When Image Isn't Everything: The Effects of Instagram Frames on Social Comparison

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Abstract

In recent years visual social media have become increasingly popular mechanisms for communication. Past research suggests links between using social media, upward social comparison, and negative affect. The present online experiment of U.S. women (N= 58) takes a media psychology approach to understanding how text frames on image-based social media contribute to social comparison and perceptions of the self. Findings suggest that individuals who were in a body-positive experimental condition reported higher levels of self-esteem than did the women in a body-negative experimental condition. Those in the negative conditions ranked significantly higher on state social comparison with the images than those in the posi-

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tive condition. Additionally, women who compared themselves to the women in the experimental images were also more likely to fantasize that they could achieve the look and lifestyle of the women featured in the images. Findings are discussed in light of framing theory and social comparison theory and suggestions are made for future experimental work.

For many people, social media are a regular part of their social lives, if not an ordinary part of their day. Image-based social media like Instagram, Tumblr, and Pinterest are among some of the most popular websites and seem to echo the old saying that "Image is everything." In fact, social comparison induced by social media has served as an impetus for seeking out plastic surgery for some individuals. The American Academy of Facial and Reconstructive Surgery (AAFPRS) has reported that social media activity may be related to increasing requests for cosmetic surgery. Surgeons have reported a 31% increase in plastic surgery due to the desire to look better on social media accounts (Sifferlin, 2013). Furthermore, 46% of women feel more self-conscious about their appearance after using social media (Dahl, 2014). Media effects scholars have documented the effects of body ideal representations in traditional media, such as magazines, and researchers have begun to investigate whether and how these effects transfer to social media contexts.

Decades of research have demonstrated that exposure to representations to the thin-ideal can be damaging

to one's self-concept, body esteem, self-esteem, and even task performance (e.g. Bessenoff, 2006; Fredrickson, Roberts, Noll, Quinn, & Twenge, 1998; Harrison & Hefner, 2006). While many studies have explored image-based media and their effects on women, less research has been done to examine whether and how captions and text may produce different outcomes on body image and social comparison. Many researchers have demonstrated that the ways in which media content are framed can activate schemas, stereotypes, and actions in media users (Aubrey, 2010; Lecheler & de Vreese, 2011; Mulligan & Habel, 2011; Scheufele & Tewksbury, 2007). While some work has been done to add to the literature on user-generated content and body image (e.g. Ghaznavi & Taylor, 2015; Lewallen & Behm-Morawitz, 2016; Tiggemann & Zaccardo, 2015), there is still much to learn about the potential effects of text-frames on social media platforms.

In order to add to the existing literature on framing theory and social comparison theory, the present experimental study demonstrates the effects of user-generated content on the social media platform Instagram and body-positive versus body-negative captions. First, the following sections will briefly summarize framing theory in the context of body ideals in the mass media, as well as relevant research on body image and social comparison theory, in order to illuminate how the present study contributes to this body of literature.

Framing Theory and Body Ideals

The present study focuses on fitness images present in an Instagram format and the effects of their text frames. Framing theory was particularly well-suited for

the present research because it has traditionally been applied to mass mediated contexts and even the representation of women's bodies in traditional forms of media. Social media platforms are unique areas ripe for exploration, as content is typically produced and shared by media users rather than gatekeepers of traditional mass media. In other words, users are producing and sharing much of their own content on social networking sites, or they are curating content generated and shared by other users.

Traditionally, framing theory has guided research in a variety of social science disciplines, including mediated and mass communication (Scheufele & Tewksbury, 2007). In communication studies, it was initially proposed as a way to explain how the news media present certain issues and events in a predetermined light. As a theory of media effects, the perspective emphasizes selection and salience in the media and on the part of the audience (Entman, 1993; Scheufele, 1999). In other words, the ways in which a medium is framed can cause individuals or audience members to access certain schemas over others, thus rendering some issues more salient than others. In fact, researchers have consistently found that the ways in which media content are framed can activate schemas, stereotypes, thoughts, and actions in media consumers (Aubrey, 2010; Lecheler & de Vreese, 2011; Mulligan & Habel, 2011; Scheufele & Tewksbury, 2007). For example, relevant to the present content analytic study, Aubrey's (2010) experiment found that women who were assigned to a fitness magazine appearance frame (i.e. "look leaner in your clothes") were more likely to report body shame as motivation for exercise. This type of framing effect on body image is directly related to the "fitspo" concept discussed

in the following section.

