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The Effects of Pinterest Images and Thin Ideal Internalization on Body Dissatisfaction
PINTEREST, INTERNALIZATION, BODY DISSATISFACTION

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Abstract

Increased body dissatisfaction has been shown to be predicted by exposure to thin ideal images in the media and by internalization of the thin ideal. Recently, studies have indicated that exposure to thin ideal images on social media sites on the Internet is related to body dissatisfaction. Given that such research utilizing social media is very limited, the current study examined the effects of exposure to Pinterest social media images and internalization of the thin ideal on body dissatisfaction in college women. The college female participants (N = 178) completed a measure to determine level of internalization (low or high) and then were exposed to either thin ideal, body positive, or neutral images presented through Pinterest. Following the intervention, a measure of body dissatisfaction was completed. An ANOVA indicated a main effect for internalization on body dissatisfaction. There was no main effect for the media condition and no interaction effect. Additional post-hoc analyses, limitations, and implications are provided.
**The Effects of Pinterest Images and Thin Ideal Internalization on Body Dissatisfaction**

Body dissatisfaction is defined as the negative feelings a person has towards his or her body when there is a discrepancy between perceived and ideal body shape (Stice & Shaw, 2002). The greater the discrepancy is, the greater the level of body dissatisfaction. The prevalence of body dissatisfaction in the United States has remained high for over 25 years, and it is now considered normal for girls and women to be dissatisfied with their bodies and have weight concerns (Cash & Pruzinsky, 2002; Grabe, Ward, & Hyde, 2008; Rodin, Silberstein, & Striegel-Moore, 1985; Thompson, 1990). Research has revealed that body dissatisfaction is one of the most robust risk factors for the development of an eating disorder (Stice, 2001; Stice & Shaw, 2002).

**The Sociocultural Theory**

The sociocultural theory of body dissatisfaction proposes three main variables that influence the development of body image disturbance and eating disturbances—peers, parents, and the media (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). Results from a meta-analysis revealed the powerful role the media plays in transmitting cultural messages about appearance, and influencing individuals’ attitudes about their bodies (Groesz, Levine, & Murnen, 2002). In addition, close relationships are suggested to impact an individual’s body attitudes and behaviors. Studies indicate that women’s social networks and peer interactions (e.g., body-related comments and eating behaviors) reinforce the societal ideal and play a significant role in the development of body dissatisfaction (Allison & Park, 2004; Dohnt & Tiggemann, 2006; Paquette & Raine, 2004). The theory also proposes that the relationship between sociocultural influences
and body image disturbance is influenced by internalization of the thin ideal and increased social comparison (Thompson et al., 1999).

**Internalization of the Thin Ideal**

The thin ideal is the standard of beauty in Western cultures. Internalization of the thin ideal is defined as “the extent to which an individual cognitively buys into societal norms of size and appearance, to the point of modifying one’s behavior in an attempt to approximate these standards” (Thompson & Stice, 2001, p.181). Images of thin women with an average size of 0-2 populate the media, despite the fact that the average woman in the United States is a size 12-14 (Fryar, Gu, & Ogden, 2012; Thompson et al., 1999). Results from a meta-analysis indicate that internalization is a prominent factor that contributes to body image disturbance (Cafri, Yamamiya, Brannick, & Thompson, 2005) and has been found to be a moderator of the impact of media exposure on body image (Blowers, Loxton, Grady-Flesser, Occhipinti, & Dawe, 2003; Dittmar & Howard, 2004; Halliwell & Dittmar, 2004; Levine & Harrison, 2004; Stice & Hoffman, 2004). These studies suggest that mere exposure to thin images does not necessarily predict body dissatisfaction; rather, it is the extent to which an individual has internalized the societal ideals that plays an important role in the development of body image disturbance.

Several studies define internalization of the thin ideal as a dichotomous variable, in which people are classified as either high or low in internalization (Halliwell & Dittmar, 2004; Yamamiya, Cash, Melnyk, Posavac, & Posavac, 2005). Studies suggest that women high in internalization are negatively affected by exposure to thin ideal images, while women low in internalization do not experience significant changes in body image disturbance (Dittmar & Howard, 2004; Halliwell & Dittmar, 2004;
Yamamiya et al., 2005). Interestingly, Diedrichs, Lee, and Kelly (2011) found that when exposed to images of average-size models, women with higher levels of internalization experienced significantly more positive body image compared to women low on internalization. These findings suggest that high internalizing women may be more susceptible to media images and could actually benefit from exposure to more body positive and average-sized images.

**College Students and Body Dissatisfaction**

College students constitute a group that is at risk for developing body dissatisfaction and eating disordered behaviors (Cash & Pruzinsky, 2002; Cook-Cottone & Phelps, 2003; Klemchuk, Hutchinson, & Frank, 1990; Neighbors & Sobal, 2007; Streigel-Moore & Franko, 2002). Within this population, the prevalence of body dissatisfaction and weight concern is high, with 80-90% of college students reporting that they worry about their body size (Delene & Brogowicz, 1990; Neighbors & Sobal, 2007). Studies have demonstrated that during the first year of college, students’ caloric intake increases and physical activity decreases, which can result in weight gain and increases in body dissatisfaction and disordered eating behaviors (Anderson, Shapiro, & Lundgren, 2003; Butler, Black, Blue, & Gretebeck, 2004; Delinsky & Wilson, 2006; Juarascio, et al., 2011, Vohs, Heatherton, & Herrin, 2001). As college students transition into the social environment of a college campus and move towards greater independence, they are more vulnerable to social pressure associated with physical appearance (Crocker & Wolfe, 2001). Van den Berg, Thompson, Obremski-Brandon, and Coovert (2002) found that among college women, disordered eating symptoms and body dissatisfaction
were positively correlated with perceived pressure to be thin, and appearance criticism from parents, peers, and the media.

