Spring 2016

Harmful Inspiration: The Consequences Of Viewing Thinspiration And Fitspiration Images

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HARMFUL INSPIRATION: THE CONSEQUENCES OF VIEWING THINSPIRATION AND FITSPIRATION IMAGES

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A Thesis Presented to the Graduate Faculty of the Fort Hays State University in Partial Fulfillment of the Requirements for the Degree of Master of Science

by

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ABSTRACT

In addition to the treatment of individuals with existing eating disorders, research and social efforts have been made recently to prevent the development of eating disorders. Preventative efforts have included: a) expanding research concerning the etiology of eating disorders, b) increasing awareness of the consequences of eating disorders, and c) shutting down pro-eating disorder websites. One aspect of pro-eating disorder websites, thinspiration, has emerged on social media websites. Studies concerning the effects of viewing thinspiration have shown that individuals who view thinspiration are more likely to accept unhealthy beauty standards, show increased self-objectification and sexualization, exhibit increased distortion of social reality, express increased body dissatisfaction, and display an increased likelihood of disordered eating (Ghaznavi & Taylor, 2015; Grabe, Ward, & Hyde, 2008). For this reason, social media websites have included warnings on common searches for thinspiration content. Fitspiration, a recent evolution of thinspiration, has also emerged on social media websites. Fitspiration appears very similar to thinspiration, but is thought to be healthier. Because fitspiration is new, little research has been completed on the consequences of viewing fitspiration images. This study aimed to establish research on the consequences of viewing fitspiration images in comparison to thinspiration images.

Prior to completing this study, a pilot study was conducted to determine which thinspiration and fitspiration images best represented their respective category. Participants viewed a randomized combination of 15 thinspiration and 15 fitspiration images, and were asked to rate each model’s thinness and fitness using a Likert scale.
Means calculated on the thinness and fitness ratings revealed that participants correctly rated most of the thinspiration images as thinner than the fitspiration images and rated the fitspiration images as fitter than the thinspiration images. The lowest ten mean ratings for thinness and the lowest ten mean ratings for fitness were determined for use in the current study.

This study hypothesized that participants who viewed thinspiration or fitspiration images would have a distorted weight perception, decreased self-esteem, be less likely to overeat, and more likely to exercise, as compared to participants who viewed control images. To assess for distorted weight perception, participants answered a perceived weight status question that asked to describe themselves as very underweight, underweight, average, overweight, or very overweight. Self-esteem was assessed using the State Self-Esteem Scale (SSES); participants rated themselves on 20 statements such as, “I feel unattractive,” “I am worried what other people will think of me,” “I am pleased with my appearance right now,” and “I am self-conscious.” Intention to overeat and exercise were measured using a behavioral intentions questionnaire that asked participants to rate their likelihood of engaging in specific behaviors and cognition such as food restriction via cutting back on the amount of food eaten, likelihood of overeating, likelihood of exercising, likelihood of purging via vomiting, and likelihood of thinking about weight.

A Chi Square analysis was used to assess for differences in weight perception. Results indicated that participants who viewed thinspiration and fitspiration perceived themselves to be more overweight than participants who viewed control
images. Next a one-way ANOVA was used to assess for differences in self-esteem. It was found that there were no differences between the groups in terms of overall self-esteem, but a one-way ANCOVA revealed that participants in the experimental conditions had lower appearance self-esteem than participants in the control condition. To assess behavioral intentions, a one-way MANCOVA was used. It found no significant differences between groups in regards to the participant's likelihood to exercise or overeat.

The findings of this study are applicable to the general public and to clinical populations. The results of this study suggest that it may be wise for individuals to limit intention or unintentional exposure to thinspiration and fitspiration images to as to reduce the likelihood of distorted weight perception and decreased appearance self-esteem. Clinicians can also be more informed on the consequences of clients viewing thinspiration or fitspiration, especially clients who are predisposed to the development of an eating disorder, or attempting to recover from an eating disorder. Limitations of this study include using only adult participants, restrictions of the time and style of tracing activity used to expose participants to the images, and the appropriateness of the self-esteem scale used. Future directions include increasing the length of exposure to the images, providing a more naturalistic setting, assessing younger populations, using different scales, assessing a male population, and using image and text combinations. This study aimed to better understand the consequences of viewing thinspiration images and establish the consequences of viewing fitspiration images. This study adds to the
literature on the effects of viewing thinspiration and fitspiration images on an adult population.
ACKNOWLEDGEMENTS

With great appreciation, I would like to extend my heartfelt gratitude to the many people who have helped bring this thesis to fruition.

I would like to express my sincere thankfulness to Dr. Jennifer Bonds-Raacke, my advisor, whose expertise, guidance, and ample time spent helped this thesis be a success. I could have not done this without you. Additional thanks go to my committee members, Dr. Trey Hill, Dr. Leo Herrman, and Gina Smith, for your advice, constructive comments, and critiquing.

I would like to offer a special thanks to Taissa DasilvaCarvalho for helping with material construction and data collection.

And finally, a large thank you to my husband, Joshua, and parents Micheal and Susan, for your unrelenting support in my academic and career pursuits. Your love and patience helped me in this demanding process.
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INTRODUCTION

Great strides have been made in recent years to enhance the public’s awareness of the seriousness of eating disorders. Although there are several feeding and eating disorders (Pica, avoidant/restrictive food intake disorder, rumination disorder, anorexia nervosa, bulimia nervosa, and binge-eating disorder), using the term “eating disorder” usually refers to just anorexia nervosa and bulimia nervosa. Although most people may still be unaware of the different types of the feeding and eating disorders, the public has made progress in understanding the causes of an eating disorder. Whereas eating disorders used to be commonly thought to be due to vanity, a national survey completed by American Viewpoint in 2010 found that 82% of respondents consider eating disorders to be a physical or mental illness (National Eating Disorder Association [NEDA], 2015). The public’s shift in viewpoint could reflect the evolution of how eating disorders are conceptualized by health professionals. A significant change in health professionals’ viewpoint is due to research concerning the etiology of eating disorders.

A previously accepted theory of the cause of mental disorders involved blaming the family, such as the concept of the schizophrenogenic mother. Originally coined by Fromm-Reichmann, the “schizophrenogenic mother” is used to explain aggressive and domineering mothers who caused their children to develop a mental illness (Neill, 1990). Though family dynamics are still considered a contributing factor to developing an eating disorder, the current prevailing model acknowledges a combination of nonfamilial factors, which influence the likelihood of an individual developing an eating disorder.
Causes of Eating Disorders

In addition to family dynamics; genetic, biological, cognitive, and environmental factors are thought to contribute to the development of an eating disorder (Pryslopski, 2011; Shepard-Pratt Health System, 2015). Consensus lies in a biopsychosocial explanation of the etiology of eating disorders, which incorporates these general and specific factors (Polivy & Herman, 2002).

Genetic. Family and twin studies on the shared prevalence of eating disorders have found genes to be a partial determinant of eating disorders (less than 50% genetic heritability; Ross, 2006). Evidence also suggests the risk for developing anorexia nervosa substantially increases when an individual has a first-degree relative who also has the disorder. Despite these findings, specific genetic patterns of individuals prone to developing eating disorder behaviors have not yet been identified (Frank, 2015).

Biological. Neuroendocrine abnormalities found in patients with anorexia nervosa and bulimia show biological underpinnings of eating disorders in regard to changes in appetite (Polivy & Herman, 2002). Specifically, individuals who have been diagnosed with either anorexia nervosa or bulimia nervosa exhibit endocrine disturbances on the hypothalamic-pituitary-thyroid axis (Halmi, 1985). It is unknown whether the neuroendocrine abnormalities trigger the development of an eating disorder, or if malnutrition caused by the illness results in the neuroendocrine disturbances. The same reciprocal problem is found in interpreting findings of the cortical thinning of brains of eating disorder patients. The finding of cortical thinning normalization in anorexic patients after long-term weight restoration suggests that cortical thinning is related to
anorexia nervosa symptoms (Frank, 2015; King et al., 2015). It is not known, however, if the cortical thinning occurs prior to the development of anorexia nervosa symptoms to act as a trigger.

**Cognitive.** The study of the cognitive contributions to the development of an eating disorder is far less concrete than the analysis of biological contributions. The suggestion that cognitive pathology may contribute to eating disorders comes from the prominence cognitive aberrations such as obsessive thoughts, inaccurate judgments, and rigid thinking patterns featured in individuals with an eating disorder (Polivy & Herman, 2002). The cognitive distortions in self-image and self-perception are described in the diagnostic features of anorexia nervosa and bulimia nervosa in the *DSM-5* (American Psychiatric Association [APA], 2013). Cognitive distortions associated with anorexia nervosa include the fear of gaining weight and the disturbance of the perception of his or her body’s size or shape. Similarly, bulimia nervosa is associated with self-evaluation excessively influenced by his or her body’s size or shape.

**Environmental.** Environmental factors, both in immediate friend or family groups and the media, have been considered a relevant contribution to the propensity towards, and possible development of, an eating disorder. Families can contribute to the development of an eating disorder through differential parental and sibling treatment, and differential experience of life events such as physical and sexual abuse (Klump, Wonderlich, Lehoux, Lilenfeld, & Bulik, 2002). Friend groups are able to contribute to the development of an eating disorder through exaggerating disparate peer group differences and through body weight teasing. Friends and families are specific to an
individual, but media is an environmental factor shared by many individuals. Research, especially the consideration of how to prevent eating disorders, has focused on the shared factor of media, as opposed to person-specific environmental factors such as friend and family groups.

Mass media has been criticized for the promotion of a dangerously thin beauty ideal due to research highlighting the negative effects of mass media consumption (Pryslopski, 2011). Mass media can be defined as organizations or individuals that use technological means to disseminate messages to a large audience (Potter, 2011). The technologies used by the organizations include, but are not limited to, magazines, television, computers, social media, and newspapers. The exposure to, and problems with, mass media’s promotion of the thin ideal depends on the popularity of the technology used to reach the masses. When magazines were popular, it was found to be significantly correlated with a drive for thinness, preoccupation with weight, fear of fat, and eating disorder symptoms (Harrison & Cantor, 1997; Thomsen, Weber, & Brown, 2002; Neumark-Sztainer, Wall, Story, & Perry, 2003).

Popularity of technology has more recently shifted from magazines to viewing television and the use of the Internet. On television, thin characters are over-represented, whereas overweight characters are underrepresented (e.g., Greenberg, Eastin, Hofschire, Lachlan, & Brownell, 2003). According to the U.S. Census Bureau’s statistics on computer and Internet use, the use of the Internet by the general public, including adolescents, has increased substantially over recent years (File, 2013). The Internet allows viewers to access websites, music videos, television shows, photographs, and
social networking sites, all of which have the potential to expose the viewer to the thin ideal. As with the biological understanding of eating disorders, it is unknown whether thin ideal images in the media cause body dissatisfaction and related concerns, or if women who are dissatisfied with their body are drawn to media portraying the thin ideal, or if some other factor is affecting both conditions (Grabe, Ward, & Hyde, 2008).