Framing theory has also guided research in a variety of mediated contexts, including magazines and body image (Aubrey, 2010). However, virtually no research exists on the framing of women's bodies in social media contexts. Furthermore, Borah (2011) stated that although frames have been investigated extensively, the issue of "multiple social actors" has yet to be fully explored. In other words, there can be multiple creators of a frame and this issue has not been extensively researched, especially in social media contexts. This is particularly relevant to the exploration of the effects of fitness frames on Instagram, as the frames of images and messages are generated and changed by multiple social actors (users). The ways in which women's bodies are framed by users have the potential to impact other users' perceptions of body ideals, as well as their attitudes and behaviors regarding their own health.

Although the literature on framing theory in general is extensive, little is known about the frames of user-generated and shared content on social media and the potential effects of such frames on user attitudes and beliefs. However, there is a much richer existing body of research on the portrayals of women's bodies in traditional media.

Social Comparison, Fitness, and Body Image

Health and fitness have long been popular topics in women's magazines and are a prevalent component in online forums. However, researchers have recognized that messages about health and wellness for women are often conflated with messages about appearance and body ideals (Aubrey, 2010; Berry & Lauzon, 2003; Willis & Knobloch-

Westerwick, 2014). In fact, Aubrey's (2010) content analysis found that throughout health and fitness magazines for women, appearance frames dominated all other frames, including fitness/exercise, food/nutrition, and physical health. Another study assessing 5,000 magazine pages in women's health and fitness magazines found that body shaping and weight loss topics are the most emphasized and that these emphases on appearance rather than health and well-being contradict public health recommendations (Willis & Knobloch-Westerwick, 2014).

However, some experimental and content analytic work suggests that there are some prosocial effects of communication about women's fitness and health. For example, Segar, Updegraff, Zikmund-Fisher, & Richardson (2012) found that advertisements framing physical activity as a means for daily well-being positively affected attitudes toward being physically active and also enhanced body image among overweight women. One area that is ripe for investigation is the effects of sharing fitness related content on social media platforms. Because many of these forums involve peer to peer networking, they are also appropriate areas for exploring social comparison.

Scholars have posited that social comparison is a means of exploration to help individuals confirm or deny aspects of their own identities as they compare themselves to similar and dissimilar others (Eyal & Te'eni-Harari, 2013; Festinger, 1954). Although comparison of abilities and limitations is more salient for younger and older children, appearance-based comparisons typically begin to occur in early adolescence for both boys and girls (Chen & Jackson, 2012; Mueller, Pearson Muller, Frank, & Turner, 2010). Since early theorizing in the 1950s, psychologists

have expanded upon the theory by introducing the concept of upward and downward comparison and exploring other motivations for social comparison.

Generally, individuals may have different motivations for engaging in upward (self-enhancement) and downward (self-evaluation) comparison (Eyal & Te'eni-Harari, 2013). Self-evaluation occurs by appraising one's status in relation to others in the same environment or a similar context in a similar context, whereas self-enhancement, a form of upward comparison, occurs by evaluating one's status in comparison to others and is meant to protect one's self-esteem. While self-enhancement may result in positive outcomes, researchers have found that they may contribute to negative effects longitudinally (Tiggemann, Polivy, & Hargreaves, 2009).

In fact, one study found that both physical fitness and appearance contexts were sources of upward social comparison and feelings of envy for both college-aged men and women. For women in particular, appearance contexts were more salient (Pila, Stamiris, Castonguay, & Sabiston, 2014). They also found that body-related envy was positively related to identified regulation (i.e. doing something because one feels it is valuable), which was in turn associated with exercise behavior. Consistent with prior research, the study confirmed that body-related envy serves as a motivator and demotivator to health and fitness behaviors. Based on these findings it is possible that these types of effects may translate to image-based social media, such as Instagram. Because physical appearance, exercise motivation, and social comparison have had positive associations in prior research, it is also possible that various text frames may influence social comparison outcomes.

Therefore, the researcher has posed the following research questions:

RQ1: Will there be significant differences between the three frame conditions (body-positive, body-negative, and no caption) on self-esteem?

RQ2: Will there be significant differences between the three frame conditions (body-positive, body-negative, and no caption) on fantasy?

RQ2a: Will state (temporary) social comparison moderate this relationship?

RQ3: Will there be significant differences between the three frame conditions (body-positive, body-negative, and no caption) on extent thoughts?

RQ3a: Will state (temporary) social comparison, social media social comparison, and ideal body stereotype moderate this relationship?