**Media**

Some studies suggest that the mass media is the most pervasive and powerful influence on the development of body dissatisfaction (Levine & Harrison, 2004; Stice, 1994; Stice, 2001; Tiggemann, 2003). In the United States, people are exposed to thin models and celebrities and are flooded with media messages to achieve a slim figure that reinforce thin as the ideal body (Forbes et al., 2005; Thompson et al., 1999).

In one of the most comprehensive studies to date, Grabe et al. (2008) conducted a meta-analysis examining 77 studies, both experimental and correlational, which tested the relationship between media exposure, women’s body dissatisfaction, eating behaviors, and internalization of the thin ideal across both adolescent and adult samples. They found that media exposure resulted in increased body dissatisfaction. Additionally, they found that exposure to thin ideal media images was related to greater internalization of the thin ideal. Studying a similar construct, Want (2009) examined 47 experimental studies and found that media exposure resulted in decreased appearance satisfaction for women.

**Internet and social media networks.** Newer forms of media, such as the Internet, have become mainstream in the recent decade and provide unprecedented access to media information. Thin ideal images and messages exist on the Internet, as they do in magazines and television, indicating that ‘thin is good and attractive’ and ‘fat it aberrant and repulsive’” (Brown & Bobkowski, 2011, p.103; Levine & Harrison, 2009). Bair, Kelly, Serdar, and Mazzeo (2012) found that college-aged women use the Internet more than any other media source (e.g., magazines and television), and that exposure to thin
ideal images on the Internet was associated with eating pathology and body dissatisfaction. Tiggemann and Miller (2010) compared the effects of exposure to traditional media forms and exposure to Internet media on body dissatisfaction. They found that Internet appearance exposure had the greatest impact on weight satisfaction and drive for thinness, suggesting that the Internet could potentially be more dangerous than other forms of media.

Social media networks are a form of online media that utilize community based input, social interaction, and content sharing (Mayfield, 2008). Social networks have become very popular for Internet users, with 82% of Internet users worldwide utilizing social networks (Ottoni et al., 2013). Using these sites, people are able to connect with others at virtually any time of the day. Researchers have found that online social networks are used by women to not only search for information, but also to compare themselves with others (Haferkamp, Eimler, Papadakis, & Kruch, 2012).

**Pinterest.** Pinterest is a social network site that allows a person to connect with others and view images posted by friends, same-aged peers, and people across the world. Pinterest is the third most popular social network website in the United States and has attracted 15% of Internet users to the site (Wasserman, 2013). The primary demographics of Pinterest users are young, well-educated women (Ottoni et al., 2013). Pinterest is a personalized media platform that allows users to view images posted by others on the network to create their own pin-boards. Pinterest’s appeal comes from the visual communication of interests and inspirations, and the messages these images convey.

Recent trends indicate that many people are using the Pinterest “vision boards” emphasizing fitness, healthy food, fashion, and thinspiration to inspire them to maintain a
healthy lifestyle (Ottoni et al., 2013). While these types of images could be motivating for those interested in health, they could also provide a means of social comparison and perpetuation of the thin ideal. Further, an individual’s personal friends and in-group peers, whom they elect to “follow”, generate most of the content on the primary page. Thus, a person’s peers could also be sending messages that reinforce the thin ideal. By viewing the pins and internalizing the communications, viewers could become dissatisfied with their own bodies if they do not meet this ideal (Andrist, 2003).

According to the sociocultural model (Thompson et al., 1999), the media and one’s peers play an important role in influencing body dissatisfaction; thus, the social component of Pinterest makes it an important medium by which to study the relationship between exposure to thin ideal images, internalization of the thin ideal, and body dissatisfaction.

**Hypotheses**

A significant amount of literature supports the negative impact on body satisfaction of thin ideal images and messages found in the media. Literature also supports that the extent to which individuals internalize the thin ideal significantly impacts body dissatisfaction. The current study extends the current research by examining the effects on body dissatisfaction of exposure to specifically Pinterest social media images (i.e., thin ideal, body positive and neutral images) in college women who are high or low in level of internalization of the thin ideal.

The following null hypotheses were tested:

*Ho 1:* There is no significant main effect for the Pinterest media exposure on body dissatisfaction as measured by the EDI-2.
**Ho II:** There is no significant main effect for Internalization on body dissatisfaction as measured by the EDI-2.

**Ho III:** There are no significant interaction effects between Pinterest media exposure and Internalization on body dissatisfaction as measured by the EDI-2.