**Media Effects**

Consumption of media can produce behavioral and cognitive effects. Behavioral effects change the way the consumer behaves or acts. Cognitive effects change the way the consumer thinks. There are many theories attempting to explain how media affects the consumer both cognitively and behaviorally. The relevant theories discussed here will include Social Cognitive Theory, Cultivation Theory, and Schema Theory.

**Social Cognitive Theory**

Originally created by Albert Bandura and colleagues, Social Cognitive Theory explains media effects by asserting that individuals learn behaviors by observing others (through the media) and modeling the behaviors (Harris, 2009). Modeling can be conceptualized as having four subfunctions: attentional processes, retention processes, production process, and motivational processes (Bandura, 2001). The subfunction of attentional processes is when the person observes the modeled events, then has to attend to it by perceiving the event to be salient and of personal or functional value. In the plethora of modeled behaviors in a person’s immediate surroundings as well as media consumption, only the behaviors that are selectively observed have the possibility of being modeled. Once the individual has attended to the modeled event, he or she must
symbolically encode the observed behavior in order to retain it (retention subfunction). Next, the person must be able to translate the symbolic conceptions into a behavior pattern capable of being performed as determined by the observer’s capabilities (production process subfunction).

The final subfunction, motivational processes, requires the individual form external or internal reinforcements that motivate the performance of the behavior (Bandura, 2001; Harris, 2009). Consumption of media can create vicarious motivators for the viewer. For example, seeing a celebrity lose weight using a certain diet can create an outcome expectancy for the viewer that acts as a positive incentive to model the behavior (following the same diet). A negative outcome expectancy on the other hand, works as a disincentive to model the behavior. For example, if the individual observes an actress being ridiculed in a tabloid magazine for wearing a certain type of clothing, it creates an outcome expectancy that acts as a negative incentive to model the behavior (wearing similar clothing).

The motivational effects, whether positive or negative, are controlled by the viewer’s perception of his or her ability to succeed in the modeled behavior and that similar or dissimilar consequences would be incurred if the viewer were to model the behavior (Bandura, 2001). Modeling occurs when people believe in their ability to exert control over their level of functioning and events that affect their lives. People internalize media messages when they believe they have the power to produce desired effects in their lives and avoid undesired effects by their actions.
Prior to advances in technology, individuals were exposed to modeled events only by people in their immediate environments. With access to various sources of media nowadays, individuals can observe behavior from people all over the world. This can be harmful because media does not always portray healthy models of behavior. There is more access to observing idealized, yet harmful media images. Social Cognitive Theory explains that an individual could choose to model harmful behavior by being selectively inattentive to the harmful effects, cognitively distorting the effects, attempting to discredit the evidence of the harm they cause, or by minimizing the harm (Bandura, 2001). Imitating harmful behaviors may occur because the individual is able to recall the benefits of the behavior, but are less able to recall the harmful effects of the behavior. In the context of eating disorders, an individual may model a celebrity’s disordered behavior because he or she attends to the benefits (e.g., praise for weight loss) but disregards the evidence of harm (e.g., hospitalizations).

**Cultivation Theory**

George Gerbner and colleagues developed cultivation theory in the 1970s and 1980s as an explanation of how exposure to media shapes the way we view our world and social reality (Harris, 2009). Cultivation theory asserts that the more media we are exposed to, the more our views of our social reality will come to resemble the media’s view. Gerbner (1998) was originally interested in television effects on the perception of violence in the real world. Cultivation theory has since been used to explain other media effects (Van Vonderen & Kinnally, 2012). As previously established, the media promotes a thin ideal. Application of cultivation theory to internalization of the thin ideal suggests
that repeated exposure to images and videos that disseminate the thin ideal shapes the viewer’s social reality.

A construct unique to cultivation theory is *mainstreaming*. This is the gradual assimilation of people’s divergent perceptions of social reality into a convergent mainstream (Harris, 2009; Shrum & Bischak, 2001). Viewers learn about the “real world” through observing the world created by media. Beliefs about the real world are created using stored information of media experiences. The beliefs about the world and resulting cognitions are assumed to be enduring, if the media content is consistent (Perse, 2001). The effects of the media may diminish if the content of the media changes (e.g., different beauty standards).

In terms of eating disorder-related effects, cultivation may not always create attitudes, but rather reinforce them (Shrum, 2009; Van Vonderen & Kinnally, 2012). Repeated exposure to images portraying the thin ideal, therefore does not always create body dissatisfaction, but instead reinforce and strengthen existing body dissatisfaction. The strengthened body dissatisfaction could then lead to behaviors intended to alleviate the negative body image. The behaviors could be healthy (exercising, eating well, acceptance of self) or unhealthy (restricting, purging, excessively exercising, self-harm).

Cultivation theory provides several explanations concerning the development of eating disorders, but does not provide a complete picture of the etiology of eating disorders. For example, cultivation theory emphasizes the volume of media exposure. However, there are children who develop eating disorders despite little exposure to television or other media portrayals of the thin ideal. In addition, there were individuals
who suffered from eating disorders before thin was the ideal, and before technologies such as television existed (Bemporad, 1996).

**Schema (Script) Theory.** Schema theory is firmly based on the cognitive model of media effects (Perse, 2001). Defined, a schema is a highly structured set of conceptual categories or patterns that influence what a person learns from his or her environment (Baran & Davis, 2006). Schemas are developed to help us make sense of what we are seeing, and to categorize the information to aid in retention (Perse, 2001; Taylor & Crocker, 1981). These schemas and scripts are based on past experiences. A schema or script can be learned from media consumption, such as watching a television show (Harris, 2009). Watching a television show with a montage of a character losing weight can influence the development of a mental script of how to lose weight. The viewer could learn what types of exercises are best for weight loss, what foods to eat, how to feel about others shaming his or her higher weight, and what clothing is appropriate for exercise. Even if the person has not attempted to lose weight himself or herself, the script is used in possible future desires to lose weight.

The consequences of learning scripts or developing schemas based on media consumption, is when the learned activities do not come from personal life experience (Harris, 2009). Because media is not always an accurate reflection of reality, using schemas or scripts learned from media exposure may lead to different results than was shown. These results could be potentially harmful if there is a significant difference between a person’s reality and the world created by the media. If the person has a script that going to the gym results in fast weight loss and a gain in popularity, he or she may be
disappointed and frustrated when his or her results are not as quick and easy as was shown in the observed montage.

We create eating and exercise schemas frequently based off of images shared on social media, experiences of friends and family, commercials, television programs, and other media. Learning unhealthy scripts or reacting poorly to an unrealistic script could result in disturbed cognitions and behavior patterns. The scripts we learn, and the resulting cognitions and behavior patterns, can be caused by either accidental or intentional exposure to the source of the script.

**Accidental exposure.** Accidental exposure to media can occur when media is presented in a person’s environment, without the individual seeking out the media content. For example, a television in a waiting room of a dentist office is exposing the waiting patients to media, although they did not seek out the television. There is a difference, however, between unconscious exposure (subliminal perception) and accidental exposure. Patients who do not attend to the television in the waiting room will remain unaffected by the media messages presented in the content. Studies on subliminal perception and subliminal advertising have concluded that there are minimal to nonexistent effects of subliminal stimuli (e.g., Merikle & Cheesman, 1987; Pratkanis, 1992; Saegert, 1987). As discussed previously in the Social Cognitive Theory section, stimuli must be attended to in order for the stimuli to impact the viewer’s cognitions and resulting behaviors (Bandura, 2001). Only the individuals who attend to the content of the television and find the information relevant will experience the consequences of consuming such media.
The consequences of consuming media, especially media that depicts the thin ideal depends on the type of exposure. It is possible to be accidentally exposed to the thin ideal through seeing: tabloid magazines in the checkout area of a store, commercials or advertisements on billboards or public televisions, or advertisements on social media sites. Accidental exposure is likely to result in less consumption of the thin ideal than intentional exposure. Less exposure leads to less likelihood of modeling any behaviors shown by models or actors or actresses in magazines, advertisements, or commercials. Less exposure also reduces the likelihood of cultivation of beliefs surrounding the thin ideal. Finally, less exposure reduces the likelihood of developing a script concerning behaviors used to reach the thin ideal.

**Intentional exposure.** Not all media exposure is accidental. Based on individual preferences and interests, people seek out certain types of media. This includes the type of magazine a person would pick up in a store, the television shows a person chooses to watch, which social media sites a person chooses to use, and what websites a person views. The media content is sought out, meaning the person is more likely to attend to the content because it has already been deemed relevant. Intentional exposure is thus more likely to lead to cognitive and behavioral changes as a result of viewing the media content.

Media may be sought out to fill a purpose. Uses and Gratifications Theory, developed by Blumler and Katz (1974), explains that people experience the effects of media based on how the person uses the media, and the gratifications he or she receives from them (Harris, 2009). There are many uses of media: to fulfill a fantasy, to avoid
responsibilities, to seek information, or for entertainment. Once a need is defined, a person can seek out particular media to fulfill the need.

Among the plethora of media people intentionally expose themselves to, some people deliberately seek out media content that promotes the thin ideal. This could manifest by an individual seeking out particular T.V. programs, buying certain magazines, looking at fashion websites, or seeking out pro-eating disorder or pro-anorexia websites. Intentional seeking out of these media increases the exposure to the thin ideal, thus increasing the likelihood of modeling, cultivation, and development of scripts related to behaviors used to attain the thin ideal.

**Pro-Anorexia Websites**

Pro-anorexia websites and blogs have emerged and increased in the past decade. As of 2010, there were more than 180 active websites with pro-anorexia and related components (Borzekowski, Schenk, Wilson, & Peebles, 2010). Pro-anorexia websites use images and written material for the purpose of supporting the pursuit of a thin body ideal (Williams & Reid, 2007). Although hosted by many different people from all over the world, there are common factors in the content of most identified pro-anorexia websites. Most pro-anorexia websites contain a statement of the purpose of the website, information about the webmaster, website disclaimers, religious metaphors, lifestyle descriptions, “tips and tricks,” thinspiration (images and quotes), and links with recovery information (Borzekowski et al., 2010; Morris, Boydell, Pinhas, & Katzman, 2006).

Pro-anorexia websites and blogs provide social support through various means. Some pro-anorexia website have member-only content in which individuals can join,
create a personal profile, and share information with other members. Most active websites (79%), however, have a more general interactive component in which users can post comments, use forums, share artwork, or use provided calculators to calculate his or her body mass index (BMI; Borzekowski et al., 2010). The interaction with other members and tools on the website or blog make these resources not just static-read only content, but a community.