RQ4: Will there be significant differences between the three frame conditions (body-positive, body-negative, and no caption) on state social comparison?

RQ4a: Will exercise motives or ideal body stereotype moderate this relationship?

Method

Sample

The researcher obtained approval from the Institutional Review Board prior to collecting data. Participants for the present study were recruited through social media websites, an introductory public speaking course, and an upper-level communication course at a large Midwestern university. Participants had the option to earn extra credit points for their course or enter for a chance to win a gift

card as compensation. Both men and women participated in the study. Although both men (33.3%; *n*=29) and women (66.7%; *n*=58) participated, the researcher selected cases to analyze data from female participants only. The final sample consisted of 81% (*n*=47) of women who were 18-24 years old, 12.1% (*n*=7) of women who were 25-34 years old, 5.2% (*n*=3) of women who were 35-44 years old, and 1.7% (*n*=1) who were 45-54 years old. Caucasians represented the majority of the sample (77.6%; *n*=45), followed by Asian/Pacific Islanders (6.9%; *n*=4), individuals who identified with two or more races (6.9%; *n*=4), African Americans (5.2%; *n*=3), Hispanics/Latinos (1.7%; *n*=1), and individuals who identified as Other (1.7%; *n*=1).

Design

The main study utilized a posttest-only full experimental design with three conditions: exposure to Instagram fitness images featuring body-positive captions, exposure to Instagram fitness images featuring body-negative captions, and exposure to Instagram fitness images featuring no caption (the control variable). Therefore, the independent variable was the condition. The dependent variables were self-esteem, exercise motives, ideal body stereotype, extent questions, state social comparison with the images, general social media comparison, and fantasy.

Each experiment condition featured the same three separate images separate images designed to look like images posted to the social media website Instagram. Each image featured a young, physically fit woman. The first condition (body-positive) paired a different body-positive caption with each image (e.g. “A fit, healthy body. That is

the best fashion statement.") The second condition (body-negative) paired a different body-negative caption with each image (e.g. "I hate my body.") The control condition featured the same three images, but did not contain any captions.

Procedure

The experiment was conducted through Qualtrics, a survey software program. After signing a consent form on the first page of the survey, participants proceeded to answer several demographic questions, such as age, gender, weight, height, how often they sign on to Instagram, etc. The survey software randomly assigned participants to one of the three conditions, where they were instructed to view each image carefully and to pay close attention to the caption, if applicable. Following the exposure, participants filled out a comprehensive questionnaire measuring self-esteem, ideal body stereotypes, and social comparison. An additional scale measuring materialism was added in order to mask the purpose of the study.

Measures

Body Mass Index. The variable *body mass index* (BMI) was used to measure participants' body fatness. BMI is currently recognized by the Centers for Disease Control and Prevention as a reliable indicator of body fatness for most individuals (Body Mass Index, 2015). For the current study, participants' BMI was calculated using the recommended formula: weight (lb) / [height (in)]^2 x 703 (CDC, 2014).

Self-Esteem. The variable *self-esteem* was measured using the Rosenberg Self-Esteem Scale (Rosenberg,

1965). The measure is designed to assess individuals' self-esteem levels and consists of a 10-item inventory. Participants were asked to rate the extent to which they agreed with the statements of a 5-point Likert-type scale. For example:

On the whole, I am satisfied with myself.
I feel that I have a number of good qualities.

Exercise Motives. The independent variable *exercise motives* was measured using the Exercise Motivations Inventory-2 (EMI-2) (Markland & Ingledew, 1997). The EMI-2 is a 51-item measure assessing a range of reasons for exercising. For this study, the first 25 items from the measure were used in the survey. Higher scores indicate a higher level of motivation to exercise. Participants indicated why they choose to exercise on a 6-point Likert-type scale ranging from 0 – not at all true for me, to 5 – very true for me. For example:

To make me look younger.
To avoid ill health.

Ideal Body Stereotype. The independent variable *ideal body stereotype* was measured using the Ideal Body Stereotype Scale (Stice & Whitenton, 2002). The scale consists of six items designed to assess how participants have internalized a thin-ideal body image (α=.91). Participants were asked to indicate the extent to which they agreed with each statement on a 5-point Likert-type scale and higher scores indicate higher likelihood of thin-ideal internalization. For example:

Slender women are more attractive.
Tall women are more attractive.