**Method**

**Participants**

The present study recruited a convenience sample of 191 female college students from a Midwestern private university. Of the 191 who signed up to participate in the study, 178 fully completed the study ($M$ age = 19.78 years, $SD$ = 1.39 years), with 13 being removed due to partial completion of the two-part study (93% participation rate). The majority of the participants (74%, $n = 132$) self-identified as White/Caucasian. Due to the small sample size of non-White/Caucasian participants, differences in race/ethnicities in regards to the dependent variable could not be measured. The initial power analysis called for 104 participants in order to detect a medium effect size ($ds = .31$). Due to the unequal group sizes across the six conditions, additional participants were recruited, resulting in the larger final sample of 178 (see Table 1 for demographic information). Using a moderate effect size ($ds = .31$) and with an alpha set at .05, the final power of the current study was .96.

**Measures and Materials**

**Demographic Questionnaire.** An online demographic questionnaire was distributed in order to obtain background information, specifically age, gender, year in school, and race, as well as social media usage.
Sociocultural Attitudes Towards Appearance Scale -3, Internalization-
General. (SATAQ-3; Thompson, van den Berg, Roehrig, Guarda, & Heinberg, 2004).
The SATAQ-3 Internalization-General scale, provided online, was used to measure
internalization of the thin beauty ideal. The SATAQ-3 was normed on a non-clinical
population, with two independent samples of college women (see Appendix A). The scale
has high internal consistency, with alpha values of .88 and .95, and strong predictive
validity of body image disturbance (Thompson et al., 2004; Tiggemann and McGill,
2004). Although the SATAQ-3 has four subscales (Pressures, Information,
Internalization- General, Internalization- Athleticism), only the Internalization-General
scale was administered due to its utility in predicting and moderating body image
disturbance (Forbes et al., 2005; Halliwell & Dittmar, 2004; Levine & Harrison, 2004;
Stice & Hoffman, 2004). This subscale has nine items and utilizes a 5-point Likert-type
scale, with higher mean scores indicating greater internalization. Based on previous
research, participants were divided into low and high internalizers using a median split of
the current sample of 3.11 (Anshutz, Engels, Becker, & Van Strien, 2009; Bardone-Cone
& Cass, 2007; Cattarin, Thompson, Thomas, Williams, 2000; Hall, Baird, Gilbert, Miller,
& Bixby, 2011). Participants were categorized as high internalizers if their mean score
was greater than 3.11 and low internalizers if their mean score was 3.11 or lower.
Results from a t-test indicated there was a significant difference between low
internalizers ($M = 25.75, SD = 8.30$) and high internalizers ($M = 31.78, SD = 7.60$) on
body dissatisfaction when using the median split, $t (176) = -5.01, p < .001$.

Eating Disorder Inventory-2. (EDI-2; Garner, 1991). The EDI-2 is a self-report
questionnaire often used to measure the psychological and behavioral symptoms of
anorexia nervosa and bulimia. However, subscales of the EDI have been used to assess
body dissatisfaction in nonclinical populations, through the use of non-clinical scoring
(Berg, Frazier, & Sherr, 2009; Klemchuk et al., 1990; Schoemaker, van Strien, & van der
Staak, 1994; Tiggemann & Miller, 2010; van Strein & Ouwens, 2003). The current study
used the Body Dissatisfaction subscale (nine items) of the EDI-2, provided online, to
measure body dissatisfaction (see Appendix B). This subscale assesses the belief that
certain parts of the body are too large (Garner, Olmstead, & Polivy, 1983). The subscale
has a reliability coefficient of .91 for a non-eating disorder population, and has internal
consistency estimates ranging from .90 to .92 (Garner et al., 1983). A 6-point Likert-type
rating scale is used, with higher scores indicating greater body dissatisfaction. Given the
non-clinical sample in the current study, the untransformed scoring for the scale was
utilized.

**Pinterest Images.** Participants were exposed to one of three social media image
conditions through the medium of Pinterest: thin ideal, body positive, and control. *Thin
ideal* images portrayed slim women, promoted changing one’s body in order to achieve a
slim or thin physique, and messages that reinforced the cultural thin ideal. *Body positive*
images portrayed the average size woman in the US and conveyed motivational body
positive messages that promoted body acceptance. Images in the *control* condition were
neutral, non-body related images (e.g., perfumes, cars, jewelry). Prior to the study, three
female doctoral students rated and sorted 225 images into one of the three social media
exposure categories, based on consistency with operational definition and
representativeness with “peer-generated content” that resembled the images found on
Pinterest. The top 35 images in the thin ideal and body positive category, and the top 50
images in the neutral category for which all coders had 100% agreement were chosen to be included in the study. The top 15 images rated as neutral were repeated across each of the conditions to better mimic the variety of images found on Pinterest, resulting in the 50 images in each condition.

**Pinner’s Preferences Survey.** A 4-item paper-and-pen survey with a “yes” or “no” format was created for this study to maximize participants’ attention to and engagement with the images presented, in a way similar to that of actually being on Pinterest. The specific items were: 1) *Does this image catch your attention?* 2) *Would you pin this image?* 3) *Would your friends pin this image?* 4) *Does this image/message inspire you?* This survey was completed by the participants after viewing each of the 50 images.

**Pinterest Survey.** A Pinterest Survey was created for the study to serve as a form of distraction from the true purpose of the study. This survey consisted of six items that assessed general media usage and preferences.

**Procedure**

Approval was obtained from the Xavier University Institutional Review Board (IRB, see Appendix C) prior to data collection. The study was advertised as a two-part study, and participants were recruited through the participant pool of a Midwestern private university. The study was advertised with the title “Pinterest Use and Female College Students” to disguise the true nature of the study. On the flyer, participants were instructed to complete online pre-study measures (Part 1) prior to the lab portion, and directed to sign-up for the lab portion of the study (Part 2).
Part 1. Participants were directed to a link in the flyer to access the study. Participants were presented with the Informed Consent Form followed by the pre-study measures, which included the demographic questionnaire and the SATAQ-3 Internalization-General subscale.