The evolution of pro-anorexia websites and blogs have formed their own subculture (Lipczynska, 2007). The community has developed their own terminology for commonly-discussed topics: thinspiration is referred to as “thinspo,” anorexia becomes “ana,” bulimia is referred to as “mia,” and “Ultimate Goal Weight” is referred to as “UGW.” Accessories are marketed on some of these websites, such as red bracelets that declare to others who are knowledgeable of their meaning that he or she is part of the pro-anorexia community ((Borzekowski et al., 2010). Often used religious metaphors are also a staple in these communities, such as the “Ana Creed” or “Ana’s 10 Commandments.” This deviant content has caused recent public outcry and forced shutdowns of various websites. Yet, many pro-anorexia websites and blogs remain popular within the community and replacement websites are created in the place of websites that were shut down (Brotsky & Giles, 2007; Dias, 2003; Tierney, 2006).

Although outsiders to the pro-anorexia community see the content and promotion of eating disorders as a lifestyle as unhealthy and deviant, members of the pro-anorexia community find social support in the online world. Mantella (2007) found that the top reason for joining the pro-anorexia community through blogs was to gain social and
emotional support. The community provides support and comfort to individuals who self-identify as having an eating disorder. The sites provide time and space free from judgment for people who are not ready to give up the disorder (Dias, 2003). Members encourage each other, share tricks for weight loss, and are non-judgmental of each other’s respective weight-loss goals. This support, however, can also have negative implications. Membership in the community encourages isolation from those outside of the community, including friends, family, and health professionals (Tierney, 2006). This may lead to increased potential harm due to reduced support of recovery or willingness to comply with health professionals. On the other hand, members who obtain emotional support from other members on the pro-anorexia websites or blogs have a reduced impact from potentially harmful content. Individuals who silently browse are more vulnerable to worsening of their symptoms due to a lack of emotional support.

**Consequences of viewing pro-anorexia websites.** Recent research has focused on the consequences of viewing pro-anorexia websites and related content. In studies conducted by Bardone-Cone and Cass (2006, 2007), participants who viewed a pro-anorexia website reported greater negative affect, lower appearance self-efficacy, and lower social self-esteem than participants who viewed control websites. Participants also perceived themselves to be heavier, reported engaging in image comparison, and reported a greater likelihood of exercising in the future. Jett, LaPorte, and Wanchisn (2010) used a similar method to studying the impact of pro-eating disorder websites as Bardone-Cone and Cass, but included assessment of pre- and post- exposure caloric intake, and a three-week follow-up for behaviors and emotional reactions. After exposure, participants who
viewed the pro-eating disorder website showed a significant one-week decrease in caloric intake and a reported use of techniques provided on the website to aid with food reduction.

In a study conducted by Harper, Sperry, and Thompson (2008), individuals who report frequenting pro-eating disorder websites had poorer body image, higher appearance dissatisfaction, higher level of restriction, and significantly more bulimic symptoms than the control group. Similar consequences, however, were also found in individuals who viewed professional eating disorder information websites. This may be because professional eating disorder websites provide similar information as pro-anorexia websites, just presented in a different light.

A large study involving adolescent school children found viewership of pro-anorexia websites by girls was associated with lower self-perception of appearance, more perfectionism, and a higher drive for thinness than girls who did not visit such sites (Custers & Van den Bulck, 2009). Adolescents with an eating disorder diagnosis were also studied in relation to the use of pro-eating disorder and pro-recovery sites (Wilson, Peeble, Hardy, & Litt, 2006). Results indicated that 35.5% of patients had visited pro-eating disorder sites, 41% had visited pro-recovery sites, 25% had visited both, and 48.7% had visited neither. Almost all (96%) of the patients who visited pro-eating disorder sites reported learning new weight loss or purging techniques. In addition, of the patients who viewed pro-recovery sites, 46% reported learning similar techniques. This study also found consequences of viewing pro-eating disorder sites to include spending less time on schoolwork, and having a longer duration of illness.
The consequences of viewing pro-eating disorder websites are not limited to adolescent girls, but also in adult females. A study involving adult viewers of pro-eating disorder websites found that users reported many disordered eating behaviors beyond the normal adult female population (Peebles et al., 2012). In addition, heavy users reported more disordered eating behaviors and lower quality of life than light users. This indicates that not only viewership, but the amount of time spent on the websites can predict disordered eating and lower quality of life.

Overall research concerning the consequences of pro-anorexia or pro-eating disorder websites has been restricted by obvious ethical limitations. However, the studies that have been conducted show that there are immediate and long-term negative psychological and health effects for both adolescent and adult viewers, and for both healthy individuals and individuals with a current eating disorder diagnosis. It was also shown that negative effects are seen in individuals who view pro-eating disorder sites, pro-recovery sites, and professional eating disorder information sites.

Due to the clear consequences of viewing pro-eating disorder websites, and even pro-recovery and professional eating disorder information sites, it is important to research what characteristics of these sites are contributing to the harm to viewers. Although the majority of a pro-eating disorder website is considered harmful, several characteristics have been averred as particularly damaging to the viewer. These characteristics include the assertion of the disorder as a “lifestyle,” tips and tricks, and thinspiration content (Christodoulou, 2012). Thinspiration in particular has been empirically and descriptively researched within the last decade.
Thinspiration

Definition and description. Of the aforementioned pro-anorexia website content, thinspiration is both one of the most prevalent and perceived as one of the most harmful components (Borzekowski et al., 2010). Thinspiration can be defined as images that present unrealistically thin body type for the purpose of inspiring weight loss or continuation of a low weight (Lewis & Arbuthnott, 2012). Thinspiration, or thinspo, has various categories in and of itself. Common types include celebrity, fashion models, athletes, “bone pics” (thin women digitally altered to look even more emaciated), and thin real people ((Borzekowski et al., 2010; Morris, Boydell, Pinhas, & Katzman, 2006; Smith, Joiner, & Dodd, 2014).

Searching for thinspiration can lead to viewing pro-anorexia websites, and viewing pro-anorexia websites can lead to viewing thinspiration. Thinspiration images, especially images originating on pro-anorexia websites provide different content from that of solely idealized media images such as the images provided in magazines (Bardone-Cone & Cass, 2006; Reichel et al., 2014). Instead of classic beauty ideals, thinspiration images tend to show gaunt cheeks, jutting ribs, prominent hipbones, and sunken abdomens. These extreme images cause an aversive reaction from most healthy viewers, but the emaciated figures have been found to elicit implicit positive reactions from individuals diagnosed with anorexia nervosa (Smith, Joiner, & Dodd, 2014).

In addition to being found on pro-anorexia websites, thinspiration can be found on social media websites (Columbia Broadcasting System New York, 2012). In these contexts, thinspiration may be used for weight loss, without the intent to participate in
disordered eating behaviors (Dalley & Buunk, 2009). These thinspiration images may be closer to classic beauty ideals, which make it more palatable to the mainstream. An analysis of thinspiration images on social media websites (Twitter and Pinterest) by Ghaznavi and Taylor (2015) show that images labeled “thinspo” were characterized by extreme thinness and more sexually suggestive than images labeled “thinspiration.” Ghaznavi and Taylor theorize that images tagged as “thinspo” on social media may be considered more harmful because they tend to present a more extreme thin ideal.

**Consequences.** Until very recently, no studies on the harm caused specifically by viewing thinspiration had been conducted. Research into eating disorders in the digital age is still in its infancy. Predictions of the harm imposed by viewing thinspiration comes from the relevant theoretical framework concerning images promoting a thin ideal similar to what is depicted in thinspiration images (Ghaznavi & Taylor, 2015; Grabe, Ward, & Hyde, 2008). These implications include promoting unhealthy beauty standards, increased self-objectification, encouraged sexualization of women, and distortion of social reality. Borzekowski and colleagues (2010) suggest that individuals with higher levels of exposure to images portraying the thin ideal are more likely to accept the implied messages as normative when compared to individuals who have been exposed less to thinspiration-type images.

The implied message of thinspiration can be summarized as discouraged body satisfaction and discouraged self-acceptance. Ghaznavi and Taylor (2015) found the text accompanying tagged thinspiration images showed a tendency of the sharer to compare his or her body to the body of the person in the image. Common responses included
admiration for the bodies of the person(s) in the image; disgust with fat, weight gain or own body; and a desire for perfection. Exposure to thinspiration images can lead the viewer to believe that bodies portraying the thin ideal are more common than in reality, as well as providing target bodies for comparison. Images used for comparison have been found to contribute to disordered eating attitudes and the perceived self-discrepancy in comparison to the ideal depicted in the image (Englen-Maddox, 2005). These findings align with the concepts of the social comparison theory. It has been suggested that media portrayals of the thin ideal (social media, television shows, other internet access to thinspiration-type images) can be even more dangerous and harmful than thinspiration content provided on pro-anorexia websites (Schroeder, 2010; Rouleau & von Ranson, 2011). This is because mainstream media images do not come with a warning about their potentially triggering and damaging nature, like there often is provided on pro-anorexia websites.

Fitspiration

**Definition and description.** A different type of inspiration image, but related to thinspiration, is the recent emergence of “fitspiration.” Fitspiration, or “fitspo,” includes images and text that are designed to encourage weight loss or maintenance through exercise techniques and healthy eating (O’Brien, 2013). Like thinspiration, fitspiration images also portray a thin ideal, but with the added component of muscle. Not only are the women extremely lean, but also muscular.

In comparison to thinspiration, fitspiration has different stylistic features. Fitspiration images aimed toward women tend to include pictures of females in skimpy or
skin-tight work out clothing, engaged in some sort of exercise, or posing for the purpose of bringing attention to her body. Although there are some distinct differences between the context of thinspiration and fitspiration, fitspiration is considered a variation or spin-off from thinspiration.

Fitspiration content and images can be found on a variety of media platforms. Similar to thinspiration, fitspiration occurs on independent photo-sharing websites such as Tumblr and Pinterest (Adams, 2014, July 17; Flint, 2014, June 29). Fitspiration-type content can also be found on “healthy living” blogs. A content analysis of such healthy living blogs found that much of the content contained thin appearance ideals, emphasis of appearance, and disordered eating messages about food consumption (Boepple & Thompson, 2014). The study also found that about half of the websites included guilt-inducing messages about food, and dissemination of problematic eating and body image information. A quarter of the bloggers self-identified as having had an eating disorder, and even more described symptoms consistent with an eating disorder (loss of menstruation, using dietary restraint). This study suggests that the label of being a healthy living blog, does not guarantee positive or healthy information. Fitspiration, which claims to be healthier than thinspiration, may have a similar dark side.