Extent Thoughts. The *Extent Thoughts Questionnaire* was taken from Bessenoff's (2006) study, which was designed to assess thoughts relating to social comparison and weight. Participants responded to eight items on a 5-point Likert-type scale ranging from 1 (not at all) to 5 (to an extreme degree). Larger numbers indicate having experienced these thoughts to a greater extent while looking at the images. For example:

To what extent did you think you achieve the same level of fitness as the women in the images?

To what extent did you think about weight reduction activities (such as dieting and exercising)?

State/Image Social Comparison. In order to measure *state social comparison* participants were asked to respond to items designed to assess their levels of social comparison while keeping in mind the images they viewed. Participants responded to five items on a 5-point Likert-type scale from 1-strongly disagree to 5- strongly agree. Higher numbers indicated higher levels of social comparison. For example:

These images make me want to try a crash diet.

After viewing these images, I want to change my appearance.

Social Media Social Comparison. In order to measure the independent variable *social media social comparison* (SMSC) participants were asked to respond to five items on 5-point Likert-type scale from 1-strongly disagree to 5-strongly agree. This questionnaire was designed to assess participants' social comparison levels with social media in general. Higher numbers indicated higher levels

of social comparison. Participants were asked to consider their use of social media in general when answering these questions. Examples included:

After using social media, I want to start a new exercise plan.

Social media make me want to be thinner.

Fantasy Comparison. The measure for *fantasy comparison* was adapted from Tiggemann, Polivy, and Hargreaves' (2009) questionnaire, which was designed to measure the extent that participants could fantasize about living a similar lifestyle to the women featured in the images. Participants responded to five items on a 5-point Likert-type scale from 1-strongly disagree to 5- strongly agree. Higher numbers indicate a higher level of fantasy. For example:

These women have exciting lives.

I can imagine myself as one of these women.

Results

To test RQ1, a one-way ANOVA was conducted to test the differences between condition and levels of self-esteem. Results revealed significant differences between conditions, $F(2, 51) = 4.68$, $p = .014$. Post-hoc testing revealed significant differences between the body-positive ($M = 4.041$) and body-negative condition ($M = 3.294$).

To answer RQ2, an analysis of variance was conducted to test the interaction between condition and state/image social comparison and fantasy levels. A median split was used to create a high and low group for state/image social comparison. There was a significant main effect for condition, $F(2, 39) = 3.871$, $p = .031$, $eta^2 = .185$.

However, post-hoc analyses did not reveal which groups differed significantly from each other. This is potentially due to a small sample size and observed power of less than .80 (O'Keefe, 2007). There was also a significant main effect for state/image social comparison, F (1, 39) = 9.218, p= .000, eta^2= .433. Those who ranked low on state/image social comparison were significantly lower on fantasy (M= 2.096) than those who ranked high on state/image social comparison (M= 3.162). Results did not yield an interaction between condition and endorsement of an ideal female body type, F (1, 39) = .153, p= .516. Controlling for age and BMI did not significantly change results.

To test RQ3, an analysis of variance was conducted to test the interaction between condition and state/ image social comparison and extent thoughts. A median split was used to compute a low and high group for social comparison with the images. There was a significant main effect for state/image social comparison levels, F (1, 38) = 10.661, p= .003, eta^2= .244. Women who reported higher comparison levels to the images they were shown ranked higher on extent thoughts (M= 3.68) than those who reported lower levels of comparison to the images they were shown (M= 2.63). Results did not yield an interaction between condition and image social comparison levels, F (2, 38) = 1.502, p= .229. It should be noted that controlling for age and BMI did not significantly improve results.

An analysis of variance was conducted to test the interaction between condition and general social media social comparison (SMSC) and extent thoughts. A median split was used to compute a high and low group for SMSC. Analyses revealed a significant main effect for SMSC, F (1, 37) = 6.26, p= .018, eta^2 = .168. Those who ranked low on

SMSC (M= 2.561) differed significantly from those who ranked high (M = 3.39) on SMSC. Results did not yield an interaction between condition and image social media social comparison, F (2, 38) = .487, p= .619. Controlling for age and BMI did not significantly affect results.

An analysis of variance was conducted to test the interaction between condition and ideal body stereotype and extent thoughts. A median split was used to compute low and high groups for ideal body stereotype. There was a significant main effect for ideal body stereotype, F (1, 24) = 5.715, p= .028, eta^2= .241, such that women who ranked high on endorsement of an ideal body type ranked higher on extent questions (M = 3.538) than those who were lower on endorsement of an ideal female body (M = 2.485). Results did not yield an interaction between condition and endorsement of an ideal female body type, F (2, 24) = .257, p= .776. Additionally, controlling for age and BMI did not significantly change results.