Part 2. Participants completed Part 2 in groups of 1 to 3 in a lab setting, with each participant working on an individual computer. Participants were randomly assigned to one of the three Pinterest media exposure conditions (thin ideal, body positive, neutral) and were directed to their assigned computer and Pinterest page. The researchers reviewed the Informed Consent with the participants and gave further instructions. As a way to reinforce the peer-generated content typically found on Pinterest, researchers emphasized that female peers at the university had selected the images being viewed. Participants were directed to view each of the 50 Pinterest media images and to complete a paper copy of the Pinner’s Preference Survey after viewing each image to optimize exposure. Participants were asked to denote their start and stop times ($M$ time = 12.16 minutes, $SD$ = 3.13 minutes). After viewing all of the images, participants were prompted to complete the online Pinterest Survey and the EDI-2 Body Dissatisfaction subscale. Upon completion, participants were given a debriefing form and thanked for their participation.

Results

The purpose of the current study was to examine the effects of exposure to different body types of Pinterest media images and level of internalization of the thin ideal on college women’s body dissatisfaction. A 3 x 2 Analysis of Variance (ANOVA) was conducted to examine the relationships between type of media exposure (thin ideal,
body positive, and neutral), internalization (low and high) as measured by the Internalization- General scale of the SATAQ-3, and body dissatisfaction as measured by the Body Dissatisfaction scale of the EDI-2. The means and standard deviations are presented in Table 2.

Null hypothesis I stated that there is no significant main effect for Pinterest media exposure on body dissatisfaction. The results of the ANOVA did not reveal a significant main effect, $F(2, 172) = .50, p = .61, \eta^2 = .01$. Participant’s body dissatisfaction did not vary across exposure to thin ideal, body positive, and neutral media images. Thus, the study failed to reject null hypothesis I.

Null hypothesis II stated that there is no significant main effect for Internalization (high vs. low) on body dissatisfaction. Using a median split of the sample, the results of the ANOVA revealed a significant main effect, $F(1, 172) = 22.92, p < .001, \eta^2 = .12$. Participants high in internalization of the thin ideal had significantly greater body image dissatisfaction than participants low in internalization. Thus null hypothesis II was able to be rejected.

Null hypothesis III stated that there are no significant interaction effects between Pinterest media exposure and Internalization. The results of the ANOVA did not reveal a significant interaction effect, $F(2, 172) = .32, p = .73, \eta^2 = .01$. Thus null hypothesis III was not able to be rejected.

Descriptive statistics are presented for time spent weekly on specific types of media (i.e., Pinterest, watching television, and reading magazines) and on the number of social media sites used. Across the entire sample, the average total weekly time reported that was spent on media was 8.38 hours ($SD = 6.32$ hours), with the average weekly time
on Pinterest 2.35 hours ($SD = 3.05$ hours), watching television 5.54 hours ($SD = 4.84$ hours), and reading magazines .49 hours ($SD = 1.03$ hours). The top three specific media sites reportedly used by the entire sample were Facebook (93%), Instagram (81%), and Pinterest (77%) (see Table 3).

A correlational matrix was completed to examine the relationships between the total weekly time participants spent on social media, the total number of social media sites used, the level of body dissatisfaction, and the level of internalization of the thin ideal (see Table 4). A significant correlation was found between total number of social media sites used and body dissatisfaction, $r(176) = .17$, $p = .03$, indicating that as the number of media sites used increased, body dissatisfaction also increased. There was also a significant correlation found between total number of social media sites used and internalization, $r(176) = .21$, $p = .01$, indicating that as the number of social media sites used increased, internalization of the thin ideal also increased. Finally, there was a significant correlation between body dissatisfaction and internalization, $r(176) = .42$, $p < .001$, indicating that as internalization increased, body dissatisfaction also increased. Interestingly, there were no significant correlations found between total weekly social media hours and either internalization, $r(176) = -.12$, $p = .12$ or body dissatisfaction, $r(176) = -.04$, $p = .55$.

**Exploratory Analyses**

The researcher was interested in exploring how many images inspired participants across the thin ideal, body positive, and neutral conditions as a measure of the impact of the media exposure images. Thus, an “inspiration” variable was created for each media condition by summing the “yes” responses to the 35 condition images from the Pinner’s
Preference Survey question #4 “Does this image inspire you?” Participants found 56% of the body positive images to be inspirational, whereas only 40% of the thin ideal images and 38% of the neutral images were regarded as inspirational. The means and standard deviations are presented in Table 5. A 3 (thin ideal, body positive, neutral) x 2 (low and high internalization) ANOVA was run to determine the relationship between the media exposure condition and internalization level with inspiration. Results from the ANOVA indicated a main effect for the exposure condition, $F(2,172) = 15.36, p < .001, \eta^2 = .01$. Post-hoc analyses (LSD) were run to decompose the main effect and indicated that inspiration was significantly greater in the body positive condition ($M = 19.75, SD = .90$) compared to both thin ideal ($M = 13.87, SD = .86$), $p < .001$, and neutral images ($M = 13.40, SD = .96$), $p < .001$. That is, there was no significant difference in inspiration between the thin ideal and neutral conditions, $p = .56$. There was no main effect for internalization, $F(1, 172) = 3.33, p = .07, \eta^2 = .12$, and no significant interaction effect, $F(2,172) = 2.29, p = .11, \eta^2 = .01$.