Although there has been recent concern of the consequences of fitspiration, expressed in the form of newspaper articles and Internet posts, only one empirical analysis of the consequences of fitspiration-type images has been published. Specifically, a study by Boepple and Thompson (2015) was published recently on the comparison of thinspiration and fitspiration websites based on content. Their study found that
thinspiration and fitspiration images provided on the websites were similar in content. Thinspiration and fitspiration sites did not differ on the portrayal of fat/weight stigmatization, guilt-inducing messages concerning weight/body, messages promoting dieting/restraint, or the presence of objectifying phrases. Because fitspiration was found to be similar in content to thinspiration, fitspiration (despite being supposedly devoted to healthy pursuits) may have similarly harmful effects on the viewer.

**Consequences.** A recent study by Benton and Karazsia (2015) looked at the consequences of viewing thin and muscular women. The muscular condition was split into “thin and toned” and “hypermuscular.” Results indicated that there were similar consequences from viewing the thin and toned women as there were from viewing just thin women. Both groups experienced decreased state-oriented body satisfaction. The hypermuscular group, however, was not significantly different from the control group. This implies that images of thin and muscular women can produce similar reactions in terms of body satisfaction as images of the thin ideal.

Although there is little research on the various possible consequences of fitspiration images, real-world experience of individuals suffering the harmful effects of viewing fitspiration content (such as developing of an eating disorder) imply real potential harm of fitspiration images and websites (Adams, 2014, July 17). Newspaper articles and blog posts assert that “fitspo” should come with a warning label. Empirical support for the harm caused by fitspiration images would suggest warning labels should be used for searches of fitspiration and related content on photo-sharing websites.
Purpose

The purpose of this study was to replicate and extend existing research on the consequences of viewing thinspiration images, as well as establish research concerning the consequences of viewing fitspiration images of college-aged females. There were two main research questions this study aimed to answer: a) are there psychological consequences to viewing fitspiration? and b) are there differences in the effects of viewing thinspiration and fitspiration?

**Thinspiration and fitspiration’s effect on perceived weight.** The hypotheses for this study were based off of previous research and theory, and were created on the assumption that the similarity between thinspiration and fitspiration images would result in similar responses to the majority of consequences assessed. The first hypothesis predicted individuals who viewed fitspiration or thinspiration would perceive their weight to be significantly higher than participants who did not view such images. More specifically, it was predicted that individuals who did not view thinspiration or fitspiration would rate themselves, on average, as being of normal weight, whereas individuals who viewed thinspiration or fitspiration would perceive themselves to be overweight. This prediction was based off of previous findings that participants who viewed a pro-anorexia website (which contained thinspiration images) perceived themselves to be heavier than participants who viewed a control website (Bardone-Cone & Cass, 2007). Social Comparison Theory also supports this prediction because images used for comparison have been found to contribute to disordered eating attitudes.
Thinspiration and fitspiration’s effect on self-esteem. The second hypothesis predicted participants who viewed thinspiration would report a significantly lower self-esteem than participants who viewed fitspiration, which will also be significantly lower than participants who did not view either thinspiration or fitspiration. This prediction was also based off of the findings of the Bardone-Cone and Cass (2007) study. The study found that participants who viewed a pro-anorexia website had significantly lower self-esteem than participants who viewed a control website. Although viewing pro-anorexia websites, thinspiration, or fitspiration images may not cause low self-esteem, Cultivation Theory explains that self-esteem could be affected because the images would reinforce and further decrease already low overall self-esteem or specific areas of dissatisfaction (Shrum, 2009; Van Vonderen & Kinnally, 2012).

Thinspiration and fitspiration’s effect on behavioral intentions. The third hypothesis predicted participants who viewed thinspiration or fitspiration would be significantly less likely to overeat, as compared to participants in the control group. This prediction was based on the findings of Jett and colleagues’ (2010) that individuals who viewed a pro-eating disorder website reported the intent to reduce calorie intake. In addition, individuals who viewed a health/exercise website also reported the intent to eat less food. Fitspiration is predicted to show similar trends as expressed in the findings of viewing a health/exercise website. The prediction that participants who viewed thinspiration would be less likely to overeat is based on the Bardone-Cone and Cass
(2007) study that found participants who viewed a pro-anorexia website reported
themselves to be less likely to overeat than participants in the control group.

The fourth and final hypothesis predicted participants who viewed fitspiration
images would report a significantly greater likelihood to exercise than participants who
viewed thinspiration, both of which would surpass the participants in the control group’s
likelihood to exercise. In Jett and colleagues’ (2010) study, individuals who viewed a
health/exercise website reported planning to exercise as a result of viewing the website,
even more than individuals who viewed the pro-eating disorder website. Both the
health/exercise website and pro-eating disorder website elicited a greater likelihood to
exercise than the control website. Bardone-Cone and Cass (2007) also found that
participants who viewed a pro-anorexia website reported a significantly greater likelihood
to exercise than participants who viewed a control website.

Both the third and fourth process rely on the assumption that participants will
attend to and retain the images and translate the symbolic conceptions into a behavior
pattern the participant is capable of carrying out (Bandura, 2001). According to Social
Cognitive Theory, attending to the images as salient, retaining the images by
symbolically encoding the behavior, and translating this into a behavior, will be
necessary for the individual to report an intended change in behaviors of overeating and
exercise. Social Cognitive Theory also suggests that motivational processes will
determine the increased or decreased intention to perform a behavior. If the participant
believes she has the power to produce the desired effects in her life and avoid undesired
effects by her actions, she is more likely to change her behavioral intentions.
METHOD

Pilot Study

A pilot study was conducted to determine which thinspiration and fitspiration images best represent their respective category, in order to enhance the validity of the images used. Images in the free domain were pulled from Internet searches using the key terms *thinspiration, thinspo, fitspiration,* or *fitspo.* The images included the entire body of the depicted model. The images were then cropped to a uniform size, the backgrounds removed, and changed to black and white. For consistency and to avoid extraneous variables, all models used appeared to be Caucasian, of similar age, and comparable attractiveness (according to Western ideals).

Female undergraduate students (*n* = 34) from general psychology classes participated in the study. Participants were young adults, and were of varying ethnicities. Each participant rated 30 images (15 thinspiration and 15 fitspiration) on the model’s fitness and thinness using a rating scale developed by the examiner. The first scale asked the participant to rate the model in the image from 1, *extremely unfit,* to 7, *extremely fit.* The second scale asked the participant to rate the model in the image from 1, *extremely thin,* to 7, *extremely overweight.* All images used in the pilot study are shown in Figure 1.

Means were calculated for the thinness and fitness ratings of each image. The means were put in ascending order for the purpose of determining the images rated most thin, and the images rated most fit. Despite not being aware of the categorization of the images as thinspiration or fitspiration, the participants correctly rated most of the thinspiration images as thinner than the fitspiration images. Likewise, the participants
rated most of the fitspiration images as fitter than the thinspiration images. The thinness mean ratings ranged from 1.11 to 2.80. The fitness mean ratings ranged from 1.26 to 4.91. The lowest ten mean ratings for thinness and the lowest ten mean ratings for fitness were determined for future use in the proposed study. One image was removed because it occurred in both the top ten thinnest images and top ten fittest images. Additionally, one fitspiration image occurred in the top ten thinnest images (but was not in the top ten fittest images), and was likewise removed. Mean ratings for all images are provided in Table 1.

Participants

There were 161 female participants sampled from undergraduate general psychology classes at a small Midwestern University. The mean age for participants was 19.65 (SD = 2.95). In regards to ethnicity, 77% were Caucasian, 11% were Latino, 7% were bi-racial, 3% were African American, 1% were Asian-American, and 1% were other. When asked their relationship status, 54% reported being single, 45% reported being in a dating relationship, and 1% reported being married. When asked to report mental health diagnoses within the past six months from a list of select, 30 participants (18.6%) reported having one or more diagnosis, and 131 (81.4%) reported not being diagnosed with a mental health diagnosis. The most frequently reported mental health diagnosis was Generalized Anxiety Disorder (See Table 2 for frequencies and percentages of diagnoses). Participants were randomly assigned to thinspiration (N = 59), fitspiration (N = 58), or control (N = 44) conditions.
Materials

Images. Participants in the thinspiration, fitspiration, and control conditions viewed different sets of images. Images for the thinspiration and fitspiration conditions were chosen from the pilot study. The ten images rated as the thinnest were used as the thinspiration images (see Figure 2), and the ten images rated as the fittest were used as the fitspiration images (see Figure 3). The control condition was shown ten basic shapes such as ovals and rectangles (see Figure 4). All of the images were of similar size, and scaled to fit the paper. In order to encourage the participants to attend to each image, the participants were asked to trace each image to the best of their ability within 30 seconds. The categorization of the images (thinspiration, fitspiration, or basic shapes) was not known to the participant prior to the experiment. The images were introduced to the participant as part of a tracing activity, and only in the debriefing were participants told the types of images and their purpose.

Condition-Specific Packets. Each student received either a fitspiration packet, thinspiration packet, or control packet. The order of the fitspiration packet materials included: a practice fitspiration tracing image, 10 fitspiration images, demographics survey, state self-esteem scale, perceived weight status questionnaire, behavioral intentions questionnaire, a debriefing form, and a copy of the consent form. The thinspiration packet differed only by having a practice thinspiration tracing image and 10 thinspiration images instead of fitspiration images. The control packet contained the same materials as the thinspiration and fitspiration packets, except the practice image was a basic shape and the 10 images were basic shapes. Pieces of colored opaque paper were
inserted between each image to discourage participants from looking ahead, and to reduce the likelihood of participants viewing images from other conditions.

**Demographics.** The demographic survey included ethnicity, age, relationship status, estimated weight and height, and history of select mental disorder diagnoses. Previous similar studies used an eating disorder assessment rather than questioning the participant’s history of mental disorder diagnosis (Bardone-Cone & Cass, 2006, 2007). Other studies screened individuals for a history of an eating disorder prior to participation in the study (Jett, 2008; Jett et al., 2010). This study, however, did not mention eating disorders, thinspiration, or fitspiration prior to or during the experiment to avoid priming the participant and influence responses on subsequent questionnaires. For this reason, this study asked the participant about history of mental disorder diagnosis with eating disorders and various other distractor mental disorders as options (see Appendix B). The participant had the option of checking a box next to any listed mental disorder (Generalized anxiety disorder, anorexia nervosa, learning disorder, obsessive compulsive disorder, body dysmorphic disorder, attention deficit/hyperactivity disorder, bulimia nervosa, narcissistic personality disorder, schizophrenia, binge eating disorder, borderline personality disorder), which had been diagnosed by a mental health professional within the last six months. The participants could check as many diagnoses as apply, or had the option of checking “Never been diagnosed with a mental disorder.” The results of the participant checking anorexia nervosa, bulimia nervosa, or binge eating disorder yields information similar to the results of the eating disorder assessment used in the studies by Bardone-Cone and Cass (2006, 2007).
State Self-Esteem Scale. Participant’s self-esteem was measured by the State Self-Esteem Scale (SSES; Heatherton & Polivy, 1991). The SSES was chosen for this study because it was created to measure state, or short lived changes in self-esteem. Measuring state self-esteem makes the questionnaire more sensitive to the various conditions’ ability to temporarily alter self-esteem. The scale consists of 20 questions on a 5-point Likert scale, ranging from 1, not at all, to 5, extremely. Questions such as “I feel unattractive,” “I am worried what other people will think of me,” “I am pleased with my appearance right now,” and “I am self-conscious” are assessed. For all included questions, see SSES provided in the Appendix C.

