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FITSPIRATION: EMPOWERING OR OBJECTIFYING? THE EFFECTS OF FITSPIRATION
AND SELF-OBJECTIFICATION ON EXERCISE BEHAVIOR

A Dissertation

Submitted to the School of Graduate Studies and Research

in Partial Fulfillment of the

Requirements for the Degree

Doctor of Psychology

Julia Kathryn Chasler

Indiana University of Pennsylvania

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Indiana University of Pennsylvania
School of Graduate Studies and Research
Department of Psychology

We hereby approve the dissertation of

Julia Kathryn Chasler

Candidate for the degree of Doctor of Psychology

David LaPorte, Ph.D.
Professor of Psychology, Advisor

Anson Long, Ph.D.
Associate Professor of Psychology

Margaret Reardon, Ph.D.
Associate Professor of Psychology

ACCEPTED

Randy L. Martin, Ph.D.
Dean
School of Graduate Studies and Research

Title: Fitspiration: Empowering or Objectifying? The Effects of Fitspiration and Self-Objectification on Exercise Behavior

Author: Julia Kathryn Chasler

Dissertation Chair: Dr. David LaPorte

Dissertation Committee Members: Dr. Anson Long
Dr. Margaret Reardon

Fitspiration, or fitness inspiration, features images of sculpted and fit yet also thin women engaged in exercise, often with motivational words meant to encourage the viewer. These images frequently objectify women. As objectification has become commonplace in society, women can internalize this message and see themselves from an outsider's perspective, thereby engaging in *self-objectification*. Self-objectification (SO) has been categorized as both a temporary state and an enduring trait.

This study investigated the impact of fitspiration on self-objectification (SO), exercise, and exercise motivation in college-aged women. Trait SO and reasons for exercising were measured with the Objectified Body Consciousness Scale and Reasons for Exercise Inventory, respectively, and the relationship between the two was explored. Participants recorded exercise for one week, and were then randomly assigned to view images from one of four groups: fitspiration with text, fitspiration with no text, non-fitspiration with text, and non-fitspiration with no text. State SO was evaluated with the Twenty Statements Test (TST) and participants again tracked exercise for one week. Post-study and one-month follow up interviews were conducted.

Analyses suggest that trait SO is positively correlated with appearance-focused reasons for exercise, but there is no relationship between trait SO and exercise. Monitoring appearance from an onlooker's perspective (Surveillance) moderated the relationship between fitspiration

and strength/flexibility exercise. Additionally, fitspiration viewers had higher levels of state SO compared to non-fitspiration when there was no text in the images, but this finding was no longer significant after correcting for multiple comparisons. Finally, although a majority of participants agreed the study impacted exercise motivation, those who endorsed this actually exercised less after viewing the images compared to those who did not.

It appears that trait SO, specifically Surveillance, may interact with fitspiration and text in different ways to affect strength and flexibility exercise. Surprisingly, for state SO, there was no difference between images when text was included. When text was absent, the objectifying images resulted in higher levels of state SO compared to less objectified images. These findings suggest that fitspiration does not necessarily increase exercise, but appears to have an impact on SO in different ways.

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CHAPTER I

STATEMENT OF THE PROBLEM

In daily life, there are multiple opportunities to be bombarded with images of thin, beautiful figures of women through media such as magazines, television, and increasingly, the Internet (Bair, Kelly, Serdar, & Mazzeo, 2012). Images portrayed in the media are often of the thin ideal, which places a great deal of emphasis on thinness as the ultimate marker of beauty. Although the degree of thinness exemplified in the media is often unattainable through healthy means, it nevertheless can become the ideal for many women. When the thin ideal is internalized by women, it is incorporated or adopted as the ultimate goal (Tiggemann, 2011).

Exposure to the thin ideal in the media has been shown to be related to body dissatisfaction (Grabe, Ward, & Hyde, 2008; Groesz, Levine, & Murnen, 2002), which is a risk factor for dieting and the development of disordered eating (Stice, 2002; Stice & Shaw, 2002; Striegel-Moore & Bulik, 2007). However, there is relatively little research on the effects of exposure to fit and muscular individuals portrayed in the media. Images of the athletic and fit model have been used to inspire onlookers to engage in more physical activity. This category of images has been called *fitness inspiration*, or more commonly “*fitspiration*” or “*fitspo.*” No formal definition of fitspiration exists in the scientific literature, but an article in USA Today described it as images of muscular and toned bodies and sometimes just body parts used to motivate others to exercise and achieve fitness (Sheinbaum, 2014). It can be likened to “*thinspiration*,” which has been defined as images of unusually thin or emaciated individuals, sometimes celebrities, used as motivation to lose weight (Bardone-Cone & Cass, 2007). Thinspiration might also include motivational quotes and phrases (Rouleau & von Ranson, 2010), and Bardone-Cone and Cass (2007) identified images of morbidly obese women that were

sometimes featured as “thinspiration” on pro-anorexia websites. Fitspiration often contains motivational quotes, sayings, or phrases, such as “Excuses don’t burn calories” and “Sore is the new sexy,” which are used to motivate individuals to exercise. Online communities (e.g., Tumblr) and social media websites (e.g., Instagram, Facebook, and Pinterest) are the primary forum for fitspiration.

At first glance, a tool used to provide motivation and persuasion to exercise and achieve fitness may appear to be beneficial. More than half of adults in the U.S. do not meet recommendations for physical activity set forth by the U.S. Center for Disease Control and Prevention, and 68% of adults are overweight or obese (Ogden, Carroll, Kit, & Flegal, 2014). Lack of physical activity has also been shown to be problematic in college students (Nelson, Gortmaker, Subramanian, & Wechsler, 2007; Racette, Deusinger, Strube, Highstein, & Deusinger, 2005). However, motivation to exercise in the form of fitspiration often contains images of not only very fit but also thin individuals, an ideal that is difficult to achieve without an inordinate amount of effort or a perfect genetic endowment.

Fitspiration could be evaluated using a variety of theories that have been utilized to understand the effect of media on body image and body satisfaction. These theories include social comparison, sociocultural, cultivation, and objectification theory. For this study, objectification theory has been selected as a framework to understand possible effects of fitspiration as objectification causes women to focus on what their bodies look like instead of what their bodies are capable of doing. Objectification theory hypothesizes that women are viewed as objects in the media, and that the sexualization of women has been perpetuated by the patriarchal society in which women are frequently seen as objects (Fredrickson & Roberts, 1997). Through multiple experiences of being viewed as a sexual object both in the eyes of men

and in the eyes of society, objectification theory hypothesizes that women begin to *self-objectify*. That is, they become socialized to see themselves from an outsider's perspective. With self-objectification, women internalize the outsider's view, and focus more on what their bodies look like rather than what their bodies are capable of doing (Frederickson & Roberts, 1997).

Images of thin women in advertisements have been shown to significantly increase state self-objectification (Harper & Tiggemann, 2008). As fitspiration includes images of fit and often lean women, this study hopes to evaluate the impact of such images on women's tendency to focus on what their bodies look like, rather than what their bodies are capable of doing. However, fitspiration also contains motivational phrases or quotes that may put a focus on what the body is capable of doing, as opposed to what it looks like. The connection between self-objectification and fitspiration is important to understand as research has found that women who self-objectify exercise more for appearance-related reasons instead of using exercise to maintain or improve health or to enhance mood (Prichard & Tiggemann, 2005; Strelan, Mehaffey, & Tiggemann, 2003). Exercising for appearance reasons was found to be significantly correlated with lower body satisfaction and lower self-esteem in women (Tiggemann & Williamson, 2000). Also, women who engage in self-objectification may have fewer experiences of "flow," which are defined as peak motivational states in which one can intensely focus and concentrate (Quinn, Chaudoir, & Kallen, 2011).

This study seeks to understand the effects of fitspiration on self-objectification and motivation to exercise in college-age females. As previously stated, many adults, including college students, do not engage in proper amounts of physical activity, and obesity is a problem in the U.S. Although fitspiration is intended to inspire others to exercise and become more fit, the images used in fitspiration tend to portray a muscular and thin ideal that is difficult for many

to achieve through healthy means. Moreover, many studies have shown negative effects on women when exposed to the thin ideal in the media. This study will explore how exposure to fitspiration interacts with self-objectification, and how this might affect exercise motivation. The impact of fitspiration on exercise habits, and the role that self-objectification may play in motivation to exercise, will be investigated.

CHAPTER II

REVIEW OF THE LITERATURE

Effects of Media on Body Dissatisfaction

Body dissatisfaction has been dubbed a “normative discontent” for women (Rodin, Silberstein, & Streigel-Moore, 1984), exemplified by the fact that 91% of women in a study of 5,686 American women ages 25-89 desired a smaller size compared to their current size (Runfola et al., 2013). It is thought that this high rate of body dissatisfaction could at least in part originate from the thin ideal depicted in the media, which tends to portray thinness as the ultimate goal and as the way to obtain happiness and health (Thompson, Heinberg, Altabe, & Tantleff- Dunn, 1999). However, the thin ideal in the media is often unattainable for most women as the images are digitally manipulated via airbrushing, editing, and filtering to enhance models’ thinness and beauty; indeed, the thin ideal portrayed in the media “blurs the boundaries between glorified fiction and reality” (Thompson et al., 1999, p. 93). Due to the hypothesized deleterious effects of the media on body satisfaction, and the pervasiveness of body dissatisfaction in women, a body of research has been amassed investigating the issue. Several meta-analyses have been conducted to consider the results as a whole.

Grabe, Ward, and Hyde (2008) gathered 77 experimental and correlational studies on the effect of media on body dissatisfaction, internalization of thin ideal, and disordered eating behaviors. A small to moderate effect size was found for the relationship between media exposures and body satisfaction; more media exposures were related to lower body satisfaction. On measures of the internalization of the thin ideal (the degree to which an individual places value on being thin for herself and others), an effect considered to be small to medium ($d = -0.39$) was found for the relationship between this variable and media exposures. In the context of the

meta-analysis, this effect size indicates that more media exposures are related to more internalization of the thin ideal. The authors noted a small to medium effect size ($d = -0.3$) for the relationship between media exposures and eating behaviors/beliefs, indicating that viewing media is related to disordered eating. Overall, the authors found that women exposed to media featuring the thin ideal were more vulnerable to body dissatisfaction, internalization of the thin ideal, and eating disordered behaviors.

The results from the study by Grabe et al. (2008) are similar to those found in a meta-analysis of 25 studies by Groesz, Levine, & Murnen (2002). An overall effect size of $d = -0.31$ was found, indicating that women's sense of body satisfaction is significantly lower after viewing images of thin models compared to images of more neutral objects and overweight models. Examining the studies individually in the meta-analysis reveals a wide range of effect sizes (ranging from $d = -1.16$ to $+1.63$).

In an attempt to better understand what might contribute to the wide range of effect, Want (2009) expanded upon the Groesz et al. (2002) meta-analysis to include a total of 47 studies. An overall mean effect size of $d = -0.38$ was found, indicating a small to moderate negative effect of idealized media on body image. Pre-existing appearance concerns and processing instructions of the studies were found to significantly moderate the effect sizes of the meta-analysis. Effect sizes were generally larger when participants had higher levels of pre-existing discontent with their appearance. Surprisingly, studies that did not explicitly ask the participants to evaluate the thinness or attractiveness of the images but requested that participants evaluate a feature not related to appearance (known as distracters), were found to have the largest effect sizes. This seems counterintuitive, as it would be expected that those focusing more on the images without distractions might show more dissatisfaction as they would be allowed to process the images and

engage in more social comparison with the images. Want (2009) hypothesized that perhaps the distracting component of the experiments did not allow for participants to commit cognitive resources to reducing the negative effects of upward comparisons. In other words, when the mind is busy attending to other things, it does not have the time to challenge any comparisons that may arise.

A meta-analysis of 34 experimental and correlational studies found a reduced effect size compared to the aforementioned meta-analyses. This analysis, by Holmstrom (2004), found an effect size of $r=0.08$, indicating a very small negative effect of viewing media on female body image. A very small relationship between length of exposure to thin ideal media and effect size ($r=-0.07$) was also found, indicating longer exposure to images is related to improved body image. Interestingly, the study results also suggest that women feel better about their own bodies after viewing pictures of overweight women.

Although there are limitations to the aforementioned meta-analyses, overall, a correlation between media exposure and body dissatisfaction exists. This is important considering the repeated research findings on the role of body dissatisfaction in the development of eating disorders. For example, a longitudinal study of social, environmental, personal, and behavioral factors related to eating and weight outcomes found that body dissatisfaction predicted overweight status and use of extreme weight control behaviors in adolescent females (Neumark-Sztainer et al., 2007). A longitudinal study by Wertheim, Koerner, and Paxton (2001) found that body dissatisfaction predicted later increases in restrictive eating in adolescent girls. Stice, Marti, and Durant (2011) found that body dissatisfaction predicted eating disorder onset: adolescent girls with very high scores on a measure of body dissatisfaction were four times more likely to develop an eating disorder compared to those lower in body dissatisfaction. Finally,

Cooley and Toray (2001) found that women who entered college with high levels of body dissatisfaction were more likely to experience eating pathology during the next three years of college. These studies support the relationship between body dissatisfaction and eating disorder pathology.

A connection between viewing the thin ideal in the media and body dissatisfaction has been found based on the aforementioned meta-analyses, and research has shown that connections between body dissatisfaction and eating disorder pathology exist. Therefore, the mechanisms by which exposure to thin ideal media translates to body dissatisfaction would allow for a better understanding of how such effects might be reduced. Various theories have been discussed in attempts to understand media's impact on body image.

Theoretical Frameworks to Explain Effects of Media on Body Image

Social Comparison

One theory used to explain the impact of thin ideal media is Leon Festinger's (1954) theory of social comparison. This theory states that people are naturally motivated to evaluate their attributes. When objective data is not available to the individual, social comparison may occur, and individuals engaging in this process try to make comparisons with those who are most similar to them. According to Festinger (1954), when individuals make social comparisons, they aim to compare themselves to those who are more similar to them; it is less likely that individuals will engage in comparisons with others who are very different.

Social comparisons may be upward in nature, which occur when an individual compares the self to someone believed to be better; downward social comparisons may occur when an individual compares the self to someone believed to worse off. Typically, upward social comparisons have been associated with negative emotions (Collins, 1996). Social comparison

theory and upward social comparisons are relevant to media and body image because in many cases, bodies portrayed in the media are “ideal,” which could ultimately cause upward comparisons.

In a study of the effects of upward comparisons that occur in natural contexts, Leahey, Crowther, and Mickelson (2007) found that women experienced greater negative affect, guilt, body dissatisfaction, and thoughts of exercising after an upward body-focused comparison versus a downward comparison. The subject of the comparison (i.e., to whom the participant was comparing herself) was not determined, so the subject of comparison could have been individuals with whom the participant came into contact during everyday life, or individuals portrayed in the media. Results also indicated that women with high levels of body dissatisfaction made more physical appearance-focused comparisons overall, and the proportion of upward physical appearance-focused comparisons was also greater in this group. Women with high levels of body dissatisfaction thought more about dieting after upward comparisons compared to those low on body dissatisfaction; however, high body dissatisfaction did not produce a greater negative affect, body dissatisfaction, and thoughts of exercising when compared to the low body dissatisfaction group. This study provides evidence of the harmful effects of social comparison, and indicates that women with high levels of body dissatisfaction may be more vulnerable to negative effects of social comparison.