Although there was no significant interaction effect detected, the plot of the results appeared to show a notable difference between high and low internalizers for the thin ideal condition. Thus t-tests were computed for each media condition. The results for the thin ideal condition revealed a significant difference between levels of internalization on inspiration, $t(64) = -2.79, p < .01$, indicating that high internalizers were significantly more inspired by thin ideal images than were low internalizers. There was no significant difference between levels of internalization on inspiration in either the body positive condition, $t(58) = -.58, p = .56$, or the neutral condition,
Finally, a Pearson correlation was run between body dissatisfaction and inspiration and was not significant, \( r(178) = .03, p = .69 \) (two-tailed).

The researcher conducted a 3 (thin ideal, body positive, and neutral media exposure) X 2 (low and high internalization) ANOVA to examine if there were any differences in minutes spent viewing the images. Participants in the thin ideal condition spent an average of 12.57 minutes (\( SD = .36 \)) viewing the images, participants in the body positive condition spent an average of 12.32 minutes (\( SD = .38 \)), and participants in the neutral condition spent an average of 10.28 minutes (\( SD = .41 \)). There was a significant main effect for media exposure, \( F(2,169) = 16.40, p < .001, \eta^2 = .16 \). Post hoc analyses indicated that participants in the neutral condition spent significantly less time viewing the images than participants in the thin ideal and body positive conditions, \( F(2,169) = 16.40, p < .001 \), but there was no significant difference between thin ideal and body positive conditions, \( p = .20 \). There was no significant main effect for internalization, \( F(1,169) = .17, p = .68, \eta^2 = .01 \) and no significant interaction effect, \( F(2,169) = .99, p = .38, \eta^2 = .01 \).

Finally, the researcher was interested in how the current sample’s scores on body dissatisfaction and internalization compared to norms of other college samples. The mean body dissatisfaction score of the current sample was 28.90 (\( SD = 8.47 \)). Van Strien and Ouwens (2003) proposed that when using untransformed scores in a nonclinical college population, a score of 35 serves as the cut off score, with scores above that being of clinical concern. Overall, the current sample did not reach a clinical level, although the overall sample did demonstrate a moderate level of body dissatisfaction (Van Strien & Ouwens, 2003). T-test results indicated that, compared to a sample of 492 Dutch college
students (Van Strien & Ouwens, 2003) with a mean body dissatisfaction score of 32.4 $(SD = 11.4)$, the current sample had significantly lower body dissatisfaction scores, $t(177) = -5.51, p < .001$. Other studies have also used this sample for comparison (Brookings & Beilstein, 2010; Clausen, Rosenvinge, Friborg, & Rokkedal, 2011; Gleaves, Pearson, Ambwani, & Morey, 2014), although potential cultural differences between a US and Dutch sample should be noted. The mean internalization score of the current sample was 27.58 $(SD = 7.88)$. T-test results indicated that the current sample’s internalization scores are consistent with a normative sample of 360 college students $(M = 28.67, SD = 9.83, Thompson et al., 2004), t(177) = -1.85, p = .07$.

Discussion

The current study evaluated the impact of exposure to type of social media images through the medium of Pinterest and level of internalization of the thin ideal on body dissatisfaction in college women.

No main effect was found for Pinterest media exposure on body dissatisfaction. This finding was surprising and is contrary to the results of previous meta-analyses that suggested direct exposure to thin ideal images predicts higher levels of body dissatisfaction compared to exposure to images of average size women or neutral images (Groesz et al., 2002; Want, 2009). The lack of significance in the current study could have been due to several factors. First, the participants across all three media conditions, on average, indicated a moderate amount of body dissatisfaction. Given that the EDI-2 (Garner, 1991) measures trait body dissatisfaction, that is, how a person feels about his or her body over time, instead of state body dissatisfaction, or how an individual feels at a particular point in time, the measure may not have been sensitive enough to detect subtle
changes in body dissatisfaction in these women after a single exposure to the media images. Future research may consider using a state dependent measure. Second, the participants reported spending an average of approximately 8 hours a week engaged with media and, as a result, may have already been desensitized to the images found in the media conditions of the current study. Consequently, the single, approximately 12-minute exposure intervention provided in the current study may not have been sufficient to elicit a significant change in body dissatisfaction, especially because body dissatisfaction was already at a moderate level. Future research may consider increasing the robustness of the social media intervention utilized and the length of exposure to the intervention, especially in light of the high level of body dissatisfaction of college women and their regular usage of media, in particular, social media (Cook-Cottone & Phelps, 2003; Neighbors & Sobal, 2007; Streigel-Moore & Franko, 2002).