The SSES provides three factor scores: social evaluation, appearance self-esteem, and academic performance. Thirteen out of the twenty questions are reverse scored. Scores can range from 20 to 100, with lower scores indicating lower self-esteem. Psychometric properties for the SSES are adequate, with alpha for the academic performance scale being 0.86, alpha for the social evaluation between 0.86 and 0.89, and alpha for the appearance subscale between 0.87 and 0.89 (Bardone-Cone & Cass 2007). The SSES has a moderate degree of stability, with a test-retest value of 0.75. Heatherton and Polivy (1991) also showed the SSES to have good concurrent and construct validity and adequate discriminant validity. The SSES was appropriate to use for this study because it was created and normed using data from students of a similar age to the participants of this study.

Perceived Weight Status. Participant’s self-perception of weight was assessed by the Perceived Weight Status questionnaire devised by Bardone-Cone and Cass (2006;
This scale consisted of one question, which asked participants to describe themselves as very underweight, underweight, average, overweight, or very overweight. See Appendix D for the Perceived Weight Status questionnaire.

As did Bardone-Cone and Cass (2006; 2007) and Vohs, Bardone, Joiner, and Abramson (1999), the scoring of this question was dichotomized. Responses of very underweight, underweight, and average were considered “not overweight.” Responses of overweight or very overweight were considered “overweight.” Psychometrics concerning this question have not been reported by the developer or subsequent users of this question. The previous studies, however, used a similar sample of participants to that of the participants of this study.

Behavioral Intentions. This questionnaire measures the likelihood of the participant engaging in specific behaviors and cognitions after having completed the tracing activity. The questionnaire was devised by Bardone-Cone and Cass (2007) for the purpose of measuring behavioral and cognitive intentions of the participants in the day or two after the experiment. Questions are rated on a Likert scale ranging from 1, less likely, to 5, more likely. Questions include likelihood of food restriction via cutting back on the amount of food eaten, likelihood of overeating, likelihood of exercising, likelihood of purging via vomiting, and likelihood of thinking about weight. The Behavioral Intentions questionnaire is provided in Appendix E.

Scores can range from 5 to 25, with higher scores indicate more intention toward disordered behaviors. Individual questions were assessed for relationships with other scale responses and correlations with the various conditions. The creator of this short
questionnaire did not report any psychometrics. Despite a lack of psychometrics for the exact measure, a study by Baker, Little, and Brownell (2003) used a behavioral intention measure which consisted of similar questions related to eating and exercise intentions. The similar measure also rated questions on a 5-item Likert scale. The scale had good psychometric qualities. The reliabilities for eating intentions were .91, and .93 for exercise intentions. The participants for the original study by Bardone-Cone and Cass (2007) were female undergraduate students, thus the participants for this study align with the intended use of the questionnaire.

**Procedure**

Once all males have existed the classroom, the experimenter began handing out the consent forms (see Appendix F). Individuals who decided to participate were instructed to sign the consent form, which the experimenter collected prior to beginning the experiment. Students who decided not to participate were given time to leave the classroom. Next the experimenter handed out the randomized packets (thinspiration packet, fitspiration packet, or control packet) to the seated students.

To introduce the tracing activity, the experimenter followed part one of a script (see Appendix G), which described to the participants the goals and process of the activity. The tracing activity began by participants being instructed to remove a colored piece of paper that covered a practice tracing item. The experimenter began the 30-second time allotment for the practice tracing item. At the end of 30 seconds, the participants were told to put their writing utensil down and flip over the paper, and then
flip over the colored paper to reveal the next figure. These steps were repeated until all 10 subsequent figures had been traced.

Once the tracing activity was complete, the experimenter read part two of the experimental instructions to the participants (see Appendix G). The experimenter instructed the participants to fill out the five questionnaires included in the packet, and to stop when they got to the next colored piece of paper. After completing the questionnaires, the experimenter instructed the participants to read the debriefing statement provided at the end of the packet (see Appendix H). This concluded the experiment, at which time participants returned the materials to the packet while removing the debriefing statement prior to leaving the testing room.
RESULTS

Thinspiration and Fitspiration’s Effect on Perceived Weight. The first hypothesis predicted that individuals who view fitspiration or thinspiration would perceive their weight to be significantly higher than participants who did not view such images. A Chi Square analysis was performed using thinspiration and fitspiration conditions as a combined variable compared to the control condition. The combined variable of thinspiration and fitspiration conditions was used because no significant differences were found between thinspiration and fitspiration. This combined variable was used throughout subsequent analyses. The Chi Square results indicated viewing thinspiration and fitspiration made a significant difference in the participant’s self-perceived weight, $\chi^2 (1, N = 161) = 3.19, p = .037$. Participants who viewed thinspiration or fitspiration did in fact perceive themselves to be heavier, or more overweight than participants who viewed the control images (See Figure 5).

Thinspiration and Fitspiration’s Effect on Self-Esteem. The second hypothesis predicted that individuals who viewed thinspiration or fitspiration would report lower self-esteem than individuals who view control images. A one-way analysis of variance (ANOVA) indicated the experimental conditions did not impact the participant’s overall self-esteem when compared to the control condition, $F(1, 158) = 1.64, p = .203, \eta^2_p = .01$, power = .25. The presence of a mental health diagnosis was thought to be a possible covariate, so an analysis of covariance (ANCOVA) was performed to remove the variable of presence or absence of a mental health diagnosis. Once the covariate was
removed, self-esteem still not significant, $F(1, 158) = 1.94, p = .165, \eta_p^2 = .01$, power = .28.

Several one-way ANOVAs were completed to look for experimental effects on the subscales: appearance self-esteem, performance self-esteem, and social self-esteem. Thinspiration and fitspiration images were found to significantly impact the participant’s appearance self-esteem, $F(1, 158) = 3.62, p = .05$, whereas the performance self-esteem, $F(1, 158) = .05, p = .831$, and social self-esteem, $F(1, 158) = 1.00, p = .320$, were not significantly impacted. Although there was no effect for overall self-esteem, one-way ANCOVAs were performed to see the true effects of the conditions on appearance, performance, and social self-esteem subscales because only the appearance subscale should have been affected by the experimental condition. As expected, appearance self-esteem showed improved significance, $F(1, 158) = 4.16, p = .043, \eta_p^2 = .03$, power = .53, whereas as performance self-esteem, $F(1, 158) = 0.80, p = .777, \eta_p^2 = .001$, power = .54, and social self-esteem, $F(1, 158) = 1.34, p = .289, \eta_p^2 = .01$, power = .50 remained non-significant (See Table 3 for subscale means).

**Thinspiration and Fitspiration’s Effect on Behavioral Intentions.** It was originally predicted that participants who viewed thinspiration or fitspiration images would indicate different behavioral intentions as compared to those who viewed control images. Specifically, it was predicted that the experimental conditions would indicate being more likely to engage in exercise and less likely to engage in overeating than participants in the control condition. Because behavioral intentions to exercise and behavioral intentions of not overeating are conceptually similar, a one-way multivariate analysis of covariance
(MANCOVA) was performed. Similar to the previous analyses, we wanted to eliminate the covariate of a mental health diagnosis effect on the relationship between the condition and the behavioral intentions. Thus, the mental health diagnosis was removed from the analysis to observe the true effects of the condition. Results indicated viewing thinspiration or fitspiration images did not significantly impact behavioral intentions, Wilks’ Lambda = .99, \( F(2, 157) = .57, p = .567 \). For individual effects, results indicated participants were not significantly more likely to engage in exercise, \( F(1, 158) = .02, p = .895 \), or overeat, \( F(1, 158) = 1.00, p = .318 \). The multivariate effect size was estimated at .007, which means that only 0.7% of the variance in the behavioral intentions was accounted for by the images viewed.
DISCUSSION

Thinspiration has been present on the Internet as part of pro-anorexia websites for over a decade, but has come to be used by the general public in recent years for the purpose of weight-loss motivation (Columbia Broadcasting System New York, 2012; Dalley & Buunk, 2009; Lewis & Arbuthonott, 2012). Fitspiration also emerged recently on the Internet as a “healthier” form of thinspiration (O’Brien, 2013; Tiggemann & Zaccardo, 2015). Studies conducted on the effects of thinspiration found that it is associated with lowered self-esteem, distorted weight perception, the intent to restrict calories, and the intent to exercise (Barone-Cone & Cass, 2007; Jett et al., 2010). Fitspiration is relatively new, and thus has little research done on the topic, but studies have found that individuals who viewed fitspiration-type images reported the intent to reduce their caloric intake and increase exercise (Jett et al., 2010) and experienced reduced appearance self-esteem (Tiggemann & Zaccardo, 2015). The purpose of the current study was to assess for possible effects of fitspiration images, as well as to replicate the effects of thinspiration images on perceived weight, self-esteem, and behavioral intentions.

**Thinspiration and Fitspiration’s Affect on Weight Perception**

The first hypothesis predicted participants who viewed thinspiration or fitspiration would perceive themselves as more overweight than participants who viewed control images. This hypothesis was supported because participants in the experimental conditions had a high percentage that reported themselves as overweight (either overweight or very overweight), whereas the control condition had a higher percentage of
participants who reported themselves as not overweight (average, underweight, or very underweight). These results are similar to the findings of Bardone-Cone and Cass (2007), in which participants who viewed a pro-anorexia website (containing thinspiration images) perceived themselves to be heavier than participants who viewed a control website. Beyond replicating the previous finding from thinspiration research, this study also provides groundwork for understanding the consequences of viewing fitspiration images in terms of distorted weight perception.