Assimilation and contrast effects. The role of assimilation and contrast effects have been found to be important in understanding the impact of thin ideal media and have been discussed in the context of social comparison theory. When an upward social comparison takes place, an individual may assimilate the positive perceptions of the other person into her own self-concept. In other words, the context influences one’s perception of the self. Assimilation effects

may occur when one views the thin ideal in the media. For example, exposure to thin models may improve one's self-perception of attractiveness. A key addition to this literature is the idea that feeling similar to the target (the object of comparison) on salient variables is important. For example, a study by Brown, Novick, Lord, and Richards (1992) found that when participants in their study felt similar to the person to whom they were comparing themselves, their self-ratings of attractiveness were enhanced. Closeness or similarity was induced by telling the participants that the model in the photograph had the same birthday.

Assimilation can be a source of inspiration and can actually induce a more positive view of the self (Collins, 1996). Exposure to the thin ideal could result in improved self-perception and may make the thin ideal seem attainable for the viewer. Assimilation effects may account for the results of a study by Mills, Polivy, Herman, and Tiggemann (2002), who found that restrained eaters endorsed a thinner ideal body size and also a thinner current body size after viewing images of the thin ideal. This research has given way to the idea of the "thinness fantasy," a phenomenon originally described by Myers and Biocca (1992) that occurs upon exposure to the thin ideal. After their study found self-enhancement effects post media exposure, Myers and Biocca (1992) hypothesized that more positive feelings about the self may be elicited after viewing slim figures by engaging in a process of fantasizing that one is thin; thus, one may temporarily feel as though he or she is thin.

Assimilation effects may be especially likely to occur when the object of comparison is just slightly better than the individual doing the comparison. In this way, upward comparisons may serve as a source of inspiration and thus become beneficial for the individual. The upward comparison could potentially allow the individual to recognize that the discrepancy between

themselves and the ideal other is not actually very large (Collins, 1996), and could perhaps be attainable for the consumer of the image.

Contrary to assimilation effects, contrast effects have also been discussed in the context of social comparison. Contrast effects can occur when an individual perceives or evaluates her own appearance as less attractive after viewing very attractive individuals. This is more likely to occur when the stimulus is more extreme. For example, a woman may engage in negative self-evaluation and rate herself as less attractive after viewing very attractive and extremely thin models in the media (Collins, 1996).

Sociocultural

Another theoretical framework used to explain the effect of media on how individuals feel about their bodies is sociocultural theory (Thompson et al., 1999). This theory states that ideals about beauty are primarily conveyed through three means: family, friends, and the media. Research has shown that family, specifically parents, impact body dissatisfaction, body image, and eating behaviors and attitudes via two modes (Rodgers & Chabrol, 2009). These two modes include modelling and direct and indirect verbal feedback in the form of teasing, criticism, and encouragement to change one's body. A relationship has been found between maternal body dissatisfaction and daughters' body dissatisfaction (Fulkerson, McGuire, Neumark-Sztainer, Story, French, & Peery, 2002), and weight-loss behaviors in mothers have been shown to be related to the same behaviors in daughters (Vincent & McCabe, 2000). Direct maternal encouragement to lose weight has been associated with body dissatisfaction in adolescent girls (Francis & Birch, 2005). Additionally, teasing and criticism from parents have been associated with body image and eating concerns (Rodgers & Chabrol, 2009).

Relationships with friends and one's peer group can also influence body image and body dissatisfaction. For example, teasing, discussing appearance with peers, and one's tendency to associate acceptance and popularity with one's weight and shape have been shown to have a significant relationship with internalization of the thin ideal, dieting, and body dissatisfaction among young women (Matera, Nerini, & Stefanile, 2012).

In addition to family and friends, the media also impart messages about beauty through images. These images are ideal and often simply unattainable through healthy means. The media have also featured increasingly thinner models throughout the years, even as the average woman has become heavier. Very often, the images seen in magazines and in advertisements are indeed unachievable due to the effects of airbrushing, editing, and filters (Thompson et al., 1999). Nevertheless, many women experience the internalization of the thin ideal. According to Sabiston and Chandler (2010), internalization of the thin ideal "represents a cognitive evaluation, elicits affect, and supports investment into management of appearance and weight" (p. 166). In other words, investment into appearance and weight can lead to attempts to achieve the thin ideal, which often occurs through unhealthy diet and exercise habits. These attempts to attain a thin body that matches what is seen in the media can lead to dangerous behaviors and eating disorders.

Cultivation

Cultivation theory (Gerbner, Gross, Morgan, Signorelli, & Shanahan, 2002) explains that those who spend more time watching television are more likely to believe that ideals, images, and values depicted in television is the reality of the world. This is obviously problematic when the images portrayed on television are often unrealistic. Cultivation theory was originally

applied to television viewing, but it is logical that this theory could extend to other media, such as the Internet.

The theories regarding the connections between the media and body image difficulties describe media as possible facilitators of increased body dissatisfaction, pressure to be thin, and internalization of the thin ideal, all of which are risk factors for dieting, negative affect, and eating pathology (Stice, 2002). It is obvious that the overall tone of the literature is that thin ideal images are detrimental to females. However, some studies have found unexpectedly positive results of exposure to the thin ideal.

Unexpected Effects of Thin Ideal Images

Much attention has been paid to the idea that the thin ideal portrayed in the media has a negative impact on female body image. While several large scale meta-analyses indicated a negative effect of media on body image, some literature seems to indicate that exposure to the thin ideal may have a neutral or positive effect on certain groups. Myers and Biocca (1992) exposed women to commercials and television programs that featured the thin ideal, while another group was exposed to neutral images. The authors were surprised to find that women reported feeling thinner after viewing advertisements featuring the thin ideal compared to the neutral image exposure group. Those in the thin ideal media group also reported lower levels of depression compared to those who watched neutral television ads. The unexpected results of their study led the authors to hypothesize the existence of a “thin fantasy” effect, wherein the consumers of the thin ideal imagine themselves as thinner after exposure to the ideal, which then has an enlightening effect on mood as well.

Joshi, Herman, and Polivy (2004) exposed restrained eaters (dieting individuals) and unrestrained eaters (those not on a diet) to images of thin women, heavier women, and neutral

advertisements, and measured various components of self-esteem, including total, appearance, and social state self-esteem. Restrained eaters showed no negative reaction to exposure to thin-body images in the media; rather, self-image and social self-esteem improved after viewing these images. Also, there was no effect of the thin images on appearance self-esteem among restrained eaters. Unrestrained eaters, on the other hand, declined in appearance self-esteem after exposure to the thin images and no positive effects on any of the measured domains occurred. These results are similar to those of a study by Mills et al. (2002), which found that restrained eaters endorsed a thinner ideal body size and also a thinner current body size after viewing images of the thin ideal. Collectively, these results seem to indicate that dieting status may moderate the influence of the thin ideal in the media on body dissatisfaction.

Smeesters and Mandel (2006) also found a seemingly positive effect of looking at moderately thin models. In their study, female college students who were exposed to moderately thin models reported higher appearance self-esteem compared to those who viewed moderately heavy models. Two other groups of females were exposed to images of models classified as “extremely thin” and “extremely heavy.” Those exposed to the extremely thin models endorsed lower appearance self-esteem than those exposed to the very heavy models. These results were found when a free-response method was used to evaluate self-esteem. However, when a rating scale was used to measure appearance self-esteem, looking at moderately and extremely thin models had a negative impact on appearance self-esteem, whereas those exposed to moderately and extremely heavy models endorsed higher levels of appearance self-esteem. The authors argued that the free response method allowed for a measurement of what was cognitively accessible in the minds of their subjects, whereas the results of the rating scale were affected by reference-point use.

What might account for the discrepancy in results of research on media influence and body dissatisfaction? The social comparison theory hypothesizes that when an individual is exposed to a person believed to be better off than the self, an assimilation effect may occur, and the viewer may actually feel inspired and therefore experience more positive feelings about the self (Collins, 1996). Also, Boyce, Kuijer, and Gleaves (2013), who found negative effects of media in their research project, hypothesized that demand characteristics may explain why studies differ in results. Subjects may want to seem helpful and therefore may act in a way to support what they believe to be the experimenter's hypothesis. The idea that media portrayals of women on magazine covers and in television and movies are linked to negative outcomes such as eating disorders is widely accepted in the lay community (Levine & Murnen, 2009). Subjects in studies of media exposure may behave in a way to produce results that they believe the experimenter is looking for. Therefore, the role of demand characteristics in studying women's reactions to images in the media should be considered in this study.

In summary, studies have not universally verified that exposure to thin ideal models necessarily cause women to feel worse about their bodies. In particular, the aforementioned studies showed that dieting women may actually feel better about themselves after viewing thin individuals in the media. These conclusions are consistent with the "thin fantasy" theory put forth by Myers and Biocca (1992), a theory that may be useful in this study as women will be exposed to images meant to "inspire" them to exercise more and achieve a toned and muscular body. Research has been conducted in the area of sport and fitness advertisements and media, which typically portray fit and muscular models, to determine what types of effects this may have on individuals.

Exercise, Sport, and Fitness Media

Research shows that the thin ideal portrayed in advertising and the media has a negative impact on body image. However, the lean, muscular, and toned individual has become more prevalent in the media, and a shift from the thin ideal to a more athletic ideal seems to have occurred. This may be due to an increased emphasis on the importance of exercise as society struggles with problems of obesity and sedentary lifestyles. Although society may be shifting towards valuing a more athletic and muscular figure for women as the ideal, many images in the media continue to define the standard of beauty as a muscular and toned yet thin physique.

In order to achieve a lean and muscular body, diet and exercise are prescribed. In a pursuit of a better body, individuals may turn to magazines and various other online platforms for inspiration and advice on how to achieve their goals. Magazines display advertisements for diet products and fitness methods, and contain articles which contain instructions for becoming and staying fit and toned. The content of two magazines marketed towards adolescent and young adult females were studied by Luff and Gray (2009), who showed that from 1956-2005, exercise content significantly increased as a function of time. Evidence of increasing popularity of fitness magazines is that subscriptions to magazines such as *Fitness*, *Health*, *Muscle & Fitness*, *Shape*, *Prevention*, and *Women's Health* has increased 16% between 2001 and 2010, although subscriptions to food and cooking magazines have also increased by 30% (Sumner, 2012). Such magazines may portray individuals modeling fitness clothing and other fitness gear, and may offer diet and exercise guidelines featuring pictures of thin yet muscular models.

Researchers have evaluated the effects of exposure to very fit and muscular models in the media on body image and body satisfaction. Similar to the body image literature, sometimes unexpected results are found; that is, sometimes positive effects are found for exposure to images

and content of the athletic ideal. For example, a study by Harrison (2000) found a seemingly harmful effect of reading sports magazines: a positive correlation between regular exposure to sports magazines and body dissatisfaction among American girls in 12th grade was found. In comparison, Harrison and Fredrickson (2003) found divergent results: sports magazine consumption was negatively correlated with Body Shame and eating disorder symptoms. Also, in a study of television usage in adolescent females in Australia, Tiggemann and Pickering (1996) also found that time spent watching sports on television had a small but negative correlation with body dissatisfaction, while watching soap operas and movies predicted body dissatisfaction.

One possible reason for the variance in effects of consuming sports media is that a difference exists between “lean” and “non-lean” sports. That is, some sports are considered “lean” and others “non-lean.” To excel in their sport, most athletes need to be lean. However, some sports are more appearance-focused and feature athletes who are more slender. Examples of lean sports include figure skating, gymnastics, diving, aerobic dance, and cheerleading. Performance in lean sports is also typically evaluated by judges and spectators. Non-lean sports include soccer, basketball, tennis, and volleyball. In these sports, athletes are not judged, but their skills and abilities allow them use their bodies as an instrument to achieve a certain goal.

Athletes’ bodies are seen as objects to be evaluated when others, such as judges or spectators, focus on the athlete’s physique. Some lean sports focus more on physique and body shape of the athlete than other lean sports. For example, ice skaters and dancers have to be concerned with how their performances and their bodies look to others. As lean sports focus more on the body as an object to be evaluated by others, the effect of consuming such lean sports has also been researched. Harrison and Fredrickson (2003) tested the effects of exposure to lean

and non-lean sports in middle and high school students. Specifically, the authors investigated the degree to which the students saw themselves as objects to be evaluated (a process known as self-objectification, or SO) after exposure to the sports. They found that overall, SO positively predicted depression, Body Shame, and disordered eating. When lean versus non-lean sport participation was considered, lean sports participation was positively correlated with trait SO and disordered eating. Non-lean sports participation was found to be negatively correlated with trait SO and marginally negatively correlated with disordered eating.

In a second part of their study, Harrison and Fredrickson (2003) found that White female adolescents who were exposed to lean sports on television endorsed significantly higher levels of state SO compared to those who watched non-lean sports in an experimental manipulation. When non-white adolescent females were also exposed to the same experimental conditions, viewing non-lean sports television was associated with significantly higher levels of state SO for this group. The researchers postulated that the difference between the groups was likely due to the difference in the type of ideal body of each group. White adolescents may wish to look more like the slender thin ideal portrayed in lean sports, while nonwhite adolescents may have viewed the lean athletes as being personally irrelevant to their ideal body type, and may have related more to the image of non-lean athlete. The researchers also looked at the tendency for the groups to describe themselves in terms of physical competence instead of physical appearance, and found that those who watched the non-lean sports video used more statements about what their bodies were capable of doing rather than appearance of their bodies, although the difference between the groups was not significant.

In addition to the lean athlete featured in sports and the thin ideal in everyday media, another ideal body is portrayed in the media. This body type is both thin and fit; that is, the

models portrayed are very thin but also muscular. Homan, McHugh, Wells, Watson, & King (2011) exposed American undergraduate females to images of the thin and fit ideal as well as images of fit (but not very thin) models from online media to determine the effect of this on body dissatisfaction. A control group, exposed to images of inanimate objects, was also utilized. The study found that exposure to thin and fit images predicted higher body dissatisfaction compared to the control condition. Exposure to the normal weight athletic models did not have a significant effect on dissatisfaction. In explaining how their results differ from other studies that have found negative effects of reading fitness magazines (e.g., Harrison, 2000), the authors hypothesize that this difference is due to the fact that the magazines frequently portray very thin models.

Sabiston and Chandler (2010) also looked at the impact of fitness-focused advertising featuring fit models or fitness products on body image in female undergraduate students. Among advertisements for fitness products, model-focused ads increased reports of negative body image compared to product-focused ads. Specifically, fitness ads focusing on models were related to a significant increase in body-related anxiety, but had no significant effect on cognitive and behavioral body image dimensions. However, the increase in body-related anxiety was found directly after the exposure to the ads; there was no follow-up period to determine if the effects on body-related anxiety had any time of long-term impact on body image or behaviors that change one's body, such as diet and exercise habits.

The results of the Sabiston and Chandler (2010) study are similar to what was found by Garvin and Damson (2008), who also investigated the effect of exposure to fit models. Individuals exposed to fit models engaging in exercise or modeling fitness gear had significantly higher state anxiety levels after viewing the images compared to a control group (who viewed

National Geographic images). Levels of depression were higher and overall mood was significantly lower for those who viewed the fit images. Similar to the criticism of the Sabiston and Chandler study, Garvin and Damson (2008) did not utilize a follow-up period to determine any lasting effects on mood and behavior.