A significant main effect was found for internalization on body dissatisfaction. Women who were high in internalization had significantly higher body dissatisfaction across media conditions than those who had low internalization. These results suggest that, regardless of the media condition to which they were exposed, college women who highly endorsed thin as being the ideal standard and internalized the need to achieve this thin ideal experienced more body dissatisfaction than those who did not internalize the thin ideal. These findings are consistent with other studies that found high internalizers experienced more body-related anxiety compared to low internalizers across all exposure conditions (thin models, average models, and non-body related images) (Dittmar, Halliwell, & Stirling, 2009; Dittmar & Howard, 2004; Halliwell & Dittmar, 2004).
Contrary to previous literature, the current study found no significant interaction effect between media exposure and internalization on body dissatisfaction (Dittmar & Howard, 2004; Halliwell & Dittmar, 2004; Yamamiya et al., 2005). Vartanian (2009) suggested that individuals high in internalization are more likely to compare themselves to perceived thin ideals than those low in internalization. Thus it was expected that level of internalization would impact the current college women’s level of body dissatisfaction in the thin ideal condition. It was also expected that the body dissatisfaction of high internalizers might be impacted by exposure to body positive images, as such “ideals” run counter to their internalized image of beauty (Diedrichs et al., 2011). However, as can be most clearly seen in Figure 1, the level of internalization did not interact with the type of exposure to impact the level of body dissatisfaction of the participants. It could be suggested that the images selected across all media conditions were not powerful enough to impact overall feelings of body dissatisfaction, given the fact that less than half of the images in the thin ideal condition and only slightly more than half of the images in the body positive condition were rated as “inspirational.” The participants did, however, report a significantly higher percentage of “inspiration” from the body positive images than the thin ideal images and neutral images. While the data do not allow understanding of exactly what about the images was “inspirational,” there is suggestion that participants felt some level of connection to images that offered a message of body acceptance. This is an interesting and uplifting finding as it suggests that, despite the thin ideal images that populate the media, images of average women and body acceptance messages are regarded as being significantly more inspirational by college women. Additionally, the results revealed that high internalizers were inspired more by thin ideal images (47%).
than were low internalizers (33%). This finding is consistent with past research that indicates low internalizers are less likely to buy into the societal norms of size and appearance, and thus would likely be less inspired by the thin ideal images (Thompson & Stice, 2001; Thompson et al., 2004).

Descriptive analyses revealed significant relationships among social media usage, body dissatisfaction, and internalization. Overall, the results indicated that participants are spending about 8 hours a week engaged in some form of media, with about 2.5 hours spent on Pinterest, while less than half an hour is spent reading magazines. Facebook was the most utilized social media site (93% of participants endorsed being on the site), followed by Instagram (81%), and then Pinterest (77%). Certainly these findings suggest a cultural shift away from reliance on magazines and paper forms of media communication in college women to a greater usage of the Internet and social media for connectivity to both media images and peers (Ottoni et al., 2013). A substantive difference between traditional media and social media usage is that social media enables more immediate and selective access to body-focused content which may promote greater exposure to the sociocultural message that thin is “good” and fat is “bad” (Brown & Bobkowski, 2011, p.103; Levine & Harrison, 2009). The current findings that the greater the number of social media sites utilized by college women, the greater the levels of reported body dissatisfaction and internalization of the thin ideal may lend further support to the relationship between increased social media exposure and negative body messages. Within the context of the sociocultural theory of body dissatisfaction, these results may support that women who utilize social media sites have more opportunities to be exposed to images, engage in social comparison, internalize the thin ideal, and
experience greater body dissatisfaction. Future studies should further investigate the usage of social media and its potential negative effects on body satisfaction.

Limitations

The results of the current study contribute to the limited literature regarding the relationship of social media with body dissatisfaction in college women. Despite the Internet being a highly utilized media source especially by young adults, there are a limited number of studies that empirically explore this relationship. Future research is encouraged to continue this line of study.

Several limitations of the present study should be considered. First, this study relied exclusively on self-report measures. Self-report of body dissatisfaction may be affected by participants’ denial, minimization, honesty, or image management. Although current results suggest a moderate level of body dissatisfaction, the mean body dissatisfaction score was lower than reported previously for college women (Thompson et al., 2004) and thus participants may have underreported or responded in a way to appear more positive about their bodies. Also, the sample was fairly racially homogeneous and from a private, Midwestern university. Therefore, the generalizability of findings to other college populations is limited, suggesting the need for further study.

To remain consistent with the sociocultural theory of body image development, Pinterest was utilized as the medium by which participants were exposed to the media images due to its convergence of media images and social influence. However, there are some limitations to using Pinterest boards that could have interfered with the validity of the media manipulation. When Pinterest is utilized in its true form, people are connected to images through their direct friends, versus in the current study in which unknown peers
“pinned” the images. Despite the priming by researchers that images were generated by college peers, it is questionable if the Pinterest pages created by the researcher for the study created a strong enough sense of peer influence. Further, in trying to present media conditions that resembled the body-focused content on Pinterest pages, the researcher may have included too many of the body-focused images. In considering a future study design, the researcher would suggest including more neutral images in each condition in order to increase the variety of images and improve the face validity of the media conditions.

Although the EDI-2 Body Dissatisfaction scale has a method of scoring for non-clinical samples, it was originally developed for use with clinical eating disorder populations and assesses the presence of longer term traits of body dissatisfaction. Given that college students as a group endorse higher levels of body dissatisfaction (Cash & Pruzinsky, 2002; Cook-Cottone & Phelps, 2003; Neighbors & Sobal, 2007; Streigel-Moore & Franko, 2002), the scale may not have been sensitive enough to assess differences in body dissatisfaction based on a brief social media exposure. In future research, a state-dependent measure of body dissatisfaction may be a better choice. Finally, the use of a median split for dichotomizing internalization of the thin ideal into high and low categories is not ideal, as it collapses the data into only two categories and compromises the power of the analysis.