To test RQ4, an analysis of variance was conducted to test the interaction between condition and exercise motives and state/image social comparison. A median split was used to create a low and high group for exercise motives. There was a significant main effect for condition, F (2, 32) = 3.83, p= .048, eta^2= .208. To assess pairwise differences between the three conditions the Scheffe follow-up procedure (p = .05) was performed and post-hoc comparisons revealed that women in the negative condition (M = 3.183) differed significantly from those in the positive condition (M = 2.26). Results did not yield an interaction between condition and exercise motives, F (2, 32) = 1.562, p= .229. Controlling for age and BMI did not significantly alter results.

An analysis of variance was conducted to test the interaction between condition and ideal body stereotype and state/image social comparison. A median split was computed to create a low and high group for ideal body stereotype. Analyses revealed a significant main effect for ideal body stereotype, $F(1, 24) = 17.876$, $p = .001$, $eta^2 = .498$. Those who ranked low on ideal body stereotype ($M = 1.841$) differed significantly than those who ranked high ($M = 3.578$). Results did not yield an interaction between condition and endorsement of an ideal body stereotype, $F(2, 24) = 1.071$, $p = .363$. Controlling for age and BMI did not significantly change results.

Discussion

Overall, the present study finds that, in some cases, text captions paired with images on social media can impact the way users evaluate their own body image and feelings of self-worth. The results of the current research are also consistent with prior predictions that the proliferation of idealized female images on social media, such as Instagram, Pinterest, or Twitter, may contribute to feelings of inadequacy or upward social comparison for users (e.g. Alperstein, 2015; Ghaznavi & Taylor, 2015; Lewallen & Behm-Morawitz, 2016). Again, the results for RQ1 revealed that women in the body-positive condition reported higher levels of self-esteem than did the women in the body-negative condition. Although each condition displayed the same three images to each participant, it appears that the message framing of the image impacted participants' self-esteem levels. Although the Rosenberg self-esteem scale was designed to measure global self-worth (or trait self-esteem), it is possible that the message

framing temporarily impacted participants' self-esteem.

Research on framing theory and body image has demonstrated that appearance-focused fitness images can negatively impact body shame (Aubrey, 2010). For example, in the experimental part of Aubrey's (2010) two-part study, she found that women who were assigned to an appearance frame in a fitness magazine (i.e. "look leaner in your clothes") were more likely to report body shame as motivation for exercise. Similarly, the present study found that women in the body-negative condition reported significantly lower levels of self-esteem than those in the body-positive condition. This is potentially because the body-positive messages tended to focus on overall health (i.e. "Love and appreciate your body. It is the most amazing thing you will ever own."), whereas the body-negative messages were primarily focused on appearance (i.e. "My thighs need a divorce. Getting ready for bikini season.")

Next, RQ2 asked whether there would be differences among the three conditions on the fantasy measure and whether state/image social comparison would moderate this relationship. Although there was not a significant interaction, there were significant main effects for both independent variables. Participants who ranked higher in social comparison with the images they were shown also ranked significantly higher in fantasy than those who ranked lower in state social comparison. This means that women who compared themselves to the women in the images were also more likely to fantasize that they could achieve the look and lifestyle of the women featured in the images.

Because those who engaged in state social comparison could hypothetically picture themselves as some of the

women in the images, it appears that some participants engaged in upward social comparison. Researchers and theorists have posited that competition is often an underlying motivation for social comparison (Festinger, 1954; Garcia, Tor, & Gonzalez, 2006; Reaves, 2011). It is possible that social media enhance feelings of competition because content is typically shared in peer-to-peer contexts. Thus, the women in the experimental images were not celebrities, but potential real-world competition for the women who participated in the study. Interestingly, no main effects were found for exercise motives on any of the dependent variables, and exercise motives as a dependent variable was also insignificant. Thus, although women who engaged in upward social comparison with the images also reported higher fantasy comparison, motivations to exercise was unchanged.

Research question 3 asked if there would be differences among the three conditions on participants' extent thoughts and whether state/image social comparison, social media social comparison (SMSC), and ideal body stereotype would moderate this relationship. Although there was not a significant main effect for condition and no significant interaction effects, significant main effects were found for each of the independent variables. Thus, state social comparison, SMSC, and ideal body stereotype each influenced participants' extent thoughts, or the extent to which they thought about their own body and weight loss behaviors while viewing the images in the experiment.