In a study of the effect of television and magazine consumption on drive for muscularity in female and male undergraduate students by Cramblitt and Pritchard (2013), a relationship was found between time spent watching sports, body/image focused programs (e.g., The Biggest Loser), and entertainment television shows and drive for muscularity in females. For females, total hours spent watching such shows was related to a higher drive for muscularity. For males, only image-focused television shows were related to a higher drive for muscularity. However, the study results do not indicate that watching television caused drive for muscularity as the study was correlational in nature. It may be that those with a higher drive for muscularity are drawn to body and image-focused programs.

Focusing on how the body looks instead of what it can do often occurs in lean sports and in advertising and other related media. In many instances, the images seen in media seem to portray women as objects, and *objectification theory* has been proposed to explain how this has been perpetuated in culture and the possible effects on women. When one begins to survey or evaluate themselves in terms of thinness and muscularity from an outsider's point of view and internalize this view of themselves as objects, *self-objectification* is said to occur.

Objectification Theory

Objectification theory discusses how women are seen only as bodies. The body is often evaluated and inspected by onlookers (i.e., males). The current culture, via the popular media, emphasizes women's sexuality, and a women's body is often displayed as an object to be

observed, desired, or consumed. Sexual objectification occurs when the woman's body is treated as an object to be consumed or used by others (Frederickson & Roberts, 1997). Specifically, a woman is sexually objectified when her "body, body parts, or sexual functions are separated out from her person, reduced to the status of mere instruments or regarded as if they were capable of representing her" (Frederickson & Roberts, 1997, p. 175). Sexual objectification may manifest via interpersonal encounters (e.g., cat-calling, becoming the object of another's gaze, or sexual harassment) and in media. An example of sexual objectification can be seen in media that feature images of only parts or sections of a woman's body and neglect to show the model as a whole person. For example, in an analysis of photographs from American periodicals, Archer, Iritani, Kimes, & Barrios (1983) found a statistically significant difference in what photographs seemed to focus on: for men, photographs tended to focus on the face, while photographs of women focused on the body. Advertisements featuring women have also become increasingly sexually explicit in magazines (Reichert & Carpenter, 2004).

Self-Objectification

Through exposure to sexual objectification experienced as a commonplace event in the environment, females may internalize objectification and experience *self-objectification*, a process by which "women come to view themselves from the vantage point of an external observer and engage in chronic self-policing" (Calogero, Tantleff-Dunn, & Thompson, 2011, p. 7). Self-objectification (SO) involves a high level of self-monitoring and constant vigilance to how one appears. This may sound similar to vanity, but in actuality, women may engage in SO because there are tangible benefits to paying attention to one's weight, shape, and appearance: overweight and obese women have fewer economic and educational opportunities compared to both their thinner counterparts and men (Fikkan & Rothblum, 2011).

When a woman self-objectifies, she views herself not as a whole person with a mind and body, but as an object that is to be viewed and evaluated. Self-objectification often causes women to focus on what their bodies look like rather than what their bodies are physically capable of doing. A more intense focus on how one's body appears rather than what it can do is related to self-Surveillance, which has been thought of as the manifestation of SO. Self-Surveillance captures the tendency of women to consistently view themselves from an external point of view. Therefore, frequency of self-Surveillance is the primary measurement of SO in research studies (Calogero, 2011).

Self-objectification appears to be a phenomenon experienced more intensely by younger women. In a study of SO across the lifespan in women, Tiggemann and Lynch (2001) found that women in their 20s and 30s experienced the highest levels of SO compared to the other older age groups. Self-objectification, as well as appearance anxiety and self-Surveillance, leveled off with age. Similarly, Melbye, Tenenbaum, and Eklund (2007) found that women ages 18-24 self-objectified more than those in older age groups. Therefore, it appears that SO is more prominent in the college-aged population, making them an excellent sample to study its effects.

Trait and state self-objectification. In the literature, SO has been conceptualized as either a trait or a state. As a trait, it is thought of as a pervasive and stable component of the self and one's personality. It is expected that individuals with high levels of trait SO are more preoccupied by appearance and see the self as an object on a consistent basis (Fredrickson, Roberts, Noll, Quinn, & Twenge, 1998).

As a state, SO is thought to vary across time. State SO can be prompted by stimuli in the environment that focuses on appearance and occurs over a discrete period of time (Harrison & Fredrickson, 2003). Fredrickson et al. (1998) were able to increase state SO by having women

try on a swimsuit. Harper and Tiggemann (2008) also demonstrated that state SO was higher after exposure to the thin ideal compared to a control condition of product advertisements, lending support to the idea that state SO can be evoked even when the participant is not prompted to consider her own body.

Effects of Self-Objectification

Self-objectification occurs when a woman engages in self-Surveillance and views her body from an outsider's perspective. Engaging in this self-Surveillance causes one to focus more on what the body looks like, rather than what it can do. The processes of becoming an observer of one's body and focusing on one's appearance have been hypothesized to have several sequelae (Fredrickson & Roberts, 1997). First, women may not even be cognizant of their experience of SO; it may become almost automatic or seem freely chosen, especially in a culture where meeting certain standards for beauty can provide social and economic stepping stones for success. Fredrickson and Roberts (1997) have proposed that this pattern of consistent body monitoring from the point of view of others could cause Body Shame and increased anxiety, particularly regarding appearance. These proposed effects are discussed below.

Shame. The experience of shame may arise for women who consistently view their bodies and appearance from the perspective of others, and indeed research has found that SO predicts Body Shame (Noll & Fredrickson, 1998; Tiggemann & Slater, 2001). Frederickson and Roberts (1997) discussed the important role of the internalization of the thin ideal in Body Shame, stating that Body Shame is elicited when "people evaluate themselves relative to some internalized or cultural ideal and come up short" (p. 181). The thin ideal is pervasively portrayed in the culture. This ideal provides guidelines and expectations for women on what a beautiful body should look like. When a woman does not meet these guidelines (which are nearly

impossible to meet), engages in SO, and recognizes that she does not meet cultural standards for beauty, shame is a likely outcome. Shame, when experienced in response to an error or a certain aspect of the self, tends to disrupt an individual's state of consciousness. Shame tends to temporarily put more focus on the self in order to ameliorate the wrong-doing or other imperfection. To a certain extent, this may be adaptive if the shame provides an opportunity for the individual to improve some aspect of themselves in order to reduce the shame. However, when shame is experienced due to a less easily changed aspect of the self, such as appearance, shape, or weight, shame is less adaptive and may be considered harmful. The recognition that one cannot easily change her appearance and the fact that the thin ideal is impossible to attain could also contribute to anxiety (Frederickson & Roberts, 1997).

Anxiety. Anxiety about one's appearance may be another deleterious effect of self-objectification. For example, women with an experience of being criticized for how they look may anticipate more negative comments about their appearance. This could lead to increased vigilance regarding appearance, which in turn could manifest as frequent mirror checking and adjusting. As the cultural ideal of beauty is unattainable, women who compare themselves to this when taking an outsider's perspective on their bodies notice the discrepancy between what society says is beautiful versus what their bodies actually look like, which therefore causes anxiety. Overall, studies have found that SO is significantly correlated with appearance anxiety (Slater & Tiggemann, 2002; Tiggemann & Lynch, 2001; Greenleaf, 2005; Greenleaf & McGreer, 2006).

Accumulation of Self-Objectification Effects

Frederickson and Roberts (1997) hypothesized various sequelae of SO, and studies have made connections between SO and Body Shame and appearance anxiety. Furthermore,

Fredrickson and Roberts believed that when accumulated over time, these effects of SO could then contribute to depression and eating disorders.

Depression. Fredrickson and Roberts (1997) hypothesized that women who self-objectify will attempt to look like the thin ideal featured in the media but will frequently fail. An accumulation of such experiences, coupled with Body Shame and anxiety related to SO, was theorized to be related to negative affect and possibly depression. The learned helplessness model of depression was used to explain how experiences of self-objectification could contribute to negative affect. This model theorizes that when failure is experienced, negative affect arises both due to the failure and to the fact that one attributes the failure to personal, internal qualities and/or insufficiencies that he or she cannot change (one is “helpless” to change). The experience of failure and attributing it to stable and unchangeable internal qualities causes the individual to cease effort to change or achieve (Abramson, Seligman, & Teasdale, 1978), which could ultimately contribute to negative affect and depression.

The literature has supported the link between SO and depression. For example, Muehlenkamp and Saris-Baglama (2003) found a significant positive relationship between degree of SO and depressive symptoms in college women. Self-Surveillance, a construct that is considered to be the manifestation of SO, was found to predict depression in a longitudinal study of adolescent girls. Body Shame and rumination were found to mediate the relationship between self-Surveillance and depression in this study (Grabe, Hyde, & Lindberg, 2007).

Eating disorders. Frederickson and Roberts (1997) also hypothesized that experiences of shame and anxiety related to SO could contribute to the development of several clinical problems in women, including eating disorders. In several other studies, Body Shame, a consequence of SO, has been found to mediate the relationship between SO and disordered eating. Using

regression analyses, Noll and Fredrickson (1998) found that Body Shame mediated the relationship between SO and bulimic and anorexic symptoms in a female undergraduate population. However, the questionnaire used to measure Body Shame could have tapped into the construct of body dissatisfaction, as it asks about desire to change physical aspects. Also, the study was correlational in nature, and therefore nothing can be said about a causal relationship between SO and disordered eating. Using structural equation modeling, Tiggemann and Williams (2012) found that their data fit their hypothesized model in which Body Shame and appearance anxiety mediated the relationship between SO and disordered eating. The combination of Body Shame and appearance anxiety, both thought to be results of SO, were found to mediate the relationship between SO and disordered eating in several studies of women (Greenleaf & McGreer, 2006; Tiggemann & Kuring, 2004; Tiggemann & Slater, 2001), although other studies have indicated that appearance anxiety alone does not uniquely contribute to variance in eating disorder pathology (Tiggemann & Slater, 2001; Slater & Tiggemann, 2002).

The hypothesized relationship between SO and eating disorders has also been supported specifically in the eating disorder literature. For example, Calogero, Davis, and Thompson (2005) studied a population of women at a residential eating disorder treatment facility and found that the relationship between internalization of the media's thin ideal and drive for thinness was partially mediated by SO. This indicates that the degree to which women internalize the sexually objectified and thin ideal they see in the media affects SO, which contributed to the desire to be thinner. Shame was also investigated in this study, and was found to partially mediate the relationship between SO and drive for thinness.

Tiggemann and Slater (2001) studied SO in a population of former ballet dancers and non-dancers in a university setting. The former dancers were hypothesized to be more

vulnerable to SO due to their previous participation in ballet, an activity that is considered a “lean” sport and tends to put emphasis on how the ballet dancer looks. Indeed ballet dancers spend a great deal of time practicing in front of a mirror and performing in front of audiences. Results of the study were that dancers scored significantly higher on measures of SO, body Surveillance, and disordered eating compared to non-dancers. Also, among the former dancers, path analysis found that SO led to Body Shame and appearance anxiety. A significant direct pathway was found between self-Surveillance (a hallmark of self-objectification) and disordered eating, and an indirect pathway was seen with body Surveillance’s link to Body Shame, which was then related to disordered eating (Tiggemann & Slater, 2001). However, this data is also correlational in nature and therefore it cannot be concluded that self-objectification causes eating disorder behaviors. It may be that dancers are more vulnerable to eating disorders as their sport is focused on the body, which may lead them to self-objectify more often. In a similar study completed with ballet dancers and non-dancers in an adolescent population by Slater and Tiggemann (2002), no significant differences in SO or its effects were found. Path analysis in this study concluded that SO leads to self-monitoring, Body Shame, and appearance anxiety. Furthermore, the analysis found that self-monitoring leads to Body Shame, which in turns leads to disordered eating. Also, Tiggemann (2013) concluded in a review of the literature that there is substantial correlational and experimental research to support Frederickson and Robert’s hypothesis that SO had implications for the development of eating disorders.

Self-Objectification and Exercise Behavior

Frederickson and Roberts (1997) hypothesized that because SO is a focus on what the body looks like from an outsider’s perspective, SO would limit opportunities for peak motivational states, which are characterized by intense involvement, absorption in the activity,

and focus. These peak motivational experiences can be very enjoyable as well. Such experiences may occur during exercise, an activity in which one can become immersed. As SO causes a focus on one's body, it may have an effect on one's enjoyment of and engagement in exercise.

However, exercise also has the power to allow an individual to recognize and focus on what the body is capable of doing on a physical level. Focusing on the body's abilities and strength, rather than what it looks like, is the opposite of self-objectification. Shifting to a focus on what the body can physically do may help explain why some studies have found positive effects of exposure to fitness magazines and sports television consumption. For example, Daniels (2009) found that images of female athletes triggered less SO in girls in grades 8-12 and in a population of undergraduate women compared to those who were exposed to sexualized pictures of female athletes. Women who viewed images of athletes made significantly more "physicality" self-statements (i.e., statements about what their bodies could do) compared to those who viewed sexualized athletes, models, and non-sexualized photographs. Those who were exposed to sexualized athletes and non-athlete models made significantly more beauty statements. Also, when statements were focused on physicality, they tended to be positive in tone despite the type of photo. This lends support to the idea that focusing on what the body can do, rather than what the body looks like, is a more enlightened approach, and therefore tends to elicit positive affect. This connection between positive affect and focusing away from objectifying ideas can be related to previous connections made between SO and depression (Fredrickson & Roberts, 1997).

People exercise to achieve a variety of goals, including appearance improvement, weight management, health, fitness, mood enhancement, and stress management. As SO is related to

awareness of how one looks from an outsider's perspective, a relationship between exercising for appearance-related reasons and SO may exist. Prichard and Tiggemann (2005) found that for women attending aerobic classes at a fitness center, SO was positively correlated with appearance-related reasons for exercise and negatively correlated with exercising for health and fitness. Exercising for enjoyment and mood enhancement was negatively correlated with SO, although this relationship was not significant. Those who scored higher on a measure of SO also had higher levels of body dissatisfaction and disordered eating symptoms. Exercising outside the fitness center was found to have a negative correlation with SO, while exercising at the fitness center was positively associated with it. This study indicates the presence of a relationship between SO and reasons for exercise, body dissatisfaction, and disordered eating symptoms, but the results provide only correlational information and therefore nothing can be said about the causal pathways. For example, it cannot necessarily be said that high levels of SO cause one to exercise more for appearance-related reasons or that SO causes body dissatisfaction. Also, it is problematic that the subjects of the study were taken from a fitness center, creating a possible confounding variable as these women may be different from other women who do not have a fitness center membership in important ways.

In a study similar to Prichard and Tiggemann (2005), Strelan et al. (2003) found a strong positive correlation between exercising for aesthetic reasons and SO and a strong negative relationship between exercise for health/fitness and SO. This study is also criticized for its use of correlations and lack of generalizability of findings as participants were also taken only from fitness centers. These two studies both suggest a relationship between SO and reasons for exercise, such that higher levels of SO are related to exercise for appearance enhancement reasons. Exercising for reasons related to enjoyment, challenge, health

maintenance/improvement, or other positive benefits of exercise appear to be negatively correlated with SO. This is an important concept when considering motivation for exercise. Self-objectification may affect enjoyment of exercise if most of the focus is on appearance improvement, which could affect motivation if the activity of exercise is not rewarding.