**Clinical Implications and Future Research**

Despite the limitations, the results of the current study underscore internalization of the thin ideal as an important correlate of body dissatisfaction in college women. This finding has important implications for the choice of intervention strategies to decrease
women’s body dissatisfaction; more specifically, clinical interventions should focus on lowering women’s level of internalization as a way to decrease body dissatisfaction. The current study also suggests a shift away from traditional media (i.e., magazines) in the study of body satisfaction to greater utilization of social media sites. Future research should continue to examine the impact of internalization of the thin ideal on women’s body dissatisfaction as presented in social media.
References


Table 1

Demographic Variables

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>Study Sample (N = 178)</th>
<th>Study Sample (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age in years $M$ (SD)</td>
<td>19.78 (1.39)</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>178</td>
<td>100%</td>
</tr>
<tr>
<td>Year in School</td>
<td></td>
<td></td>
</tr>
<tr>
<td>First Year</td>
<td>41</td>
<td>23%</td>
</tr>
<tr>
<td>Sophomore</td>
<td>48</td>
<td>27%</td>
</tr>
<tr>
<td>Junior</td>
<td>46</td>
<td>25.8%</td>
</tr>
<tr>
<td>Senior</td>
<td>43</td>
<td>24.2%</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black/African/African American</td>
<td>24</td>
<td>13.5%</td>
</tr>
<tr>
<td>Asian/Asian American</td>
<td>4</td>
<td>2.2%</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>5</td>
<td>2.8%</td>
</tr>
<tr>
<td>White/Non-Hispanic/Caucasian</td>
<td>132</td>
<td>74.2%</td>
</tr>
<tr>
<td>Multiracial</td>
<td>11</td>
<td>6.2%</td>
</tr>
<tr>
<td>Prefer Not to Respond/Other</td>
<td>2</td>
<td>1.2%</td>
</tr>
</tbody>
</table>
Table 2

*Means and Standard Deviations for Body Dissatisfaction Across Media Conditions and Internalization of the Thin Ideal*

<table>
<thead>
<tr>
<th>Internalization Level</th>
<th>Media Condition</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Thin Ideal</td>
<td>Body Positive</td>
<td>Neutral</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$n$</td>
<td>$M$</td>
<td>$SD$</td>
</tr>
<tr>
<td>Low</td>
<td></td>
<td>29</td>
<td>25.86</td>
<td>8.61</td>
</tr>
<tr>
<td>High</td>
<td></td>
<td>37</td>
<td>33.08</td>
<td>8.27</td>
</tr>
</tbody>
</table>
Table 3

*Social Media Usage*

<table>
<thead>
<tr>
<th>Social Media Sites</th>
<th>Participants Using Site</th>
<th>N</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facebook</td>
<td></td>
<td>165</td>
<td>93%</td>
</tr>
<tr>
<td>Instagram</td>
<td></td>
<td>144</td>
<td>81%</td>
</tr>
<tr>
<td>Pinterest</td>
<td></td>
<td>137</td>
<td>77%</td>
</tr>
<tr>
<td>Twitter</td>
<td></td>
<td>125</td>
<td>70%</td>
</tr>
<tr>
<td>Tumblr</td>
<td></td>
<td>38</td>
<td>21%</td>
</tr>
<tr>
<td>MySpace</td>
<td></td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>

*Note: Participants were prompted to mark all sites used, thus percentages do not equal 100%*
Table 4

*Pearson Correlational Matrix for Total Media Hours, Total Media Sites, Internalization, Body Dissatisfaction*

<table>
<thead>
<tr>
<th></th>
<th>Total Media Hours</th>
<th>Total Media Sites</th>
<th>Internalization</th>
<th>Body Dissatisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Media</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hours</td>
<td>1</td>
<td>-.053</td>
<td>-.116</td>
<td>-.046</td>
</tr>
<tr>
<td>Total Media</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sites</td>
<td>1</td>
<td>.206**</td>
<td>.168*</td>
<td></td>
</tr>
<tr>
<td>Internalization</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td></td>
<td>.416**</td>
<td></td>
</tr>
<tr>
<td>Body</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dissatisfaction</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

**p < .01
*p < .05
Table 5

*Means and Standard Deviations for Inspiration Across Media Conditions and Internalization of the Thin Ideal*

<table>
<thead>
<tr>
<th>Internalization Level</th>
<th>Media Condition</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Thin Ideal</td>
<td>Body Positive</td>
<td>Neutral</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$n$</td>
<td>$M$</td>
<td>$SD$</td>
<td>$n$</td>
<td>$M$</td>
<td>$SD$</td>
</tr>
<tr>
<td>Low Internalization</td>
<td>29</td>
<td>11.41</td>
<td>6.23</td>
<td>30</td>
<td>19.17</td>
<td>7.90</td>
</tr>
<tr>
<td>High Internalization</td>
<td>37</td>
<td>16.32</td>
<td>7.73</td>
<td>30</td>
<td>20.33</td>
<td>7.63</td>
</tr>
</tbody>
</table>
Appendix A

Sociocultural Attitudes Towards Appearance Scale-Third Edition, Internalization-General