Support of the first hypothesis means that viewing thinspiration and fitspiration images, even for a short amount of time, can distort the viewer’s weight perception. These results can be applied to the general public because fitspiration and thinspiration-type images can be seen in a variety of media, including magazines, independent websites, social media websites, and television (Adams, 2014, July 17; Flint, 2014, June 29). Even when these images are not sought out in a natural environment, exposure to thinspiration and fitspiration images can affect people’s perception of their weight. Specifically, individuals who view such images are more likely to perceive themselves as overweight. In Western society, the label of “overweight” contains many negative connotations and associations, such as being lazy, unintelligent, and having a lack of self-control (e.g., Barlosius & Philipps, 2015; Brewis, Hruschka, & Wutich, 2011). Viewing oneself as lazy, unintelligent, or not having self-control, could have intrapersonal and interpersonal consequences. This finding alone suggests that it may not be helpful or healthy for individuals to view thinspiration or fitspiration images, even for a short period of time.
Thinspiration and Fitspiration’s Affect on Self-Esteem

The second hypothesis predicted participants who viewed thinspiration and
fitspiration would report a significantly lower self-esteem than participants who viewed
neither thinspiration nor fitspiration. The results of this study did not support this
hypothesis, as there were no significant differences in overall self-esteem between the
experimental conditions and the control condition. This study was unable to replicate the
findings of Bardone-Cone and Cass (2007), in which participants who viewed a pro-
anorexia website (including thinspiration images) had significantly lower overall self-
esteeem than participants who viewed a control website. This may be due to the fact that
the self-esteem scale used included subscales of performance self-esteem and social self-
esteeem, which theoretically should not be affected by the experimental conditions. The
irrelevant subscales could have masked the effects on overall self-esteem. The
appearance self-esteem scale was found to be significantly lower in the experimental
conditions than the control condition. This finding makes intuitive sense because
appearance self-esteem and body esteem would be more likely affected by viewing
appearance and weight-related images.

Although the overall hypothesis concerning the effect on self-esteem was not
supported, the finding of lowered appearance self-esteem provides interesting insight into
the effects of viewing thinspiration and fitspiration images. Viewing thinspiration or
fitspiration, even for only five minutes, was able to significantly decrease participant’s
satisfaction with weight, appearance, and body shape. It is possible that individuals who
view thinspiration or fitspiration images for prolonged periods of time and emphasize
comparison of self to the model in the image may have an even more pronounced
decrease in appearance self-esteem.

**Thinspiration and Fitspiration’s Affect on Behavioral Intentions**

The third hypothesis, based off of the findings of Jett and colleagues’ (2010) and
Bardone-Cone and Cass (2007), predicted that participants who viewed thinspiration or
fitspiration would be less likely to overeat as compared to participants who viewed
control images. The previous research found thinspiration and fitspiration-type images
made participants less likely to overeat based on self-reported behavioral intentions. The
results of the current study did not support the previous findings, as there were no
differences between participants in the experimental groups and control group’s reported
intentions to overeat. This could be because other research on thinspiration had included
tips on how to not overeat and reduce calorie intake. The image itself may not carry the
information necessary to change behavioral intentions such as reducing the likelihood to
overeat.

The fourth hypothesis, also based on Jett and colleagues’ (2010) and Bardone-
Cone and Cass’ (2007) findings, predicted participants who viewed thinspiration or
fitspiration images would report being significantly more likely to exercise than
participants in the control group. This hypothesis was not supported despite previous
research findings and the intuitive sense of the predicted result. Interestingly, individuals
who viewed thinspiration or fitspiration images, were no more likely to report intent to
exercise than individuals who viewed control images. Similar to the findings related to
intent to overeat, it is possible that the thinspiration or fitspiration image by itself is not enough to create the intent to change behavior in a predicted direction.

Overall, the lack of support for the third and fourth hypotheses suggests that brief exposure to thinspiration or fitspiration images did not affect participant’s intentions to change behavior such as reduction of overeating behaviors or engaging in exercise. This could be due to the short duration of exposure to the images; lack of explicit messages via captions, text overlay, or associated links and articles; or a misunderstanding of the Likert scale used in the questionnaire. With significant findings for distorted weight perception and decrease appearance self-esteem, it appears that the experiment was able to affect self-perception and thought patterns, but was not robust enough to influence behavioral intentions. This could mean that briefly looking at thinspiration or fitspiration images may influence how a person thinks, but is less likely to change a person’s behavior. This could be problematic because one of the main purposes of thinspiration and fitspiration is to change behaviors towards a specific goal (decrease food intake, increase exercise, or performing purging behaviors). Fitspiration in particular, was popularized under the guise of motivating individuals to increase healthy behaviors (O’Brien, 2013; Tiggemann & Zaccardo, 2015).

Another explanation of why there were no differences in intention to exercise could be explained by a study by Vartanian and Novak (2011), which found that weight stigma was negatively correlated with self-reported strenuous exercise and positively correlate with avoidance of exercise. Those findings suggest that weight stigma can negatively influence motivation to exercise. The current study found that individuals in
the experimental condition were significantly more likely to report themselves as being overweight. Negative stigma of being overweight could explain why individuals were not reporting an increased intent to exercise. The distorted weight perception could have caused a slight avoidance of exercise, which washed out any effects in comparison to the control group.

The results of this study, in which participants who viewed fitspiration were no more or less likely to exercise or overeat than participants who viewed control images, suggests that fitspiration images could be ineffective in their intended purpose. Without the benefits of increasing healthy behavior such as eating healthy portions of food and exercising, and this study’s findings of decreased appearance self-esteem and the presence of distorted weight perception, the value of fitspiration images can be called into question.

Limitations and Directions for Future Research

The current study had several limitations. Although participants were randomly assigned to the thinspiration, fitspiration, or control conditions, students were sampled from undergraduate psychology classes at a small Midwestern University, and thus were not a random sample. The sample was also limited to individuals over the age of 18. Individuals who would typically view thinspiration and fitspiration-type images are often teenagers and young adults (Fletcher, Bonell, & Sorhaindo, 2011). This sample did not provide insight on a large portion of individuals who intentionally or unintentionally view these images.
Limitations were also present in regards to the methodology of this study. A tracing activity was used in this study in order to eliminate extraneous variables and increase the likelihood of the participant attending to the salient aspects of each image. This type of experimental manipulation has not been used in similar research, and thus may not be the most effective method to assess for effects of viewing thinspiration and fitspiration images. The tracing activity may be too dissimilar to the naturalistic process of viewing images on a computer screen and could have reduced the generalizability of the results of this study. The tracing activity could also have reduced the social comparison between the participant and the model in the image. Social comparison is thought to be important in the process of appearance evaluation and associated negative effects of media exposure (Levine & Murnen, 2009; Festinger, 1954; Want, 2009). The detachment of the tracing activity from social comparison could have masked potentially stronger appearance dissatisfaction effects. Also along the lines of methodology, a potential limitation is the restricted exposure to the images. The tracing activity only took approximately five minutes. Such short exposure could have reduced the ability to perceive the presence of a true effect.

There are possible limitations in terms of the questionnaires used as the dependent variables in this study. The State Self-Esteem Scale (SSES; Heatherton & Polivy, 1991) may not have been the best self-esteem scale to assess overall self-esteem. However, the differences in the subscale’s significance helps to establish the discriminant validity of the scale and show that the specific aspect of self-esteem, appearance, was affected by the experimental manipulation. Another questionnaire limitation includes the wording used
in the Likert scale for the behavioral intentions scale. The Likert scale used for the SSES was different than the Likert scale used for the behavioral intentions scale (which came after the SSES), so there may have been confusion on what each number on the scale represented.

Future research would benefit from addressing the limitations found in this study. For example, similar studies may want to increase the length of exposure to the images, provide a more naturalistic setting by showing the images on a computer screen, assessing younger populations, and using different scales. Because this study is the first of its kind in the area of thinspiration and fitspiration research, it would be beneficial to attempt to replicate the findings of this study as well as extend this research.

Specific avenues for future research would be to provide longer exposure to the images and assess for long-term effects. This would best be done by conducting a longitudinal study. It may also be beneficial to find individuals who consistently view thinspiration and fitspiration images and assess for self-reported benefits and consequences, as well as doing a follow up to see the long-term effects of consistent viewing of such images. Future research could also extend into using more than a base image, but rather using images combined with captions, tips, or overlying text. A large portion of thinspiration and fitspiration includes text, which uses motivational phrases, tips on how to lose weight, or detailed diets and exercise plans (Tiggemann & Zaccardo, 2015). It would make sense to use such text and image combinations in an experimental setting to see if there are additional or worse consequences than those found when viewing only an image.
This study only included full-body images of young, Caucasian, attractive females, but many thinspiration and fitspiration images are not this consistent. Many thinspiration and fitspiration images focus solely on one body part such as abs, hip bones, collar bones, biceps, thigh gap, or leg muscles (Tiggemann & Zaccardo, 2015). These images are unlikely to include a face or head in the photo, as the images are often depersonalized. Future research could look into the effects of viewing images of specific body parts and the depersonalized photos that do not include a face or head. The use of more diverse models could also be of interest.

Finally, although this study only focused on female’s reactions to viewing female models in thinspiration and fitspiration, future research could assess male’s reactions to female models in thinspiration and fitspiration images, or male models in thinspiration and fitspiration images. There is a subculture of male pro-anorexia and male fitness blogs. Future research could look at male thinspiration or fitspiration’s affect on male participants’ self-esteem, body esteem, weight perception, muscle dysmorphia, and behavioral intentions.

Implications

The implications from this study apply to the general public and to clinical populations. For the average person, the effects of viewing thinspiration and fitspiration found in this study suggest that images use to motivate and inspire can also have negative consequences. Many people who use the Internet, and especially social media, have come across thinspiration or fitspiration material (Tiggemann & Zaccardo, 2015). Unintentional exposure to this material as well as the use of thinspiration or fitspiration as
inspiration to lose weight or exercise could have unseen consequences. On several social media platforms, searches for thinspiration come with a banner or pop-up disclaimer. Based on the results of this study, searches for fitspiration may benefit from a similar banner or pop-up disclaimer. This disclaimer could briefly describe the potential consequences of viewing such images and provide telephone and website resources if the person wants help for eating disorder-related problems.

The findings of this study suggest that it may be wise for individuals to limit exposure to thinspiration and fitspiration images so as to reduce the likelihood of distorted weight perception and a decrease in appearance self-esteem. To reduce unintended exposure to such images, certain Instagram feeds, Pinterest boards, or Tumblr blogs may need to be blocked or unfollowed. Individuals may also want to reduce intended exposure to thinspiration and fitspiration images by searching for motivational quotes instead of images, or by avoiding searches of thinspiration or fitspiration-type images such as fashion models or weight-loss transformations.