Greenleaf (2005) found that women with higher scores on a measure of SO tended to have fewer peak motivational experiences during exercise compared to women with lower levels of SO. Those who self-objectify may experience less pleasure in exercise, which may reduce motivation and drive to engage in it as a result. Shame induced by self-objectification may affect motivation for exercise if the exercise involves putting one's body on display. For example, Melbye et al. (2007) found that those who scored in the top third on a measure of self-objectification exercised less compared to a group with lower levels of SO. In this study, the majority of those who scored high on a measure of self-objectification exercised a total of two times or less per week. Also, Kitts (2013) examined the relationship between level of SO and exercise tendencies in a rural population of women ages 18-65 (average age 39.97). This study found that as self-objectification increased, tendency to exercise, as measured by the Obligatory Exercise Questionnaire, decreased.

Another study did not specifically investigate SO and peak motivational states, but considered how viewing fit and unfit peers affected exercise duration (Wasilenko, Kulik, & Wanic, 2007). The study assessed how long female college students exercised when viewing fit and unfit peers. Results indicated that the participants exercised for a significantly shorter amount of time when viewing a fit peer compared to those who could see an unfit peer or no peer in their line of vision. Those exposed to an unfit peer exercised significantly longer than the fit peer and the control condition. Body satisfaction was also significantly lower in women who

viewed the fit peer compared to the other two groups. Viewing the fit peer may have prompted SO, thus more of a focus on what their bodies looked like rather than what their bodies were capable of physically. This focus on how one's body looks could have reduced motivation to exercise as well as body satisfaction. Also, the authors speculated that perhaps women viewing the unfit peer exercised for significantly longer because they wanted to "show off" their level of fitness. Or, perhaps they were motivated to avoid becoming like the unfit peer. This study had a small number of subjects and included only one type of exercise machine (lateral pull down), so it is difficult to draw conclusions from it, but may indicate that exposure to others who are fit versus unfit may have an impact on exercise behavior and body satisfaction.

The act of exercising may be an attempt to obtain the thin and fit physique that is so prevalent in society. It is possible that persistent efforts to achieve a leaner physique via exercise could actually harm an individual if frequency, intensity, or duration of exercise are taken to an extreme. At the very least, focusing on what the body looks like may prevent exercise from being an enjoyable experience. Reduced enjoyment from exercise due to the removal of positive reinforcement could reduce the frequency of the behavior. Lack of reward for exercise behaviors, absence of peak motivational states, inability to attain the thin ideal via exercise, and discomfort due to the shame and anxiety that often accompany SO may ultimately have negative effects on motivation for exercise. This is what the current study hopes to investigate.

Summary and Current Study

The thin ideal is pervasively portrayed in the modern culture through media. Meta-analyses have found a small but significant negative effect of media exposure on body dissatisfaction, a risk factor for eating disorders (Grabe et al., 2008; Groesz et al., 2002). However, some research has found positive effects of viewing thin ideal media on self-image

and appearance self-esteem (Joshi et al., 2004; Smeesters & Mandel, 2006), which has influenced the development of the hypothesis that media images may not always negatively impact women and may actually be inspirational.

Research looking at images of athletic and toned women has not provided unequivocal evidence that exposure to such images is harmful to female body satisfaction (Harrison & Fredrickson, 2003; Homan et al., 2011). Images of athletic and toned women paired with motivational sayings and phrases are known as *fitspiration* and are used to motivate female onlookers to exercise and tone their bodies. The impact of fitspiration on how women feel about their bodies and how it might influence behavior is wholly unknown. It is possible that these images could have the intended effect of enhancing motivation to exercise. However, it is also possible that these images could intensify SO, which is a focus on what the body looks like, rather than what it is capable of doing. Therefore, this study hopes to make a contribution to the literature by determining if fitspiration has an effect on exercise habits, reasons for exercising, and SO. The study will also evaluate relationships between these three variables.

Several different theories could be used to hypothesize the possible effects of fitspiration. These theories include social comparison, sociocultural, cultivation, and objectification. In this study, fitspiration will be considered through the lens of objectification theory, specifically self-objectification, which has been linked to Body Shame, appearance anxiety, and exercising for appearance and weight management reasons. It is hypothesized that because the images of the thin ideal have been found to trigger SO in women, images of the athletic ideal (which is thin and muscular) could also remind women of how their bodies look and thus trigger state SO.

Higher levels of SO have been found to be linked to exercising more for appearance and weight-management reasons. Also, the limited research that has been conducted with SO and

exercise frequency has found a negative relationship between the two (Melbye et al., 2007; Kitts, 2013). Therefore, it is hypothesized that because SO is related to focusing on one's appearance, and higher levels of SO are linked to exercise for appearance reasons, those who are high in trait SO will exercise less frequently compared to those with lower levels of trait SO because they do not find as much enjoyment in exercise. It is also hypothesized that women with high levels of trait SO will exercise more for reasons related to appearance, weight, and body shape management compared to those with lower levels of SO.

Viewing the images of fitspiration may have a similar impact as the thin ideal in the media, which has been linked to body dissatisfaction. Fitspiration may cause the viewer with high SO to despair and feel a sense of helplessness or hopelessness about achieving the body type portrayed and therefore have little to no increase in exercise. Therefore, it is hypothesized that for those women with a high level of SO, fitspiration will have little to no effect on exercise frequency, intensity, and duration. Alternatively, those with a low level of SO, it is hypothesized that fitspiration may have a moderate effect on exercise habits.

Research Questions and Hypotheses

1) How does trait SO impact exercise frequency?

Hypothesis 1: At baseline, women with high trait SO will exercise less frequently overall compared to those with low trait SO.

2) How does trait SO impact women's reasons for exercising?

Hypothesis 2: Women with high levels of trait SO will exercise more for reasons related to weight control, body tone, and physical attractiveness compared to women with low levels of SO.

3) What is the effect of fitspiration on women's exercise frequency and duration?

Hypothesis 3: Trait self-objectification will moderate the relationship between fitspiration exposure and exercise behavior, such that fitspiration will have little to no influence on exercise behavior in women with high levels of trait SO but a moderate effect on exercise behavior in women with lower levels of trait SO.

4) Does fitspiration affect women's level of state SO?

Hypothesis 4: An increase in state self-objectification as measured by a state self-objectification measure will be found in all women who view the fitspiration.

CHAPTER III

METHODS

Participants

Participants were female undergraduate students recruited from the subject pool connected to enrollment in an Introduction to Psychology class at a medium-sized university located in western Pennsylvania. Participants were given research credit for participation in the study. Inclusion criteria for the study were that participants must be female and between the ages of 18-24.

The study participants ranged in age from 18 to 24 years old ($M=18.9$, $SD=0.99$). In terms of race, 77% identified as European American/White, 16% as African American/Black, 3% as Latina/Hispanic, 2% as Asian/Pacific Islander, and 2% as biracial. BMI ranged from 18.0 to 34.57 ($M=24.19$, $SD=3.98$). Sixty-eight percent of participants had a BMI in the normal range (18-24.9), 22% were in the overweight range (25-29.9), and 10% were in the obese range (>30). Two-thirds of the participants answered that they were actively trying to lose weight or change their appearance.

Measures

Demographics

After completing the consent form (Appendix A), a demographics questionnaire constructed by the investigator was administered to participants at baseline (Appendix B). The questionnaire included questions about age, gender, race/ethnicity, height, weight, desire to change weight and appearance, and presence of medical conditions and/or injuries that could impact exercise. This measure was given to exclude individuals with a BMI under 18 kg/m² and those with serious medical conditions preventing exercise.

Exercise

Exercise has been defined as “a regular and structured subset of physical activity, performed deliberately and with a specific purpose such as preparation for athletic competition or the improvement of some aspect of health.” (Shephard, 2003, p. 197). For the purpose of this study, this definition of exercise was used.

When measuring physical activity, objective measures are the preferred method. Examples of objective measures of physical activity include accelerometers, heart rate monitoring, and direct observation. However, exercise and physical activity are most widely assessed using self-report measures such as questionnaires, diaries, and recall measures (Warren et al., 2010). In this study, exercise frequency and duration was assessed at baseline and after the experimental manipulation using a daily Qualtrics survey (Appendix C). The survey allowed the participant to record the type of exercise and duration of exercise each day for seven days. The questions about exercise were modeled after the 7-Day Physical Activity Recall (7D-PAR; Sallis et al., 1985). This measure was originally developed as an interview to collect data on participants’ physical activity by prompting interviewees to recall their physical activity over the previous seven days. As a recall measure, the 7D-PAR has been found to have acceptable accuracy in measuring total activity in females (Richardson, Ainsworth, Jacobs, & Leon, 2001). The 7D-PAR was also found to have validity correlations of .50 and .53 with accelerometers (Sallis et al., 1985). However, the interview relies upon the accuracy of the participant’s memory, which has been found to be a major limitation of the 7D-PAR. Participants have been shown to overestimate time spent in vigorous activities (Dyrstad, Hansen, Holme, & Anderssen, 2014) and underestimate time spent in daily activities (e.g., walking) when recalling physical activity (Bassett, Cureton, & Ainsworth, 2000). Therefore, the daily survey ensured that

participants did not have to rely on their memory to recall their exercise correctly, hence reducing measurement error.

After consenting to participate in the study, the investigator provided a brief overview of the online survey to participants. During the study, participants were sent a daily email prompting them to follow a link to the survey to record their exercise activities, which was defined as activities that are done with the intention of getting physical activity and/or improving health or fitness. Playing a sport was considered an exercise activity, while activities such as housework, gardening, and occupational tasks (e.g., walking around at work, shelving at work, etc.) and low intensity sports such as bowling were not considered exercise. Participants were also asked about strength and flexibility exercises, such as sit-ups, pull-ups, weight-lifting, etc. For the purpose of this study, all strengthening exercises were considered one activity, and time spent engaged in strengthening exercises was included in total time spent doing exercise activities. Also, all flexibility activities, such as yoga, Pilates, etc., were combined with the strengthening exercises category. Flexibility exercises were included in total time spent doing exercise activities. Participants were sent an email reminder if they did not complete the daily survey by the end of the day. The investigator also encouraged participants to email or call her if questions about recording exercise arose. Total duration of exercise sessions were calculated from the log.

Trait Self-Objectification

In order to assess trait self-objectification, the Objectified Body Consciousness Scale, or OBCS (McKinley & Hyde, 1996) was administered (Appendix D). The term *objectified body consciousness* is described as experiencing one's body as though it were an object and the related cognitions and beliefs that accompany the experience by McKinley and Hyde (1996). The

OBCS was developed to “measure the behaviors and attitudes proposed by feminist theorists to contribute to a woman’s negative body experience” (McKinley & Hyde, 1996, p. 182). The OBCS consists of three subscales, each intended to measure a different component of self-objectification. These three subscales include Surveillance, Body Shame, and Controls Beliefs scale. The Surveillance scale is said to measure vigilance about how one appears to others while the Body Shame scale is said to assess the degree to which the respondent feels she is a “bad person” for not meeting society’s thin ideal. The Control Beliefs scale is said to measure the degree to which a woman feels that she has control over appearance. Although all three scales can be combined into one sum score, this approach has not typically been used in research for two reasons (Calogero, 2011). First, the developers of the scale validated each scale separately. Second, the Surveillance scale predicts Body Shame, and Control Beliefs appears to be a somewhat separate construct that does not consistently correlate with self-Surveillance and Body Shame (Calogero, 2011).

The OBCS is a widely used measure in studies of SO, and the Surveillance subscale is the most frequently used subscale of the OBCS (Calogero, 2011). This scale consists of 8 items with a 7-point Likert scale system, ranging from 1 (*strongly agree*) to 7 (*strongly disagree*); the option “NA” exists if the item is not applicable to the respondent. The item responses are averaged. A higher score indicates greater concern for one’s appearance and greater time spent in self-monitoring. Internal consistency of the measure was found to be good in McKinley and Hyde’s (1996) validation study with undergraduate women ($\alpha = .89$). Surveillance is thought to capture the essence of SO as it evaluates the degree to which women monitor their appearance and view themselves from an outsider’s view. Therefore, the Surveillance scale was used in this

study as a measure of SO. The option “NA” was removed due to concerns that the option would be misinterpreted. All participants completed the OBCS after giving consent to be in the study.

State Self-Objectification

The Twenty Statements Test (TST) and the corresponding coding system as developed and validated by Fredrickson et al. (1998) was utilized to assess state SO. Since the time of development, the TST has been used to measure state SO in several different studies (Aubrey, Henson, Hopper, & Smith, 2009; Roberts & Gettmann, 2004). Participants were asked to make twenty statements about themselves following the sentence, “I am ____.” Responses were then coded into categories based upon Fredrickson and colleagues’ (1998) original system. These categories include body shape and size, other physical appearance, physical competence, traits and abilities, states or emotions, and uncodeable.

Reasons for Exercise

In order to gauge motives for exercise participation, the Reasons for Exercise Inventory (REI; Silberstein, Striegel-Moore, Timko, & Rodin, 1988) was administered (Appendix E). This measure was administered with the OBCS after consent had taken place. The inventory required respondents to use a Likert Scale to rate the importance of exercise motivations on a scale of 1 (*not at all important*) to 7 (*extremely important*). Motivation for exercise included exercising for health, fitness, enjoyment, mood improvement, weight control, body tone, and physical attractiveness. Silberstein et al. (1988) found that internal reliability ranged from .72 to .88.

Procedures

The study was conducted through the university’s Psychology Department subject pool. Using the effect size of a meta-analysis that considered effects of thin ideal media exposure on women’s body satisfaction (Groesz et al., 2002) a power analysis was conducted to determine

sample size for this study. The analysis indicated that for a power of .95, a pool of 90 female students should be selected. After meeting with the investigator and providing informed consent, the participants completed a demographics questionnaire, the REI, and OBCS as baseline measures. After these measures were given, the investigator provided a brief overview of how to complete the online exercise survey using the actual Qualtrics log that participants were to complete. Participants were asked to complete the exercise survey for one week before they are randomized to one of four groups (Group A, Group B, Group C, or Group D, as described below) so that 25 participants were in each group. They were also given the investigator's email address and phone number in case of questions about the online exercise survey as they complete it.

Group A received "fitspiration" images three times per day for one week. These images were extracted from popular social network service websites such as *Tumblr* and *Pinterest*. Google image search was also utilized to find fitspiration images. Images portrayed a muscular and thin woman with a phrase that is meant to motivate one to exercise. The fitspiration images are found in Appendix I. The images were selected by the investigator, the chair, and two other graduate students working in the area of fitspiration and body image. These images were selected as examples of fitspiration, meaning they contained both an image of a toned and thin body type with a message meant to encourage and motivate one to exercise.

In order to evaluate the effect of the fitspiration image on objectification and motivation to exercise, Group B received an email message that included only the image with no text. Group C was sent an email message which included an image featuring the fitspiration text, but with women whose bodies were more concealed with clothing. Group D viewed the same images used in Group C, but the fitspiration text was removed to feature only the image.