Research has begun to investigate social comparison in social media contexts, particularly what has been called "Facebook depression" (Blease, 2015). Again, while

some forms of upward social comparison may be considered healthy, over time it can be emotionally detrimental to individuals. The results of this research question indicate that the captions had no significant impact on participants' reports of social comparison and ideal body stereotype. Thus, the frame of the fitness images (and not the captions) may have been enough to induce social comparison. The significant main effects for this research question have several implications. First, the more participants compared their own bodies to the images they were shown, the more extensive their thoughts were about their body and weight loss behaviors. A study conducted by Pila, Stamiris, Castonguay and Sabiston (2014) found that in a sports-related context, body envy was positively associated with self-determined regulations, which was positively related to exercise behavior. The present findings add to this literature in that social comparison to fitness-related images in a social context induce similar results.

Second, the more participants reported engaging in social comparison during their general social media use, the more extensive their thoughts were about their body and weight loss behaviors. Feinstein and colleagues (2013) discovered that social media use and social comparison may influence rumination, which may in turn increase depressive symptoms. Although the present research did not explore depression, the extent thoughts questionnaire did measure participants' focus on their body in comparison to the images, which may indicate negative emotions.

Additionally, higher endorsement of ideal female body types was associated with higher extent thoughts. Thus, the more participants reported an endorsement of ideal body stereotypes, the more likely they were to think

about their own bodies and weight loss behaviors in comparison to the images they were shown. Research has long demonstrated that images of ideal body types can impact body image, body shame, body consciousness, and self-esteem. Although this particular finding for this research question is not necessarily surprising, it also demonstrates its presence in a social media context. Images such as the ones shown in the experiment are not limited to mainstream media and their presence in peer-to-peer networking may render them more pervasive.

Finally, RQ4 asked whether there would be differences between the three conditions on state/image social comparison and whether exercise motives or ideal body stereotype would moderate this relationship. Although there were no significant interactions, condition and ideal body stereotype each produced significant main effects. First, each of the conditions differed from each other, such that those in the negative conditions ranked significantly higher on state social comparison with the images than those in the positive condition. This results suggests that the framing of the body-positive and body-negative captions paired with the images significantly influenced participants' upward social comparison. Prior research on health and fitness magazines have found that a focus on appearance rather than health is common (Willis & Knobloch-Westerwick, 2014) and that these messages are detrimental to body image (Aubrey, 2010). The present study finds that social media, such as content shared on Instagram, produce similar results and that these results are consistent with research concerning body image and other social media platforms (Ghaznavi & Taylor, 2015; Lewallen & Behm-Morawitz, 2016; Tiggemann & Zac-

cardo, 2015).

There was a significant main effect for ideal body stereotype on state/image social comparison, such that those who reported higher endorsements of an ideal female body type also ranked higher in social comparison with the images they were shown. The medium effect size for this result suggests that ideal body stereotype is something that has been developed over time for participants and not through viewing the images in the experiment (Aubrey, 2010; Aubrey, Henson, Hopper, & Smith, 2009; Willis & Knobloch-Westerwick, 2014). It is likely that exposure to ideal body types over time in popular culture and other forms of media has contributed to such ideals and that social media may perpetuate them via social comparison mechanisms.

Limitations and Future Directions

The main limitation of the present research is the sample size and age group. Initially, the goal of the study was to investigate social comparison with a female emerging adult population. Due to a small sample size, the researcher decided to include female participants of all ages in the aggregate data. Future research should explore both emerging adult and adult populations in this context in order to find out if significant differences exist between groups. Next, the present study included mostly Caucasian women and future research should focus on exploring racially diverse populations in order to determine whether differences exist.

Finally, the present study includes only cross-sectional data and thus can only infer that any framing or social comparison effects were temporary. In fact, Lecheler

and de Vreese (2011) have called for more panel research in order to understand the duration of framing effects. Future research on this topic should employ a panel design in order to explore the duration of potential framing and social comparison effects of social media. Additionally, on the exercise motives measure, only a portion of the Exercise Motivations Inventory-2 (EMI-2) (Markland & Ingledew, 1997) was used. In future administrations, researchers should investigate the reliability of such a truncation of the instrument.

Despite these limitations, the present study provides a picture of the effects of the current social media environment for female users. Ideal body standards have long been a part of the mass media landscape and popular culture, thus it is not surprising that body awareness has become a prevalent component of image-based social media. It is important to continue researching how the sharing of beauty ideals in peer-to-peer networks perpetuates these standards and affects users of these media.

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