Appendix B

Eating Disorder Inventory Body Dissatisfaction Scale

The Eating Disorder Inventory-2 (ED-2) Body Dissatisfaction scale is not reproduced in this document. The measure is available through Psychological Assessment Resources, Inc. at www.parnic.com.
Appendix C

IRB Approval

October 22, 2014

Allison Mecca
3758 Hyde Park Ave
Cincinnati, OH 45209

Re: Protocol #14-012, The Effects of Pinterest Images and Thin Ideal Internalization on Body Dissatisfaction

Dear Ms. Mecca:

The IRB has reviewed the request to modify your study, referenced above. We understand that you have revised the participation credit to 30 minutes. We are able to continue to approve your study based on the information you provided. Therefore, your above-referenced study, as modified, continues to be approved in the Expedited category under Federal Guidelines 45CFR46. Your approval expires on September 25, 2015 and a Progress Report is due by that date. The form can be found online at [www.xavier.edu/irb/forms](http://www.xavier.edu/irb/forms)

Please note that if you wish to further modify your study, it will be necessary to obtain IRB approval prior to implementing the modification. If any adverse events occur, please notify the IRB immediately.

We truly appreciate your efforts and attention to compliance within the spirit of human subject's protection. We wish you great success with your research.

Sincerely,

Morell E. Mullins, Jr., Ph.D.
Chair, Institutional Review Board
Xavier University

MEM/sb

enclosure: revised stamped informed consent
Summary

Title: The Effects of Pinterest Images and Thin Ideal Internalization on Body Dissatisfaction

Problem. Based on the sociocultural model of body dissatisfaction, the media and one’s social environment play an important role in the development of body dissatisfaction (Allison & Park, 2004; Dohnt & Tiggemann, 2006; Grabe et al., 2008; Groesz et al., 2002; Jones et al., 2004; Liberman et al., 2001; Munoz & Ferguson, 2012; Paquette & Raine, 2004; Thompson et al., 1999). Research has shown that exposure to thin ideal images in traditional media (e.g., television, magazine) is a predictor of increased body dissatisfaction (Grabe et al., 2008; Groesz et al, 2002; Hawkins et al., 2004). In addition to media exposure, internalization of the thin ideal has been studied as an important factor in the development of body image disturbance (Blowers et al., 2003; Cafri, et al., 2005; Thompson & Stice, 2001). Studies indicate that those who have internalized the thin ideal are more affected by thin ideal media images (Dittmar & Howard, 2004; Halliwell & Dittmar, Yamamiya et al., 2005). More recently, studies have found that exposure to thin ideal images on the Internet is related to an increase in body dissatisfaction (Haferkamp & Kramer, 2011; Tiggemann & Miller, 2010). Given that the research on body dissatisfaction that utilizes social media is very limited, the purpose of the current study was to examine the effects of internalization of the thin ideal and exposure to Pinterest social media images on body dissatisfaction in college women.

Method. Participants for this study (N = 178) were female college students (M age = 19.78 years, SD = 1.39 years) enrolled at a private Midwestern university. Participants completed the study in two parts, with Part 1 done online prior to the Part 2 lab intervention. Participants completed a demographic questionnaire and the Sociocultural Attitudes Towards Appearance Scale -3, Internalization- General (SATAQ-3; Thompson, van den Berg, Roehrig, Guarda, & Heinberg, 2004) as pre-measures in Part 1. During Part 2, participants were exposed to one of three media conditions (thin ideal, body positive, neutral) and completed the Pinners Preference Survey.
during the exposure, followed by a Pinterest Survey and the Eating Disorder Inventory-2 (EDI-2; Garner, 1991).

Findings. A 3 x 2 ANOVA was conducted to examine the relationships between type of media exposure (thin ideal, body positive, and neutral) and internalization (low and high) on body dissatisfaction. The ANOVA revealed a significant main effect for internalization, F(1, 172) = 22.92, *p* < .001. There was no significant main effect for media exposure, F(2, 172) = .50, *p* = .61, and no significant interaction, F(2, 172) = .32, *p* = .73. Significant correlations were found between total number of social media sites used and body dissatisfaction, *r*(176) = .17, *p* = .03, total number of social media sites used and internalization, *r*(176) = .21, *p* = .01, and between body dissatisfaction and internalization, *r*(176) = .42, *p* < .001.

Implications. The results of the current study highlight the importance of internalization of the thin ideal in college women’s report of body dissatisfaction. This finding has important implications for choice of intervention strategies; interventions should focus on lowering women’s level of internalization as a way to decrease body dissatisfaction. Despite the Internet being a highly utilized media source especially by young adults, there is a limited number of studies that empirically explore the relationship of social media images with body image in women. The current study also adds to the literature by supporting the relationship between number of social media sites frequented and high levels of internalization and body dissatisfaction.
Press Release

The current study examined the effects of exposure to Pinterest social media images (thin ideal, body positive, or neutral) and internalization of the thin ideal (high or low internalization) on body dissatisfaction in college women. Results from the current study indicated that women who were high in internalization had significantly higher levels of body dissatisfaction compared to women who were low in internalization. Participants’ single exposure to thin ideal, body positive, or neutral images did not impact level of body dissatisfaction. Interestingly, results indicated that participants found more body positive images to be inspirational than thin ideal images. Finally, the study showed that the more social media sites frequented, the greater the internalization of the thin ideal and body dissatisfaction.