Therefore, Group A and B received messages with images of women that featured their thin yet toned body parts (i.e., backside, abs, arms, etc.) and text and no text, respectively. Group C and D received images of women who were less objectified and contained text and no text, respectively. Participants were asked to read their emails at 8am, 12pm, and 4pm when the images were sent. The investigator's university-affiliated email address was utilized for all correspondence.

After the week-long exposure period, participants completed a manipulation check ("Please briefly describe what type of images you received this past week") and a measure of state self-objectification, the Twenty Statements Test (Appendix F). Also, they were asked to complete a second exercise log using the online survey for one week. After the second exercise log was completed, participants met with the principal investigator at a date and time that was arranged during the consent process. The purpose of the meeting was to administer an interview about the participants' experiences with the study and to provide debriefing and an opportunity for the participants to ask their own questions regarding the study. The list of questions can be found in Appendix G. Participants were then provided with a debriefing form explaining the nature of the study (Appendix H). After a follow-up period of 1 month, participants were contacted via telephone and asked additional follow-up questions (Appendix G).

CHAPTER IV

RESULTS

Participants

A total of 116 participants were recruited from introductory psychology courses for the study in the spring of 2015, beginning in February 2015 and ending in May 2015. Four participants failed to attend the consent session and thus were excluded; 112 participants attended the consent session and agreed to participate in the study. Of those who consented to participate, 12 participants were excluded from all data analysis. One participant was excluded from study participation as her BMI was 17.4 and the study protocol called for exclusion of participants with a BMI of 18 and under. Two participants were excluded as they did not complete the exercise logs in a timely manner. Participants were excluded if they did not enter exercise within two days of the log being due. Five participants who were university athletes were excluded as they were mandated to attend their work-outs. Also, participants who were athletes attended organized events, such as track meets, and it was observed that these participants exercised for small spurts which were difficult for them to track. One participant withdrew from the study as she left the university due to medical reasons. Another participant removed herself from the study after dropping introductory psychology. Finally, data from two participants were excluded as they did not receive images during the study due to email difficulties. A total of 100 participants were included in the initial data analysis.

A large portion (67%) of participants endorsed that they were actively trying to lose weight or change their appearance. To put this figure into perspective, a previous survey of almost 17,000 college students found that 59% of female students were trying to lose weight (American College Health Association, 2015). Of those who endorsed that they were trying to

lose weight or change their appearance in this study, 15% were in overweight category while 6% were in the obese category. Comparatively, another study of female college students found 26% of those who endorsed that they were trying to lose weight were considered overweight or obese (Forman et al, 2014).

An independent samples t-test was conducted to determine if BMI differed in participants who completed the study compared to those who were excluded from the study. Results indicate no significant difference between BMI of excluded individuals ($M=26.16$, $SD=6.99$) and BMI of those who completed the study ($M=24.23$, $SD=3.98$), $t(110)=-1.467$, $p=0.145$. This suggests that individuals in both groups had similar BMIs.

Exercise Data

Exercise data were extracted from the participant's daily log, which was divided into minutes of strength-training and flexibility and minutes of non-strength training (e.g., "cardio"). The log was collected for 7 days. See Tables 1, 2, and 3 for exercise data.

Table 1

Mean Pre and Post Exercise in Minutes for Each Group

	N	Pre		Post	
		Mean	Standard Deviation	Mean	Standard Deviation
Fitspiration + Text	25	121.64	96.391	112.64	93.48
Fitspiration + No Text	25	88.65	80.8	104.42	95.92
Non-fitspiration + Text	24	149.33	112.72	170.92	109.32
Non-fitspiration +No Text	24	85.43	85.131	88.67	99.12

Note. One outlier was excluded from data which corrected statistically significant difference between groups.

Table 2

Mean Pre and Post Strength and Flexibility in Minutes for Each Group

	Pre		Post	
	Mean	Standard Deviation	Mean	Standard Deviation
Fitspiration + Text	64.44	67.81	58.68	65.77
Fitspiration + No Text	72.31	81.16	41.31	54.79
Non-fitspiration + Text	68.45	74.27	64.44	74.5
Non-fitspiration +No Text	68.48	59.04	48.38	68.61

Table 3

Mean Pre and Post Total Exercise and Strength in Minutes for Each Group

	Pre		Post	
	Mean	Standard Deviation	Mean	Standard Deviation
Fitspiration + Text	186.08	126.26	167.32	129.94
Fitspiration + No Text	160.96	139.64	145.73	123.76
Non-fitspiration + Text	232.04	163.1	235.36	144.45
Non-fitspiration +No Text	146.21	127.11	137.04	126.58

A one-way ANOVA was run to determine if the mean number of minutes for exercise, strength, and total exercise and strength differed between groups at baseline. The group means were statistically significantly different ($p < .05$) for baseline number of minutes for exercise. Visual inspection of a boxplot of the data showed one outlier. When this outlier was removed, the difference between means was no longer statistically significant. Group means were not

statistically significant between groups for 1) minutes of strength and 2) total minutes of exercise and strength ($p > .05$).

The exercise data were slightly positively skewed. The top 10% of the exercise data were trimmed in an effort to reduce the skewness of the data. When this was done, it was found that the correlations between the trimmed data and another measure were essentially unchanged to the correlation between the positively skewed data. Therefore, the decision was made not to trim the data. Also, the difference scores in exercise data between pre-exposure and post-exposure to the images were not found to be positively skewed.

Additionally, there were a total five outliers across all exercise data. Outliers were defined as being greater than 3 box-lengths from the edge of the box in a box-plot. As aforementioned, one outlier in the baseline exercise data was removed, which corrected the statistically significant difference in groups that existed pre-study. The remaining outliers were kept after comparing ANOVAs with and without the outliers. There were no significant interaction effects or main effects that appeared when the outliers were removed. The exercise data were normally distributed, as assessed by Shapiro-Wilk's test ($p > 0.05$). There was homogeneity of variance as assessed by Levene's test for equality of variances, $p = 0.348$.

An ANOVA with fitspiration and text as between-participant factors, timing as a repeated measures factor, and time spent exercising as the dependent variable was performed. For cardio exercise, there was a between-subjects effect of text. Participants in the text condition (Table 4) did more minutes of exercise overall compared to the no text condition (142.19 vs. 94.16).

For strength/flexibility exercise (Table 5), the only statistically significant finding was a main effect of timing. Overall, participants did less strength/flexibility from pre to post. The mean at baseline was 65.84 minutes and the mean after viewing the images was 52.87 minutes.

The data suggest that there are no significant effects of fitspiration or text on exercise from pre to post.

Table 6 illustrates the ANOVA summary table for total exercise. Participants in the text condition did more minutes of exercise overall compared to the no text condition (205.20 vs. 149.85).

Table 4

ANOVA Summary Table for Cardio Exercise

Source	SS	Df	MS	F	Sig
Between Subjects					
Fitspiration	19296.002	1	19296.002	1.157	0.285
Text	110114.233	1	110114.233	6.605	0.012*
Fitspiration x Text	42934.093	1	42934.093	2.575	0.112
Within Subjects					
Exercise	1623.788	1	1623.788	0.439	0.509
Exercise x Fitspiration	127.252	1	127.252	0.034	0.853
Exercise x Text	2112.433	1	2112.433	0.571	0.452
Exercise x Fitspiration x Text	2045.833	1	2045.833	0.553	0.459

Note. * $p \leq .05$

Table 5

ANOVA Summary Table for Strength/Flexibility Exercise

Source	SS	Df	MS	F	Sig
Between Subjects					
Fitspiration	20.940	1	20.940	0.002	0.961
Text	2555.678	1	2555.678	0.294	0.589
Fitspiration x Text	1856.968	1	1856.968	0.214	0.645
Within Subjects					
Strength	8031.083	1	8031.083	5.872	0.017*
Strength x Fitspiration	2633.429	1	2633.429	1.926	0.169
Strength x Text	1759.610	1	1759.610	1.287	0.260
Strength x Fitspiration x Text	955.949	1	955.949	0.728	0.396

Note. * $p \leq .05$

Table 6

ANOVA Summary Table for Total Exercise

Source	SS	Df	MS	F	Sig
Between Subjects					
Fitspiration	20588.263	1	20588.263	0.621	0.433
Text	146220.863	1	146220.863	4.410	0.038*
Fitspiration x Text	62649.081	1	62649.081	1.889	0.173
Within Subjects					
Total	2432.468	1	2432.468	0.544	0.462
Total x Fitspiration	3918.450	1	3918.450	0.877	0.351
Total x Text	16.108	1	16.108	0.004	0.952
Total x Fitspiration x Text	186.930	1	186.930	0.042	0.838

Note. * $p \leq .05$

Self-Objectification

Internal consistency of the Objectified Body Consciousness Scale (OBCS) was found to be acceptable for all three subscales. Each scale had a high level of internal consistency as determined by Cronbach's alpha of 0.83 (Surveillance), 0.83 (Body Shame), and 0.77 (Control Beliefs).

Correlations Between Baseline Exercise and OBCS

Correlations were run to determine the relationship between baseline exercise and the Objectified Body Consciousness Scales. There were no significant correlations between any of the exercise types and the OBCS scales. Results are displayed in Table 7. There are no data to support hypothesis 1, that at baseline, women with high trait SO will exercise less frequently overall compared to those with low trait SO.

Table 7

Correlations Between Baseline Exercise and OBCS

	Cardio at baseline	Strength/flexibility at baseline	Total exercise at baseline
Surveillance	.037	.037	.046
Body Shame	.106	-.159	-.005
Control Beliefs	-.085	.040	-.041

Reasons for Exercise

The internal reliability of the Reasons for Exercise scales were found to be in the acceptable range (Cronbach's $\alpha = .71-.83$) for six of seven scales. Scales in the acceptable range included Fitness (.71), Mood (.83), Health (.81), Attractiveness (.83), Enjoyment, (.79), and Tone (.73). Internal consistency for the Weight Control was found to be low (Cronbach's $\alpha = .48$). The Weight Control scale included three items, including "To be slim," "To lose weight," and "To maintain my current weight." Removal of the item "To maintain my current weight" increased Cronbach's α to .778.

Correlations Between REI and OBCS

Correlations were run to determine the relationship between the scales of the Reasons for Exercise Inventory and the Objectified Body Consciousness Scales. Results are displayed in Table 8. There was a large positive correlation between Surveillance and Weight Control and Attractiveness ($r(100) = .512$ and $.613, p = .000$, respectively). A moderate positive correlation between Surveillance and Tone was found ($r(100) = .308, p = .002$). For Body Shame, there was a moderate positive correlation with both Weight Control and Attractiveness ($r(100) = .420$

and .384, $p = .000$, respectively). The aforementioned correlations were significant even after the Bonferroni correction was applied ($p = .0024$).

Also, there was a small positive correlation between Body Shame and Tone ($r(100) = .254, p = .011$). This was no longer significant when the Bonferroni correction was applied. Finally, Control Beliefs was not significantly correlated with any of the scales from the REI.

Hypothesis 2 was that women with high levels of trait SO will exercise more for reasons related to weight control, body tone, and physical attractiveness compared to women with low levels of SO. Results partially support this hypothesis; body tone does not appear to be significantly correlated with trait SO.

Table 8

Correlations Between Reasons for Exercise Inventory (REI) and Objectified Body Consciousness Scale (OBCS)

	Fitness	Mood	Health	Enjoyment	Weight Control	Attractiveness	Tone
Surveillance	-.046	.155	-.024	.038	.512**	.613**	.308*
Body Shame	.010	.184	.057	.036	.420**	.384**	.254*
Control Beliefs	.018	.096	.149	.117	.157	-.069	.034

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.0024 level (2-tailed).

Self-Objectification as a Moderator

A hierarchical multiple regression was run to determine if trait SO moderated the relationship between fitspiration group and change in exercise from baseline to post. Exercise change was calculated using the total amount of exercise during the baseline period subtracted from the total amount of exercise during the post-experiment period. Positive results indicate

that total exercise increased from pre to post, while negative results indicate a decrease. Exercise change was calculated for three dependent variables including difference in cardio exercise, difference in strength and flexibility exercise, and total difference (cardio and strength/flexibility combined). Thus, three separate regressions were run. The Surveillance and Body Shame scales of the Objectified Body Consciousness Scale were utilized as they were moderately correlated with one another, while Control Beliefs was not significantly correlated with either. The regression was run entering the single factors into the first model, then entering two-way interactions into the second model, and finally the three-way interactions into the third model.

There was linearity as assessed by partial regression plots and a plot of studentized residuals against the predicted values. There was independence of residuals, as assessed by a Durbin-Watson statistic of 1.861 for difference in cardio exercise, 1.706 for difference in strength, and 1.727 for total difference. A visual inspection of the plots of studentized residuals versus unstandardized predicted values showed homoscedasticity. One data point was excluded from the analysis as its studentized deleted residual was greater than 3 standard deviations. The assumption for normality was met based on visual inspection of the Q-Q plots.

The first regression model used cardio exercise as the dependent variable. There were no statistically significant main effects or interactions. This was regardless of the Bonferroni correction ($p = .0167$) or utilizing a standard significance level ($p = .05$).

For the regression model using the combined total exercise as a dependent variable, there were no statistically significant main effects or interactions. This lack of statistical significance again was regardless of the Bonferroni correction ($p = .0167$) or utilizing a standard significance level ($p = .05$).

With respect to the regression model using strength/flexibility exercise as the dependent variable, a significant main effect of text was found ($\beta = .204$, $SE = 10.80$, $p = .05$). Participants who viewed text showed less of a decrease in strengthening exercise from pre to post compared to those in the no text condition (-6.90 vs. -20.09). Also for strength and flexibility, there was a significant three-way interaction between Surveillance, text, and fitspiration ($\beta = -0.472$, $SE = 24.782$, $p = .04$). When the Bonferroni correction is applied ($p = .0167$) to the findings for strength/flexibility, these results are no longer significant.

A median split of Surveillance was taken to run 2x2 ANOVAs to determine effects (one for low Surveillance and one for high Surveillance). There were no significant main effects or interactions found. It was found that when there was a high level of Surveillance and fitspiration was present, there was little difference between the text and no text group on the mean difference in strength/flexibility exercise score (-26.19 vs. -28.15). In the non-fitspiration group, there was a larger difference between text and no text (-3.9 vs. -19.67), indicating that both groups decreased strength/flexibility exercise from pre to post, but the text group had less of a decrease. The non-fitspiration group showed less of a decrease in strength/flexibility compared to the fitspiration group. Again, these means were not significantly different.

When there was a lower level of Surveillance and fitspiration was present, there was a large difference between the text and no text condition (19.44 vs. -34.17). In this case, there was an increase in strength/flexibility exercise from pre to post in the text condition, but a decrease in the no text condition for low Surveillance and fitspiration. In the non-fitspiration group, there was little difference between text and no text (2.5 vs. 2.42). These results indicate support for hypothesis 3, that trait SO moderates the relationship between fitspiration exposure and exercise behavior, but only when the Bonferroni correction is not utilized.