Clinicians could also benefit from the findings of this research as it helps inform on the consequences of clients viewing thinspiration or fitspiration, especially clients who are predisposed to the development of an eating disorder. As this study found thinspiration and fitspiration related to distorted weight perception and lower appearance self-esteem, these may lead to eating disorder-type thoughts and behaviors. Viewing such images may also hinder an individual’s recovery process from an eating disorder (Rouleau & von Ranson, 2011).
Conclusions

The aim of this study was to replicate existing research on the effects of viewing thinspiration images as well as laying a foundation of research on the effects of viewing fitspiration images. This study hypothesized that thinspiration and fitspiration images would be related to lower self-esteem, distorted weight perception, decreased intention to overeat, and increased intention to exercise. Thinspiration and fitspiration images were found to be related to distorted weight perception and lower appearance self-esteem, but were not related to overall self-esteem, decreased intention to overeat, or increased intention to exercise. This research adds to the evidence of negative consequences of viewing thinspiration material, while forming the foundation of evidence of negative consequences of viewing fitspiration material. Both of these types of images, although meant to be inspirational, can have negative implications for clinical populations as well as the general population. It appears intended inspiration is not always synonymous with the health and well being of the consumer.
REFERENCES


Mantella, D. G. (2007). “Pro-Ana” web-log uses and gratifications: Towards understanding the pro-anorexia paradox. (Masters thesis). Georgia State University, Atlanta, GA.


http://www.academia.edu/4241976/MIND_OVER_MATTER_EXPRESSIONS_OF_MIND_BODY_DUALISM_IN_THINSPIRATION


doi:10.1080/10640260600638865

doi:10.1016/j.bodyim.2015.06.003


doi:10.1038/oby.2010.234


Figure 1. Pilot images in the order presented to participants.
Table 1

Pilot Study Thinspiration and Fitspiration Mean Ratings

<table>
<thead>
<tr>
<th>Thinspiration Image</th>
<th>Mean Thinness Rating (scale of 1 (extremely thin) to 7 (extremely overweight))</th>
<th>Mean Fitness Rating (Scale of 1 (extremely fit) to 7 (extremely unfit))</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1.70*</td>
<td>3.74</td>
</tr>
<tr>
<td>3</td>
<td>2.19</td>
<td>2.74</td>
</tr>
<tr>
<td>6</td>
<td>1.33*</td>
<td>3.78</td>
</tr>
<tr>
<td>8</td>
<td>1.61*</td>
<td>3.02</td>
</tr>
<tr>
<td>11</td>
<td>1.28*</td>
<td>3.48</td>
</tr>
<tr>
<td>13</td>
<td>2.06</td>
<td>3.17</td>
</tr>
<tr>
<td>14</td>
<td>1.89</td>
<td>2.96</td>
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<td>16</td>
<td>1.74</td>
<td>3.57</td>
</tr>
<tr>
<td>18</td>
<td>1.07*</td>
<td>4.28</td>
</tr>
<tr>
<td>19</td>
<td>1.19*</td>
<td>3.98</td>
</tr>
<tr>
<td>21</td>
<td>1.76</td>
<td>3.50</td>
</tr>
<tr>
<td>25</td>
<td>1.52*</td>
<td>3.61</td>
</tr>
<tr>
<td>27</td>
<td>1.11*</td>
<td>4.91</td>
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<tr>
<td>28</td>
<td>1.39*</td>
<td>3.80</td>
</tr>
<tr>
<td>30</td>
<td>1.72*</td>
<td>3.22</td>
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</table>

<table>
<thead>
<tr>
<th>Fitspiration Image</th>
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<tbody>
<tr>
<td>1</td>
<td>2.44</td>
<td>1.30*</td>
</tr>
<tr>
<td>4</td>
<td>2.37</td>
<td>1.76*</td>
</tr>
<tr>
<td>5</td>
<td>2.04</td>
<td>2.19*</td>
</tr>
<tr>
<td>7</td>
<td>2.04</td>
<td>1.59*</td>
</tr>
<tr>
<td>9</td>
<td>2.91</td>
<td>2.41*</td>
</tr>
<tr>
<td>10</td>
<td>2.52</td>
<td>2.69</td>
</tr>
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<td>12</td>
<td>2.57</td>
<td>2.67</td>
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<tr>
<td>15</td>
<td>2.48</td>
<td>1.57*</td>
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<td>17</td>
<td>2.80</td>
<td>1.26*</td>
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<tr>
<td>20</td>
<td>2.41</td>
<td>1.59*</td>
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<tr>
<td>22</td>
<td>1.69</td>
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<tr>
<td>23</td>
<td>2.33</td>
<td>2.07*</td>
</tr>
<tr>
<td>24</td>
<td>2.28</td>
<td>1.91*</td>
</tr>
<tr>
<td>26</td>
<td>2.20</td>
<td>2.46</td>
</tr>
<tr>
<td>29</td>
<td>1.61</td>
<td>3.00</td>
</tr>
</tbody>
</table>
Figure 2. Thinspiration images chosen from the pilot study. Image numbers in the top row from left to right: 2, 6, 8, 11, 18. Bottom row: 19, 25, 27, 28, 30.
Figure 3. Fitspiration images chosen from the pilot study. Image numbers in the top row from left to right: 1, 4, 5, 7. Middle row: 9, 15, 17, 20. Bottom row: 23, 24.
Figure 4. Basic Shapes for the control condition.
<table>
<thead>
<tr>
<th>Mental Health Diagnoses</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generalized anxiety disorder</td>
<td>19</td>
<td>11.8%</td>
</tr>
<tr>
<td>Anorexia nervosa</td>
<td>1</td>
<td>0.6%</td>
</tr>
<tr>
<td>Learning disorder</td>
<td>5</td>
<td>3.1%</td>
</tr>
<tr>
<td>Obsessive compulsive disorder (OCD)</td>
<td>4</td>
<td>2.5%</td>
</tr>
<tr>
<td>Body dysmorphic disorder</td>
<td>1</td>
<td>0.6%</td>
</tr>
<tr>
<td>Attention deficit/hyperactivity disorder (ADHD)</td>
<td>6</td>
<td>3.7%</td>
</tr>
<tr>
<td>Bulimia nervosa</td>
<td>1</td>
<td>0.6%</td>
</tr>
<tr>
<td>Narcissistic personality disorder</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>1</td>
<td>0.6%</td>
</tr>
<tr>
<td>Binge eating disorder</td>
<td>2</td>
<td>1.2%</td>
</tr>
<tr>
<td>Borderline personality disorder</td>
<td>1</td>
<td>0.6%</td>
</tr>
<tr>
<td>Never been diagnosed with a mental disorder</td>
<td>131</td>
<td>81.4%</td>
</tr>
</tbody>
</table>
Figure 5. Frequency percentages of “overweight” or “not overweight” responses when asked how the participant would describe her weight.

Table 3

Means for Subscales of State Self-Esteem Scale

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Experimental Condition Mean</th>
<th>Control Condition Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance Self-Esteem</td>
<td>18.31</td>
<td>19.48</td>
</tr>
<tr>
<td>Social Self-Esteem</td>
<td>23.41</td>
<td>24.25</td>
</tr>
<tr>
<td>Performance Self-Esteem</td>
<td>21.97</td>
<td>22.09</td>
</tr>
</tbody>
</table>
Appendix A

IRB Approval Letter

<table>
<thead>
<tr>
<th>DATE:</th>
<th>November 20, 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>TO:</td>
<td>LaNaya Anderson, B.A.</td>
</tr>
<tr>
<td>FROM:</td>
<td>Fort Hays State University IRB</td>
</tr>
<tr>
<td>STUDY TITLE:</td>
<td>[801597-2] Harmful Inspiration: The Consequences of Viewing Thinspiration and Fitspiration</td>
</tr>
<tr>
<td>IRB REFERENCE #:</td>
<td>16-012</td>
</tr>
<tr>
<td>SUBMISSION TYPE:</td>
<td>Amendment/Modification</td>
</tr>
<tr>
<td>ACTION:</td>
<td>APPROVED</td>
</tr>
<tr>
<td>APPROVAL DATE:</td>
<td>November 19, 2015</td>
</tr>
<tr>
<td>EXPIRATION DATE:</td>
<td>November 18, 2016</td>
</tr>
<tr>
<td>REVIEW TYPE:</td>
<td>Full Committee Review</td>
</tr>
</tbody>
</table>

Thank you for your submission of Amendment/Modification materials for this research study. Fort Hays State University IRB has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a study design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This submission has received Full Committee Review based on the applicable federal regulation.

Please remember that informed consent is a process beginning with a description of the study and insurance of participant understanding followed by a signed consent form unless documentation of consent has been waived by the IRB. Informed consent must continue throughout the study via a dialogue between the researcher and research participant. Federal regulations require each participant receive a copy of the signed consent document. The IRB-approved consent document must be used.

Please note that any revision to previously approved materials must be approved by this office prior to initiation. Please use the appropriate revision forms for this procedure.

All SERIOUS and UNEXPECTED adverse events must be reported to this office. Please use the appropriate adverse event forms for this procedure. All FDA and sponsor reporting requirements should also be followed.

Please report all NON-COMPLIANCE issues or COMPLAINTS regarding this study to this office.

Please note that all research records must be retained for a minimum of three years.

Based on the risks, this project requires Continuing Review by this office on an annual basis. Please use the appropriate renewal forms for this procedure.
Appendix B

Demographic Information

Please check the box to indicate your answer for multiple-choice options. If there is a blank, please write your answer to the best of your ability/knowledge on the provided line.

1. Your ethnic background (please choose all that apply):
   - Caucasian/White
   - Hispanic/Latino
   - African American/Black
   - Asian-American
   - Native American
   - Mixed or bi-racial
   - Other

2. Age _____

3. Which best describes your current relationship status?
   - Single
   - In a dating relationship
   - Married
   - Divorced
   - Widowed

4. Height _______ inches (estimate to the best of your ability)

5. Weight _______ lbs (estimate to the best of your ability)

7. Have you been diagnosed by a mental health professional with any of the following mental disorders within the last 6 months (check all that apply)
   - Generalized anxiety disorder
   - Anorexia Nervosa
   - Learning disorder
   - Obsessive compulsive disorder (OCD)
   - Body dysmorphic disorder
   - Attention Deficit/Hyperactivity disorder (ADHD)
   - Bulimia Nervosa
   - Narcissistic personality disorder
   - Schizophrenia
   - Binge eating disorder
   - Borderline personality disorder
   - Never been diagnosed with a mental disorder
Appendix C

State Self-Esteem Scale

This is a questionnaire designed to measure what you are thinking at this moment. There is of course, no right answer for any statement. The best answer is what you feel is true of yourself at the moment. Be sure to answer all of the items, even if you are not certain of the best answer.

Using the scale below, answer these questions as they are true for you RIGHT NOW by placing the corresponding number on the provided line

1          2           3          4          5
Not At All  A Little Bit  Somewhat  Very Much  Extremely

___ 1. I feel confident about my abilities.
___ 2. I am worried about whether I am regarded as a success or failure.
___ 3. I feel satisfied with the way my body looks right now.
___ 4. I feel frustrated or rattled about my performance.
___ 5. I feel that I am having trouble understanding things that I read.
___ 6. I feel that others respect and admire me.
___ 7. I am dissatisfied with my weight.
___ 8. I feel self-conscious.
___ 9. I feel as smart as others.
___ 10. I feel displeased with myself.
___ 11. I feel good about myself.
___ 12. I am pleased with my appearance right now.
___ 13. I am worried about what other people think of me.
___ 15. I feel inferior to others at this moment.
___ 16. I feel unattractive.
___ 17. I feel concerned about the impression I am making.
___ 18. I feel that I have less scholastic ability right now than others.
___ 19. I feel like I'm not doing well.
___ 20. I am worried about looking foolish.
Appendix D

Perceived Weight Status

The following question is intended to measure the perception of your own weight. Check one box that best describes how you perceive your own weight.

