Committee
Description of Project: We are currently conducting an online study for teen girls and their mothers about how relationships, health, and weight are related. We would like to invite mothers and daughters to complete our study. Participation includes surveys completed online from home.

To be eligible:

- You must be the mother of an adolescent daughter 11–21 years old.
- Your daughter must be willing to participate.
- You usually converse with your daughter in English.
- Reside within the United States.

Participants will receive $20 each ($40 per family) for participation.

To receive a link to participate or for more information about the study's purposes and procedures, please call (734) 999-0179 or email us at var_lab@emich.edu.

Approved by the Eastern Michigan University Human Subjects Review Committee
UHSRC Protocol Number: UHSRC-FY18-19-10
Study Approval Dates: 09/06/19 – 09/04/20
Appendix D: Eating Disorder Inventory - Body Dissatisfaction Scale

Body Dissatisfaction Scale (Garner et al., 1983)

Directions: Read each statement and indicate which applies best for you
"always," "usually," "often," "sometimes," "rarely," or "never"

<table>
<thead>
<tr>
<th></th>
<th>6</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
</table>

1. I think that my stomach is too big.
2. I think that my thighs are too large.
3. I think that my stomach is just the right size.
4. I feel satisfied with the shape of my body
5. I like the shape of my buttocks
6. I think my hips are too big
7. I think that my thighs are just the right size.
8. I think that my buttocks are too large.
9. I think that my hips are just the right size.
Appendix E: Relationship Structures Questionnaire

Relationship Structures Questionnaire (Fraley et al., 2011)
The following statements concern how you feel in close relationships (e.g., friends, romantic parents, parents). We are interested in how you generally experience relationships, not just in what is happening in one specific relationship. Respond to each statement by indicating how much you agree or disagree with it. Write the number in the space provided, using the following rating scale:

1 _strongly disagree; 7 _strongly agree

1. I usually discuss my problems and concerns with others.
2. I talk things over with others.
3. It helps to turn to others in times of need.
4. I find it easy to depend on others.
5. I prefer not to show others how I feel deep down.
6. I don’t feel comfortable opening up to others.
7. I’m afraid others may abandon me.
8. I worry that others won’t care about me as much as I care about them.
9. I often worry that others don’t really care for me.
10. I don’t fully trust others.
Appendix F: Social Media Use Integration Questionnaire

Social Media Use Integration Scale (Jenkins-Guarnieri, Wright, & Johnson, 2013)

*Survey should not be administered if participant answered “No” to Question 1 on the Social Media Use Questionnaire

Directions: Please indicate how much you agree or disagree with the following statements.

1 Strongly disagree 2 3 4 5 6 Strongly agree

1. I feel disconnected from friends when I have not checked my social media accounts
2. I would like it if everyone used social media to communicate
3. I would be disappointed if I could not use social media at all
4. I get upset when I can’t check my social media accounts
5. I prefer to communicate with others mainly through social media
6. Social media plays an important role in my social relationships
7. I enjoy checking my social media accounts
8. I don’t like to use social media
9. Using social media is part of my everyday routine
10. I respond to content that others share on their social media accounts
Appendix G: Social Media Use Questionnaire

Social Media Use Questionnaire (created by the Youth and Relationships Lab for this study)

1. Do you have any active social media accounts?
   a. Yes
   b. No

If you answered “No” to Question 1, please skip the following questions.

2. What social media accounts do you have?
   a. Instagram
   b. Facebook
   c. Snapchat
   d. Twitter
   e. Other, specify:

3. In a typical week, how frequently do you use social media? While daily time spent may vary, please estimate daily use as an average across the week.
   a. Never/almost never
   b. Less than 1 hour per week
   c. 1–2 hours per day
   d. 2-3 hours per day
   e. More than 3 hours per day
Appendix H: Sociocultural Attitudes Towards Appearance Questionnaire

Sociocultural Attitudes Towards Appearance Questionnaire (SATAQ-3) (Thompson, van den Berg, Roehrig, Guarda, & Heinberg, 2004)
Pressure scales only (modified)

1(definitely disagree) - 5(definitely agree)

2. I’ve felt pressure from TV or magazines the internet to lose weight.
6. I’ve felt pressure from TV or magazines the internet to look pretty.
10. I’ve felt pressure from TV and magazines the internet to be thin.
13. I’ve felt pressure from TV or magazines the internet to have a perfect body.
17. I’ve felt pressure from TV or magazines the internet to diet.
18. I've felt pressure from TV or the internet to be aware of what I'm eating.
21. I’ve felt pressure from TV or magazines the internet to exercise.
25. I’ve felt pressure from TV or magazines the internet to change my appearance.