Table 9

Summary of Hierarchical Regression Analysis for Variables Predicting Difference in Strengthening and Flexibility Exercise from Pre to Post

	<i>B</i>	<i>SE b</i>	β
<i>Step 1</i>			
Constant	-15.512	9.495	
Surveillance	-8.416	5.932	-.175
Body Shame	9.638	5.416	.211
Fitspiration	-11.081	11.051	-.105
Text	14.403	10.581	.137
<i>Step 2</i>			
Constant	-17.688	9.495	
Surveillance	-.004	8.464	.000
Body Shame	-3.094	8.745	-.068
Fitspiration	-9.561	10.951	-.091
Text	16.727	10.459	.159
Body Shame x fit	25.541	11.240	.340
Body Shame x text	7.755	10.759	.115
Surveillance x fit	-8.252	12.133	-.108
Surveillance x text	-16.573	11.962	-.204
<i>Step 3</i>			
(Constant)	-19.524	9.488	
Surveillance	-7.480	9.001	-.156
Body Shame	3.997	9.523	.087
Fitspiration	-8.089	10.798	-.077
Text	21.470*	10.802	.204
Body Shame x fit	7.648	15.066	.102
Body Shame x text	-6.131	13.109	-.091
Surveillance x fit	11.523	15.078	.151
Surveillance x text	4.695	16.035	.058
Body Shame x text x fit	40.433	22.204	.366
Surveillance x text x fit	-51.571*	24.782	-.472

Note. * $p \leq .05$

Twenty Statements Test

Participants completed a “fill in the blank” of 20 words to describe themselves. They were coded as follows: 1=Body shape and size, 2=Other physical appearance, 3=Physical competence, 4=Traits and abilities, 5=States or emotions, and 6=Uncodeable. For the purpose of this study, all items were coded but only items coded with 1, 2, or 3 were considered, as these related directly to self-objectification. The principal investigator and a graduate student in clinical psychology both coded the statements from the Twenty Statements Test. A third coder was asked to break the tie on discrepancies in coding. Cohen’s K calculated for inter-rater agreement was found to be $K = .89$. Overall, participants made an average of 0.76 (SD = 0.9) body shape and size statements, 0.79 (SD = 0.84) other physical appearance statements, and 1.25 (SD = 1.07) physical competence statements. The average number of statements per experimental group are listed in Table 10.

Table 10

Mean Number of Statements From the Twenty Statements Test per Category per Group

	Body Shape/Size		Other Physical Appearance		Body Competence	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Fitspiration + Text	0.58	0.717	0.79	0.721	1.33	1.049
Fitspiration + No Text	0.92	1.093	0.73	0.778	0.81	0.801
Non-fitspiration + Text	0.83	0.761	1.17	1.09	1.58	1.06
Non-fitspiration + No Text	0.7	0.974	0.48	0.593	1.3	1.259

The number of statements coded as physical competence (“3”) was subtracted from the number of body size and body shape (“1”) and other physical appearance (“2”). This calculation provided an estimation of state self-objectification, such that higher positive scores reflect more

focus on body shape and size or other physical appearance, while higher negative scores indicate more of a focus on physical ability, or what the body is capable of doing. There was homogeneity of variance as assessed by Levene's test for equality of variances, $p = .761$. There were no outliers as assessed by visual inspection of a boxplot. The Twenty Statements data for the fitspiration/text and fitspiration/no text were negatively and positively skewed, respectively, with Shapiro-Wilk values of $p = .023$ and $p = .52$, respectively. Transformations were completed on the data, which resulted in the creation of outliers and no improvement in the normality of the data. Thus, the data violate normality and the factorial ANOVA should be interpreted with caution.

To evaluate the effect of the experimental groups on state self-objectification, a 2x2 factorial ANOVA was run, with image type (fitspiration vs. non-fitspiration) as one factor and text type (text vs. no text) as the second. A significant interaction between type of image and type of text on the difference score calculated from the Twenty Statements Test was found, $F(1, 93) = 4.309$, $p = .041$, partial $\eta^2 = .044$. The interaction indicated that fitspiration had no effect on state SO ($t(47) = -0.83$, $p = .411$) when text is present. Participants in the fitspiration condition showed similar state SO levels as participants in the non-fitspiration condition (0.04 vs. 0.42). When there was no text present, there was an effect of fitspiration on state SO ($t(46) = 2.08$, $p = .043$). Participants in the fitspiration condition showed higher levels of state SO than participants in the non-fitspiration condition (0.85 vs. -0.14). However, this effect becomes moot when the Bonferroni correction is applied ($p = .025$). When the Bonferroni correction is not applied, it appears that there is partial support for hypothesis 4, that an increase in state SO will be found in all women who view the fitspiration, was partially supported. There was only an effect of fitspiration when there was no text.

Interview Questions

Post Questions

The answers to the interview questions were coded into “yes” and “no” categories by the principal investigator and by two graduate students in clinical psychology. When there was disagreement between raters, the mode answer was selected. The overall agreement rate among the questions was 92%. Cohen’s Kappa was calculated to determine inter-rater agreement for each question (see Table J11 in Appendix J). The mode of the Kappas was $K = .904$. SPSS Statistics’ hierarchical loglinear model selection was conducted with a backwards elimination stepwise procedure to determine a hierarchical model for the associations between fitspiration, text, and response to the interview questions. The purpose of hierarchical loglinear modelling is to select the most parsimonious loglinear model to fit the observed data frequencies. In loglinear analysis, an unsaturated model is sought as this model will isolate the effects that are revealed in the data. When only the constant remains in an unsaturated model, this means that the model with no effects fits the data. A saturated model indicates that all effects are needed to explain the model and thus no effects can be isolated. All partial likelihood ratios χ^2 and loglinear parameter estimates are presented in Appendix K.

Question 1: Has the exposure to the images you received in the email affected your satisfaction with your body size or shape?

Conducting a hierarchical loglinear model selection procedure, an unsaturated model with no effects was selected. The model with no effects fits the data. The likelihood ratio goodness-of-fit test showed that the model was a good fit to the data, $\chi^2(7) = 5.907, p = .551$. Results of the analysis showed no significant difference in the answers, nor was there any

significant effect of either fitspiration or text. Partial likelihood ratio χ^2 are presented in Table K12 and loglinear parameter estimates are in Table K13.

Question 2: Has the exposure to the images you received in the emails affected your satisfaction with your fitness level?

Again, the hierarchical loglinear analysis was conducted. A saturated model was chosen, and thus no effects could be isolated. Partial likelihood ratio χ^2 are presented in Table K14 and loglinear parameter estimates are in Table K15.

Question 3: Has exposure to the images you received in the email affected your satisfaction with your muscle tone?

An unsaturated model with no effects was selected, and the likelihood ratio goodness-of-fit test showed that the model was a good fit to the data, $\chi^2(7) = 3.492, p = .836$. There were no significant differences in responses, as participants answered at a fairly equal rate; 51% answered “yes” and 46% answered “no.” Partial likelihood ratio χ^2 are presented in Table K16 and loglinear parameter estimates are in Table K17.

Question 4: Do you believe that at any point the pictures made you focus on what your body looks like rather than what it can do?

An unsaturated model was chosen. The likelihood ratio goodness-of-fit test showed that the model was a good fit to the data, $\chi^2(4) = 3.632, p = .458$. The analysis found a main effect of the fitspiration image. Fitspiration viewers answered “Yes” to the question 75% of the time, while 52% of non-fitspiration viewers answered “Yes.” Partial likelihood ratio χ^2 are presented in Table K18 and loglinear parameter estimates are in Table K19.

Question 5: Did the images make you think about what your body looks like from an outsider’s perspective?

An unsaturated model was chosen. The likelihood ratio goodness-of-fit test showed that the model was a good fit to the data, $\chi^2(9) = 6.831, p = .655$. There was no significant effect of image type or text, but there was a significant effect of response. Significantly more participants answered “yes” (49%), while they answered “no” 32% of the time, and answered “I have always thought about this” 19% of the time. Partial likelihood ratio χ^2 are presented in Table K20 and loglinear parameter estimates are in Table K21.

Question 6: Has the exposure to the images received in the email impacted your desire or motivation to exercise?

Hierarchical loglinear model selection procedure was conducted, which produced an unsaturated model with a main effect of response to Question 6. The model fit the data as indicated by the likelihood ratio of $\chi^2(6) = 2.875, p = .824$. Responses to Question 6 were such that 82% of participants answered “yes.” Partial likelihood ratio χ^2 are presented in Table K22 and loglinear parameter estimates are in Table K23. A one-way ANOVA was conducted to determine if there was any difference in exercise from pre to post-study in those who said “yes” versus those who said “no” to the aforementioned question. The statistical analysis found a significant difference in total exercise between responses ($p < .05$), such that those who answered “yes” actually exercised less after viewing the images compared to those who said “no.” There were no significant differences found when just strength /flexibility and cardio exercise were considered individually.

Question 7: Do you think the images had any impact on how frequently or intensely you exercise?

There were no significant differences found for the frequency question; 60% of the participants said “no.” For the intensity component, an unsaturated model was chosen which

showed an interaction of response and text. The likelihood ratio goodness-of-fit test showed that the model was a good fit to the data, $\chi^2(4) = 1.908, p = .753$. Of those who said “yes,” 31% were in the text group, while 15% were in the no text group. Thirty-three percent of the no text participants responded “no” to the question, while 21% said “no” in the text condition. Partial likelihood ratio χ^2 are presented in Table K24 and loglinear parameter estimates are in Table K25 for the intensity component of Question 7. Figure 1 illustrates the interaction effect.

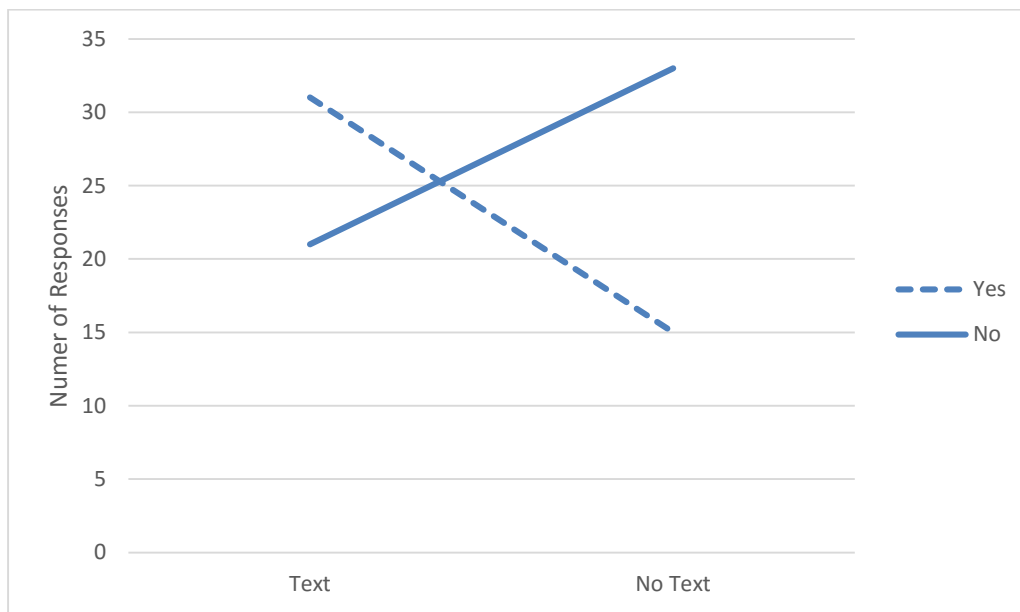


Figure 1. Results of the interview question: Do you think that the images had any impact on how intensely you exercise?

Question 8: Has the study made any impact on the types of exercise you choose to do?

An unsaturated model with no effects was selected, and the likelihood ratio goodness-of-fit test showed that the model was a good fit to the data, $\chi^2(7) = 2.792, p = .904$. There were no significant differences in responses, as participants answered at a fairly equal rate; 57% answered “no” and 43% answered “yes.” Partial likelihood ratio χ^2 are presented in Table K26 and loglinear parameter estimates are in Table K27.

Question 9: Did you do any new types of exercise?

Loglinear analysis produced an unsaturated model with a main effect of response. The model fit the data, $\chi^2(6) = 2.265, p = .894$. Sixty-five percent of participants answered “no” to the question. Partial likelihood ratio χ^2 are presented in Table K28 and loglinear parameter estimates are in Table K29.

Question 10: Do you think that exposure to the images affected you or your behavior in any way?

An unsaturated model was produced with a main effect of response type. The model fit the data, $\chi^2(6) = 1.808, p = .936$. A significant difference was found between the yes and no category of responses, such that participants said “yes” significantly more often than “no.” In total, 71% of participants answered “yes” to this question. Partial likelihood ratio χ^2 are presented in Table K30 and loglinear parameter estimates are in Table K31.

Question 11: If you were someone concerned with your weight, do you think exposure to these images would have moved you in the direction of trying to change your exercise habits?

Responses were coded into “Yes,” “No,” and “Depends/Possibly.” An unsaturated model was produced and the model fit the data, $\chi^2(9) = 7.196, p = .617$. There was a main effect of response type, such that 76% answered “yes,” and 19% said “depends or possibly,” and finally 5% said “no.” Partial likelihood ratio χ^2 are presented in Table K32 and loglinear parameter estimates are in Table K33.

Question 12: If you were someone concerned with your weight, do you think exposure to these images would have moved you in the direction of trying to change your eating habits?

Again, responses were coded into “Yes,” “No,” and “Depends/Possibly.” Loglinear analysis produced an unsaturated model with a main effect of response. The model fit the data,

$\chi^2(9) = 8.079, p = .526$. Seventy percent of the respondents answered “Yes,” 16 % said “No,” and 14% “Depends/Possibly.” Partial likelihood ratio χ^2 are presented in Table K34 and loglinear parameter estimates are in Table K35.

Question 13: Did you change your eating habits at all?

Conducting a hierarchical loglinear model selection procedure, an unsaturated model was produced. The model with no effects fits the data. The likelihood ratio goodness-of-fit test showed that the model was a good fit to the data, $\chi^2(7) = 1.779, p = .971$. There were no significant factors or interaction effects. Partial likelihood ratio χ^2 are presented in Table K36 and loglinear parameter estimates are in Table K37.

Qualitative Results

One month follow-up questions. Participants were contacted one month after the study ended for a follow-up. Out of the 100 who completed the final interview and debriefing session, 75 were successfully reached via phone for the follow-up questions. Participants were contacted no more than two times. Questions were primarily open-ended. A coding system was developed by the researcher and responses were coded as such. Descriptive statistics are outlined as very small cell sizes made it impossible to run inferential statistics on the data.

Question 1: Have you looked at fitspiration since the study for any reason?

Responses were coded as “yes” or “no.” See Figure 2.