I would describe myself as…

☐ Very underweight
☐ Underweight
☐ Average
☐ Overweight
☐ Very overweight
Appendix E

Behavioral Intentions

This questionnaire is designed to measure the likelihood of you engaging in specific behaviors and cognitions after having done the tracing activity. There are no correct answers to the questions. Even if you are not certain of the best answer, do your best to provide an answer to every question.

Rate the likelihood of your engaging in the following specific behaviors and cognitions today or tomorrow, compared to as if you had not completed the tracing activity, by placing the corresponding number on the provided line.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Less Likely</td>
<td>About as Likely</td>
<td>More Likely</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

_____ 1. Food restriction via cutting back on the amount of food eaten
_____ 2. Overeating
_____ 3. Exercise
_____ 4. Purging via vomiting
_____ 5. Thinking about weight
Appendix F

CONSENT TO PARTICIPATE IN RESEARCH

Department of Psychology, Fort Hays State University

Study title: Psychological Effects of Tracing Simple or Complex Figures

Name of Researchers: LaNaya Anderson
Contact Information: lmshackelford@mail.fhsu.edu

Name of Faculty Supervisor & Contact Information, if student research:
Dr. Jenn Bonds-Raacke
Email:jmbondsraacke@fhsu.edu

You are being asked to participate in a research study. It is your choice whether or not to participate. Your decision whether or not to participate will have no effect on your academic standing or performance in the course to which you are otherwise entitled. Please ask questions if there is anything you do not understand.

What is the purpose of this study? The purpose of this study is to examine the effects of tracing simple figures in comparison to complex figures on various attitudinal measures and self-perception.

What does this study involve? If you decide to participate in this study, you will be asked to trace a total of ten figures. After the tracing activity you will view several questionnaires and will be asked to provide some basic demographic information. You will not be required to provide your name for the questionnaires. Consent forms will be stored separately from the completed tracing activities and questionnaire responses. After completing the activity and questionnaires, all of the forms will be collected and you will be read a debriefing statement. The length of time of your participation in this study will be no longer than 30 minutes. Approximately 90 participants will be in this study.

Are there any benefits from participating in this study? The benefits in participating in this study is the ability to provide information and data in a confidential manner, which will help others in the future, as well as a more thorough understanding of psychological research.

Will you be paid or receive anything to participate in this study? You will not receive financial compensation for your participation. However, there may be course credit or extra credit points may be offered by the instructor as compensation for participation as outlined in the course syllabus.

What are the risks involved with being enrolled in this study? There is potential for more than minimal risk of participating in this study. The tracing activity may produce residual psychological harm, which will be addressed in the debriefing. It is unlikely that you are at risk for legal, physical, or social harm. If you should feel distressed or become upset by participating, you may contact the Kelly Center, the Psychology Department Ethics Chair, or the course instructor.

How will your privacy be protected? No names or identifying information will be asked. Responses to questionnaire items will be entered into a computer program and stored for 5 years, after which the data will be deleted. Original questionnaire documents will be shredded after the information is entered into the computer program. Only the student researcher and faculty advisor will have access to this database. Results of the questionnaires will be shared with the scientific community through presentation and possible publication. When results are shared, information will be presented in comprehensive form and will contain no names or identifying information.

Other important items you should know:

• Withdrawal from the study: You may choose to stop your participation in this study at any time. Your decision to stop your participation will have no effect on your academic standing.

• Funding: There is no outside funding for this research project.

Whom should you call with questions about this study? Questions about this study can be directed to the researcher LaNaya Anderson at lmshackelford@mail.fhsu.edu, Ethics Chairperson in Psychology: Dr. Trey Hill at wthill@fhsu.edu, or the faculty supervisor of this study: Dr. Jenn Bonds-Raacke at jmbondsraacke@fhsu.edu. If you have questions, concerns, or suggestions about human research at FHSU, you may call the Office of Scholarship and Sponsored Projects at FHSU (785) 628-4349 during normal business hours.
CONSENT
I have read the above information about *Psychological Effects of Tracing Simple or Complex Figures* and have been given an opportunity to ask questions. By signing this I agree to participate in this study and I have been given a copy of this signed consent document for my own records. I understand that I can change my mind and withdraw my consent at any time. By signing this consent form I understand that I am not giving up any legal rights. I am 18 years or older.

__________________________
Participant's Signature and Date
Appendix G

Experimental Instructions (Script)

Pre-Experiment

My name is LaNaya Anderson. I am a Clinical Psychology graduate student at FHSU. Thank you for your interest in participating in this study. I will be coming around to hand out two consent forms. (Once everyone is ready) Please take out a writing utensil. Read the consent form to yourself. When you are done reading you can decide whether you would like to continue with participating in the study. If so, you can sign the bottom consent form. The second consent form is for your records. I will come around to collect the consent forms when everyone is done reading and deciding whether to participate. Now I will be handing out a packet to each of you. Please do not look inside the packet until I direct you to do so.

Part 1

Inside your packet, under the colored piece of paper are 10 pages, each with a figure printed on one side. There are colored pieces of paper in between each page. Please do not peek under the colored paper in between the pages to see the next page until instructed to do so. Use the writing utensil you brought to class for the tracing activity. You will have 30 seconds to complete tracing each figure. You are to trace the figure as ACCURATELY as possible within the time limit. When I say “stop,” you are to immediately stop tracing the figure, and flip the sheet of paper over like this (demonstrates). You will see the next colored paper. When I say “turn to the next figure,” you are to flip the colored sheet over to reveal the next figure you are to trace (demonstrates). I will then say “start,” at which time you will start tracing that figure. Do not skip any figures, go out of order, or look ahead. Remember, if at any time you feel uncomfortable with the activity, it is your choice whether you would like to withdraw from the experiment, without penalty. Just do your best with the tracing activity, but remember that we are concerned with how accurately you can trace the figure in 30 seconds, so pay close attention to the shape and outline of the figure. Let's start with a practice tracing item to make sure everyone is comfortable with this process. (Once everyone is ready) Start. (After 30 seconds) Stop. It appears everyone understands how to perform this tracing activity. We will now start with the first tracing item. Turn to the next figure. Start.

Part 2

Now that you have completed the tracing activity, there are four questionnaires for you to fill out. There is no time limit for each questionnaire. There are instructions on how to fill out the questionnaires on the top of each questionnaire page. Please read these instructions carefully to provide accurate responses. Once you finish a questionnaire you can move on to the next questionnaire provided without a prompt. Please complete the questionnaires in the order of which they were provided to you. When you have completed all four questionnaires and have reached the colored page, please wait for everyone else to finish. When everyone has finished (I will ask the group to confirm completion), you can flip over the last colored page. You can read the debriefing form at your own pace.

Post-Experiment

Thank you for participating in this research study. Please return the tracing papers, colored pages, and questionnaires, as well as the pen, pencil, and marker to the packet. Please read the provided debriefing form and keep it for your records. On your way out you may hand the packet to me. Once again, thank you for taking the time to participate in this study.
Appendix H

Debriefing Form
Department of Psychology, Fort Hays State University

Study title: Psychological Effects of Tracing Simple or Complex Figures

Name of Researchers: LaNaya Anderson
Contact Information: lmshackelford@mail.fhsu.edu

Name of Faculty Supervisor & Contact Information, if student research:
Dr. Jenn Bonds-Raacke
Email: jmbondsraacke@fhsu.edu

This study is concerned with the effect of viewing and interacting with images of fitspiration (fitness inspiration) and thinspiration (inspiration to lose weight) on the viewer’s self-esteem, weight perception, body satisfaction, and behavioral intentions. The purpose of this study is to determine the effects of viewing fitspiration as compared to thinspiration. Fitspiration images claim to depict healthy bodies in order to inspire the viewer to eat healthy and exercise more. Thinspiration on the other hand depicts exceptionally thin bodies in order to inspire the viewer to lose weight, often through unhealthy methods (such as starvation).

How was this tested?
In this study, you were asked to perform a tracing task. Each of you was randomly assigned to perform different tracing tasks. One group was asked to trace the body of a model used to represent fitspiration. Another group was asked to trace body of a model used to represent thinspiration. The last group was used as a control, and were asked trace only simple shapes (e.g., oval, rectangle, diamond). After the tracing task, you were asked to fill out several questionnaires on demographic information, self-esteem, weight perception, behavioral intentions, and body satisfaction.

Hypotheses and main questions:
We expect to find that participants who traced the figures of thinspiration and fitspiration will record lower levels of self-esteem, increased distorted perception of weight, and lower body satisfaction as compared to the control group. We predict that certain demographic variables such as history of an eating disorder will moderate the effects on self-esteem and distorted perception of weight.

We are also interested in the change of behavioral intentions in response to viewing the fitspiration or thinspiration figures. We suspect that participants who view the fitspiration will report more intention to exercise and eat healthy. We also suspect that participants who view thinspiration will report more calorie-restricting intentions.

Why is this important to study?
Thinspiration images have been found to cause a lowering of self-esteem, increased distortion of weight perception, and short-term increase in calorie restriction. Thinspiration images and body types are found in advertisements, social media photo sharing, and on pro-anorexia blogs. Some thinspiration websites and pages on social media websites come with a warning that the images may trigger unhealthy eating behaviors, and increase the risk of developing an eating disorder. Studies have not been done on the effects of viewing fitspiration images, so preliminary research is needed. Fitspiration images are prolific on social media sites, blogs, and are also used in advertisements. Although the fitspiration images claim to be healthier than their thinspiration counterparts, viewing the images may have similar negative effects. If the results of this study
show similar negative effects between viewing thinspiration and fitspiration images, additional warnings on fitspiration sites and pages may be warranted.

**What if I want to know more?**

If you are interested in learning more about the problems related to viewing thinspiration, you may want to consult:


If you would like to receive a report of this research when it is completed (or a summary of the findings), please contact LaNaya Anderson at lmshackelford@mail.fhsu.edu.

If you feel distressed as a result of this experiment, or would like to get help for an eating disorder, you may contact the Kelly Center at (785) 628-4401. If you would like more information and helpful resources concerning eating disorders, you may visit the National Eating Disorder Association (NEDA) website at www.neda.org. If you have concerns about your rights as a participant in this experiment, please contact the Psychology Department Ethics Chairperson in Psychology: Dr. Trey Hill at wthill@fhsu.edu, or you may call the Office of Scholarship and Sponsored Projects at FHSU (785) 628-4349 during normal business hours.

Thank you again for your participation.