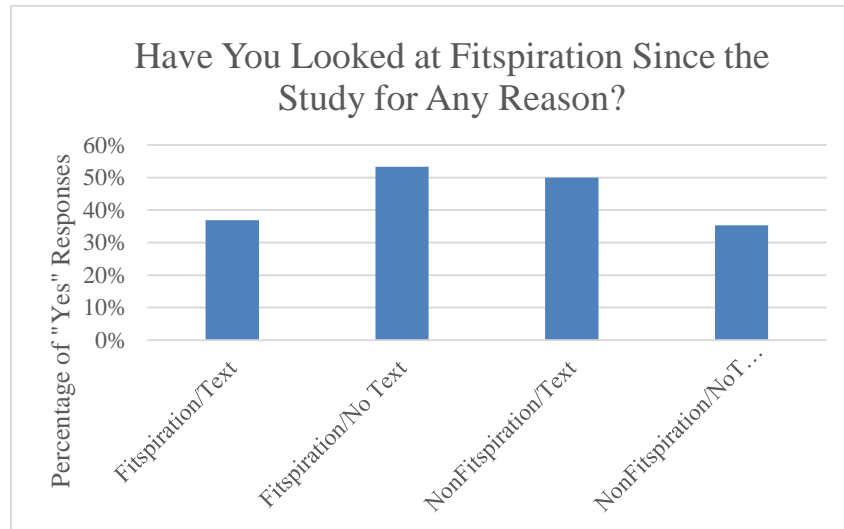


Figure 2. Results of the interview question: Have you looked at fitspiration since the study for any reason?

Question 2: Did the study impact you?

Responses again were coded as “yes” or “no.”

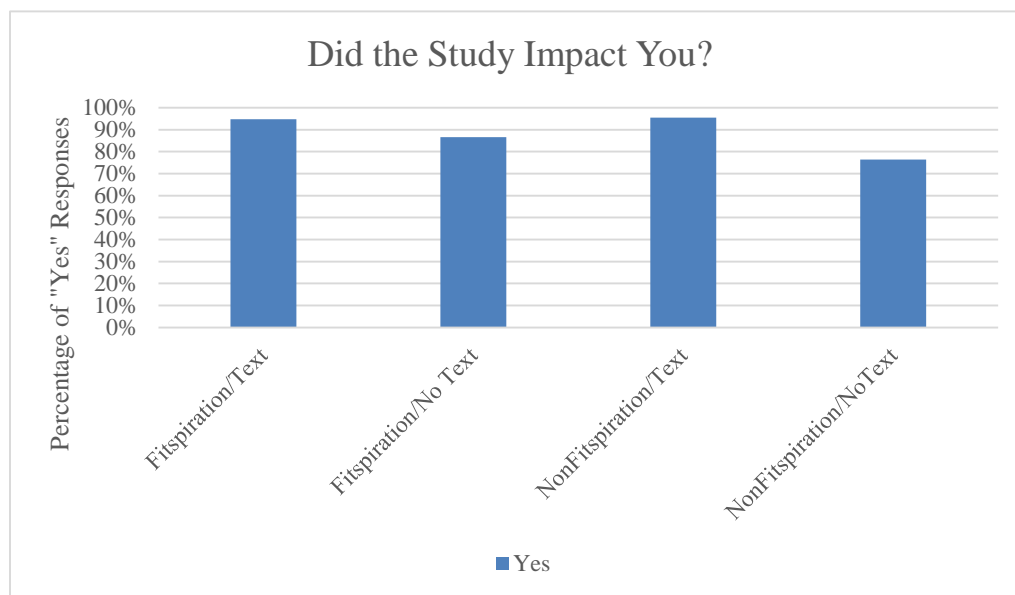


Figure 3. Results of the interview question: Did the study impact you?

Question 2A: In what way?

The answers of the participants reflected a variety responses to the study. The answers were coded into the following categories: 0=None, 1=Provided motivation, 2=Exercising more, 3=More self-conscious, 4=More health conscious, or 5=Heightened awareness of media. Some participants answered both 1 and 2 (motivation and exercising more), and were thus coded as “6.”

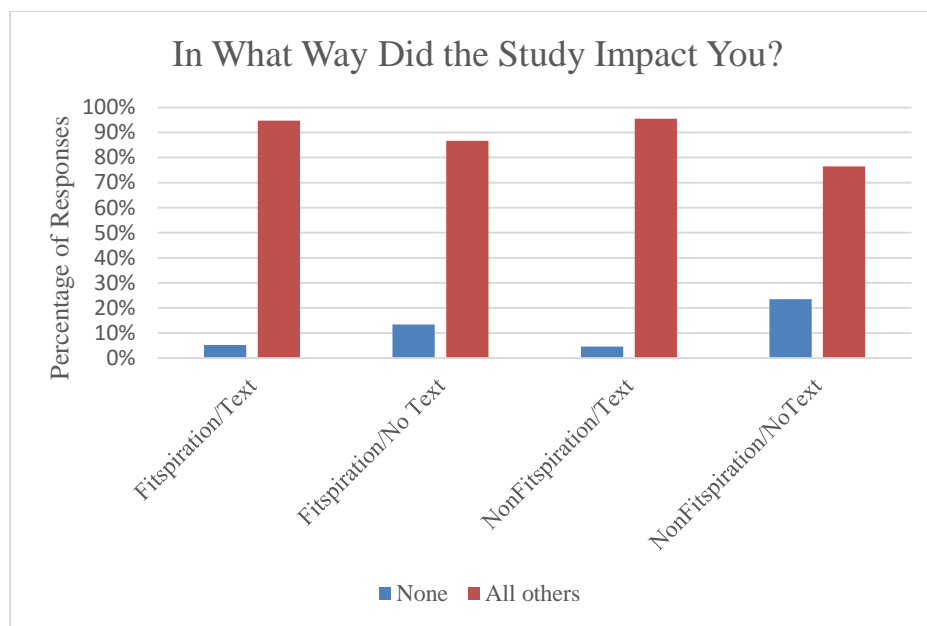


Figure 4. Results of the interview question: In what way did the study impact you? All others: Provided motivation, exercising more, more self-conscious, more health conscious, and heightened awareness of media.

In response to this question, a participant in the fitspiration and text group shared, “I do work out more now. I don't know if it was the study, or me personally wanting to be better. I work out every morning, so there's that. I try to force myself to go later in the day when my friends go. I try to get a better body, and work on my stomach area more.” Another participant, also in the fitspiration and text group, shared “[The study] made me more aware of fitspiration

pictures that I see. I see some of them as derogatory. With some of the pictures, the women are super fit, the women's look [is] unattainable for everyday people. It makes me a little angry."

An answer reflecting motivation came from a participant in the fitspiration and no text group: "The images that you sent...reading the quotes kept me motivated to keep pushing and not be lazy." An answer reflecting self-consciousness response came from a participant in the non-fitspiration and text group, who answered, "[The study] definitely made me self-conscious. I walked around in my crop top and I felt self-conscious." Finally, a participant from the non-fitspiration and no text group shared that "During the study, I really did go to the gym more often. I can go and exercise and feel a little bit better. Now, I'm back to stressing about school, but I still use exercise as stress relief and I look forward to it. I didn't think about exercise in a positive way before the study, it was burden, and now I view it in a positive light."

Question 2B: How has the study impacted your thoughts and feelings about your body?

Responses were coded as 1=Felt better about body, 2=Felt worse about body, 3=No impact, 4=Want something different for your body.

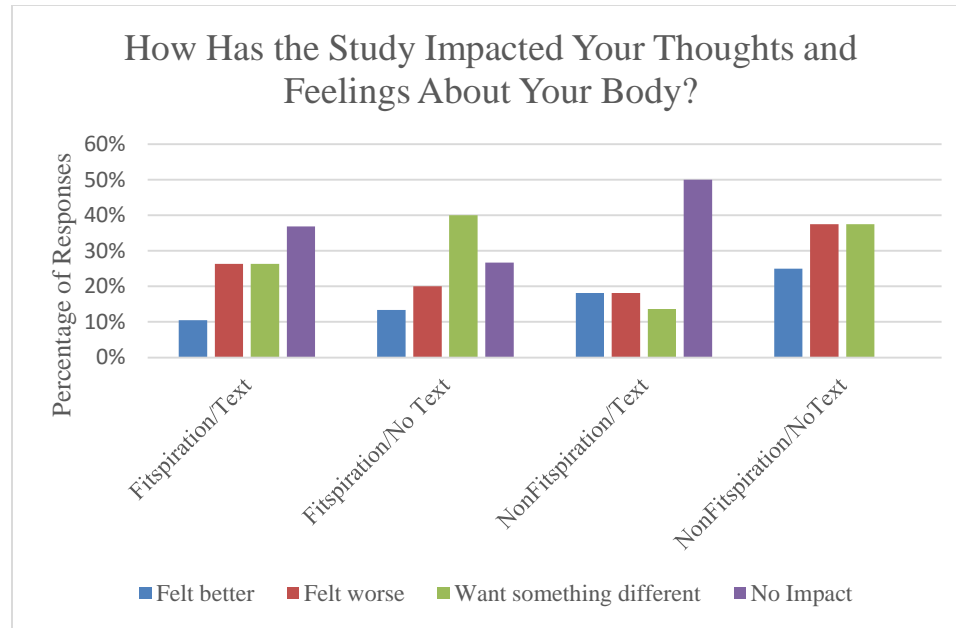


Figure 5. Results of the interview question: How has the study impacted your thoughts and feelings about your body?

A participant from the fitspiration and text group responded, “Looking at the pictures makes me wish my body was like that. At the same time, I’m not overweight, I don’t need to lose weight. Not everyone’s body will look like that. Those people in the pictures probably don’t look like that.” A participant who had viewed the fitspiration and no text images shared a similar but somewhat more negative sentiment: “It made me look at my body in more of a negative way. [It] made me feel like I was inferior, not as fit as those girls.” Finally, a participant from the non-fitspiration and text group shared that “[The images] made me feel more confident, because [the images] were of real people, instead of models...” and a non-fitspiration and no text participant shared that “[The images] made me want to get more fit mostly because the people in the pictures were super muscular. I thought more about how I don’t have the same muscular tone.”

Question 2C: How has the study impacted your thoughts and feelings about exercise?

Responses were coded as 1=Felt better/more motivated to exercise, 2= Felt worse about exercise, 3=No impact, 4=Tried new exercises.

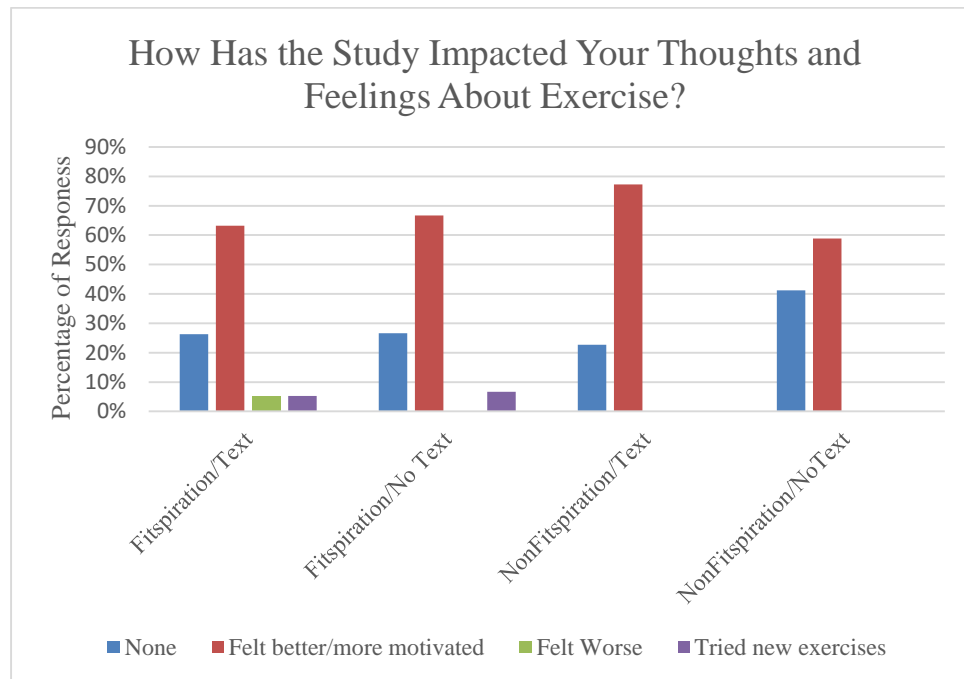


Figure 6. Results of the interview question: How has the study impacted your thoughts and feelings about exercise?

A non-fitspiration and text participant answered that “It made me look at exercise in a better way; usually exercise is not the [most fun] thing in the world, but if I think about the results that I’m going to get it gets better.” A more critical perspective was shared by a fitspiration and text participant: “It almost seemed that the exercise pictures made it look easy, it almost gave a false persona, but working out to get there is harder than it looks. It makes it look easy, like you can get there in one gym session.” A fitspiration and no text group member explained that, “I think [I’m] just neutral towards exercise. I already have my mind set towards exercise. I did think, ‘you could probably do a little more, you should find the time in your schedule’ but it didn’t change how I think about it.”

Question 3: Did you feel that overall, your experience of looking at the images was positive or negative for you?

The responses were coded as 1=Positive, 2=Negative, or 3=Neutral. The graph indicates that overall, the mode response was “positive.”

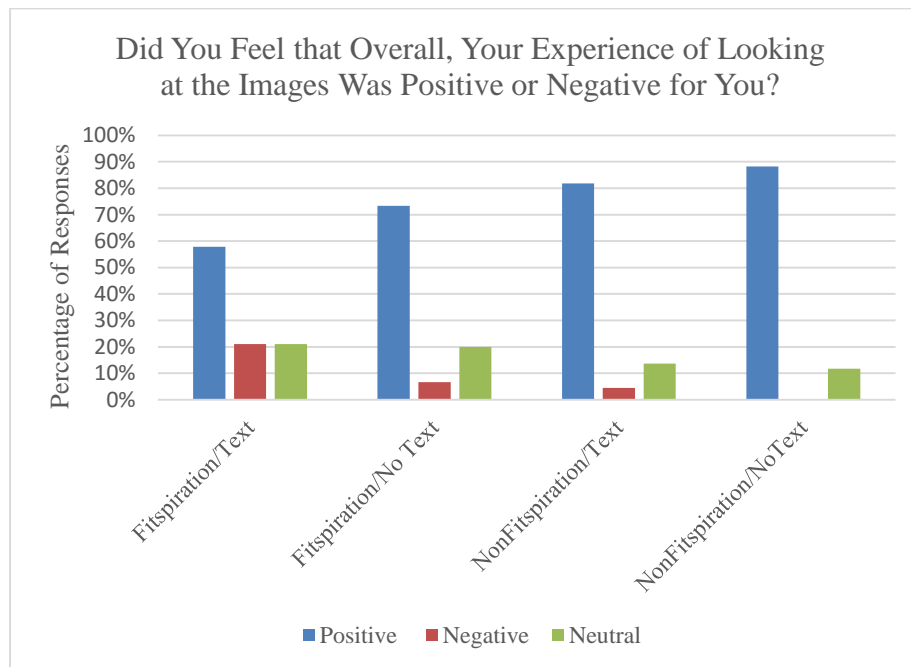


Figure 7. Results of the interview question: Did you feel that overall, your experience of looking at the images was positive or negative for you?

Question 3A: What were the positive components?

Again, answers varied widely. Responses were coded as 0=None, 1=Provided motivation, 2=Started exercising more, 3=Increased awareness of media, and 4= Heightened health consciousness. Some participants answered both 1 and 2 or 1 and 4, and thus they were coded as 5 and 6, respectively.

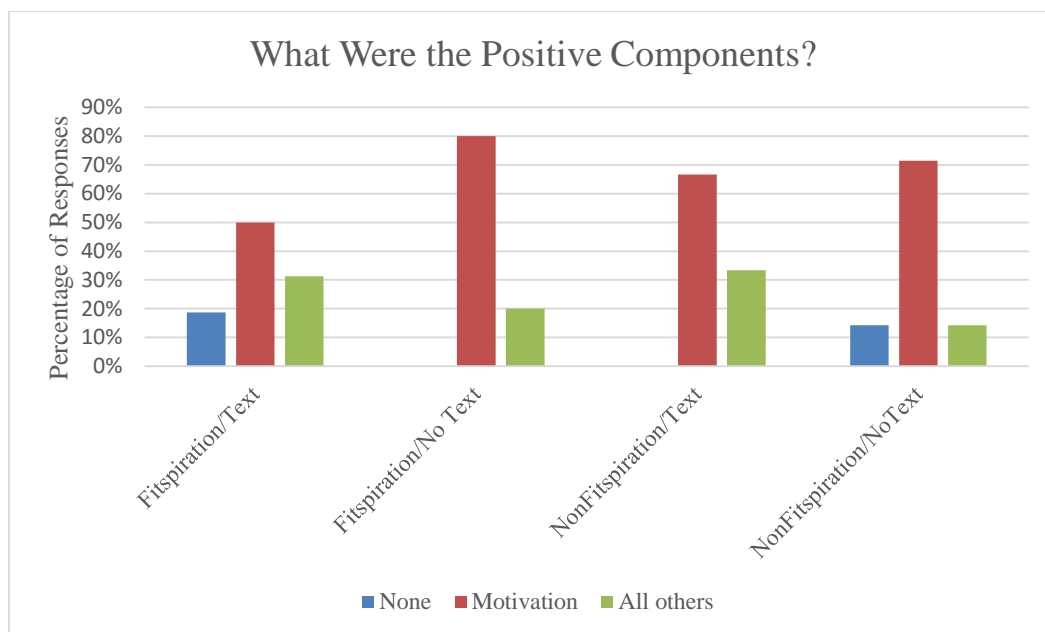


Figure 8. Results of the interview question: What were the positive components?
 All others: Started exercising more, increased awareness of media, heightened health consciousness, and combinations of motivation and started exercising more and motivation and heightened health consciousness.

A fitspiration and text participant answered “I liked logging my exercise, when I had a good workout it made me feel good and when I didn't it made me realize I was slacking a little, but the images did not really affect me.” Another participant also in the fitspiration and text group reflected upon her positive experience with the study “Made me involve myself more in activities that were beneficial to my body and health....activities meaning I started working out more and doing more physically active things. I’m also eating healthier.” A non-fitspiration and text participant shared “I thought about how I should exercise and to be healthier, not necessarily to be skinnier but to be healthier” and a non-fitspiration and no text participant reported that “I got pictures of normal looking women, and it made me realize that I was normal looking as well, not too skinny but not overly fit.”

Question 3B: What were the negative components?

Responses were coded as 0=None, 1=Contributed to negative body image, 2=Images contained no diversity, and 3=Images were a reminder to exercise. The graph indicates that the mode answer was “none.”

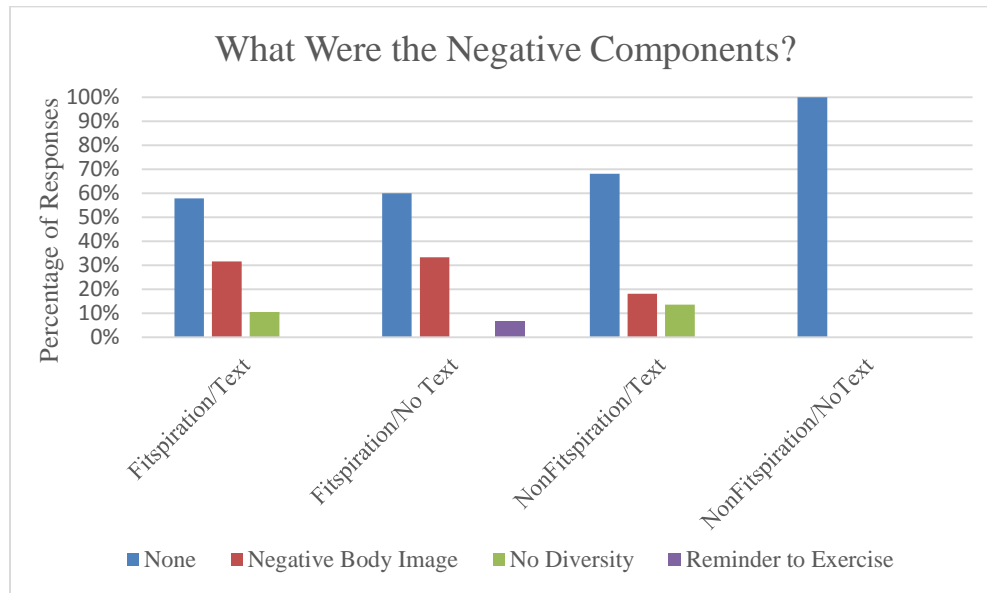


Figure 9. Results of the interview question: What were the negative components?

A fitspiration and no text participant shared that a negative component of the study for her was “Knowing that I won't be exactly like them; I need to work out pretty much.” Another in the same group stated that “The images were discouraging at times.” A member of the non-fitspiration and text group shared that “[I had] a negative feeling when I thought, ‘why can't I look like that?’”

Question 4: Do you feel that you made any changes that you have been able to maintain because of the study?

Responses were coded as 1=Yes, 2=No.

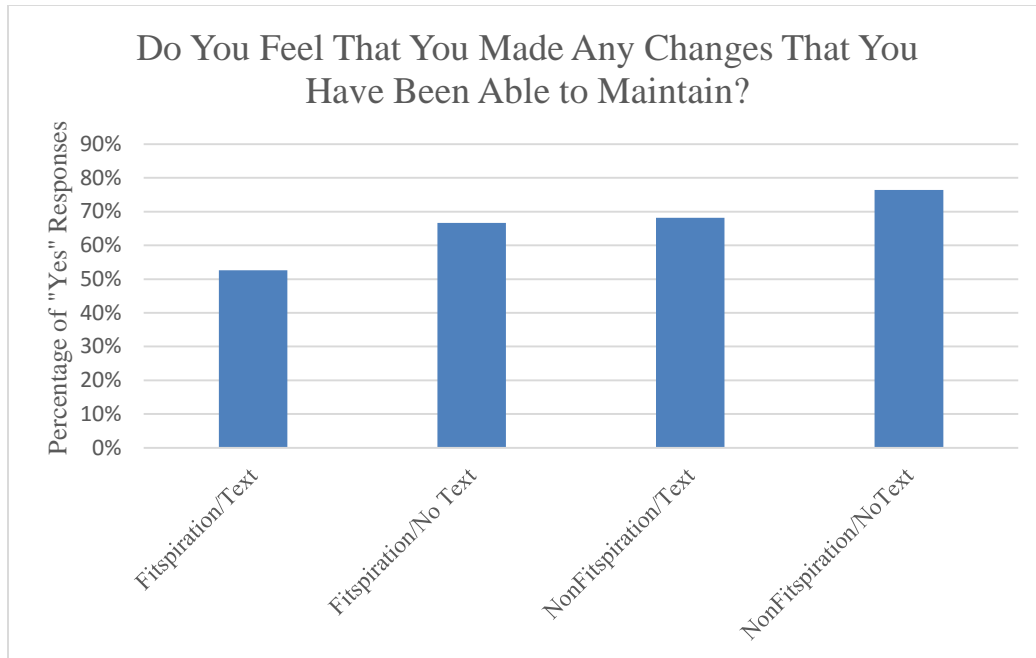


Figure 10. Results of the interview question: Do you feel that you made any changes that you have been able to maintain?

A fitspiration and text group member shared that “I was able to think about eating choices, and eat a little bit healthier. I’m not sure if it's really study related. I think I just want to try to eat better. I was kind moving in that direction. Looking at the images may have helped me keep that going.” Also, a fitspiration and no text participant responded, “Yes, that was one thing for sure that I noticed. I was keeping track of exercise, then when I did not record it, I still felt like I needed to go. It made me realize that when I stopped [recording exercise] that I wasn't going, and I felt like ‘Oh crap I need to go.’” A non-fitspiration and text participant shared, “No not really because I've been busy with school. I haven't been able to maintain the increase in exercise that I experienced during the study.”

Question 4A: What exercise changes? 0=None, 1=Increase in exercise, 2=Adding new exercise. Some participants answered both 1 and 2 and thus they were coded as “3.”

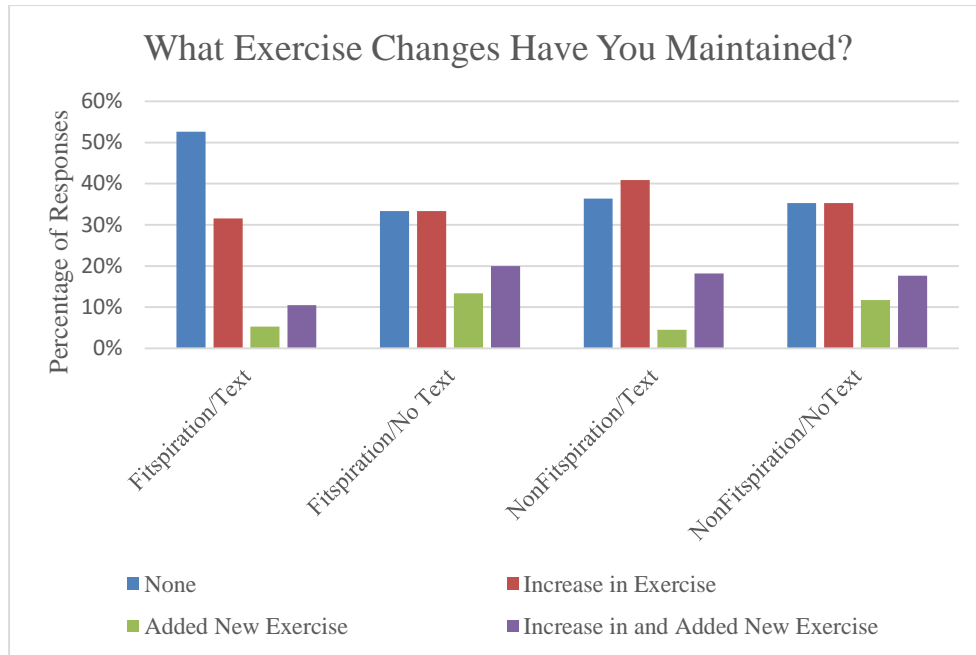


Figure 11. Results of the interview question: What exercise changes have you maintained?

Participants who stated that they had been able to maintain exercise changes shared what they continued to do. A participant from the fitspiration and text group reported that she had increased her exercise. She explained, “I try to walk more. I bought a fit bit [sic.]. It calculates how many steps you've taken. I feel like I’m less likely to sit on couch because of the fit bit [sic.].”

Another participant, from the fitspiration and no text group, said, “I have continued to work out after the study. I wasn’t working out before the study.” On the other hand, another participant in the same group shared that “I wouldn’t say I made any major changes. I tried to be healthy.”

A participant from the non-fitspiration and text group responded that “[The study] actually motivated me and helped me. I’m still working out, I’ve been maintaining the same routine.” Another member of the same group shared a similar sentiment: “I’ve continued to do

more cardio since the study because I'm in a routine with this.” Finally, another admitted that she was unsure of her ability to maintain changes: “I don't know if I've been able to maintain changes because my schedule is erratic.”

Members of the non-fitspiration and no text group also endorsed maintenance in the changes they had made related to the study. For example, one shared “[The study] made me want to do certain exercises more. I want to go swimming, go to yoga. I always wanted to go swimming. I guess yoga increased because I actually saw people doing it in the pictures.”

Question 4B: What food/nutrition changes?

Responses were coded as 0=None, 1=Eating healthier, 2=Cutting out specific foods, and 3=Adding specific supplements. Participants frequently answered with a combination of 1, 2, and 3, and thus these responses were coded as combinations of the responses.

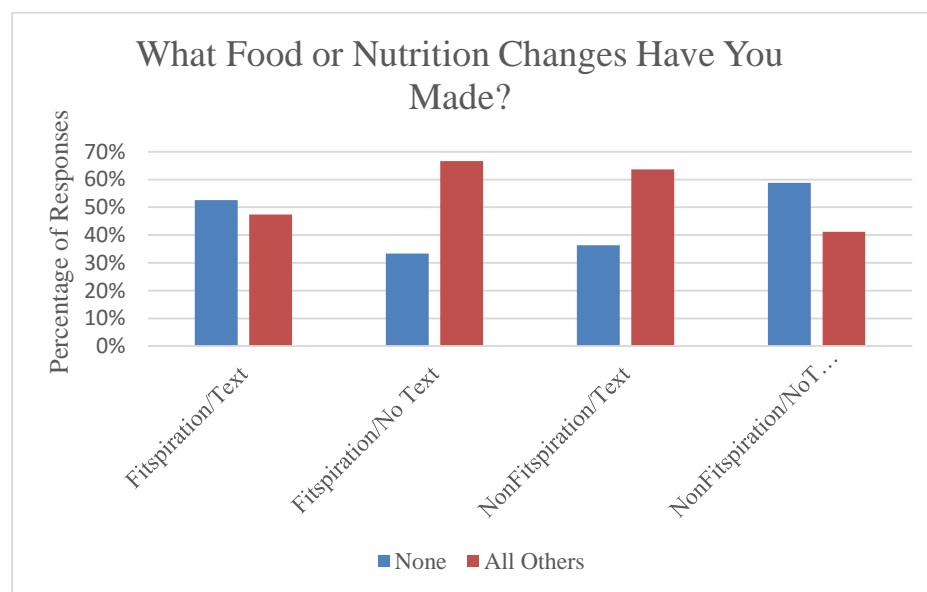


Figure 12. Results of the interview question: What food or nutrition changes have you made? “All others” include: Eating healthier, cutting out specific foods, and adding specific supplements.

A participant from the fitspiration and text group shared that she felt she started to eat healthier and cut out sugar during the study: “I’m continuing to do the changes I had made with eating. During the beginning of the school year I was eating anything, but then [in] January I watched what I ate. I started eating more vegetables. I was trying more of the healthy shakes during the study. I’ve continued to cut out sugar, eat more fruits and vegetables during the study. I’m continuing to work on this now.” A participant from the fitspiration and no text group shared that she continued to try to eat healthier and cut out certain foods after the study ended: “I tend to bring my own food to work, so I don’t get the temptation. I do try to maintain healthy eating. I continued to avoid bagels and mayo on sandwiches.”

Participants from the non-fitspiration and text group shared that they tried to continue eating in a healthier manner. For example, one participant shared that: “I’ve been trying to eat healthier, the junk food thing is back because I’m at home, but I’m still thinking about it,” while another shared that “Around the time of the study, I started eating healthier, and I’ve been able to maintain that. Maybe I didn’t realize that it was related to the study. Now I actually like salads, this is different for me.” Finally, non-fitspiration and no text participants stated: “The study had me eating better, I’m still eating better” while another said, “Actually I haven’t done what I wanted to do with eating, I have to work on that.”

CHAPTER V

DISCUSSION

Self-objectification (SO) has been defined as a “form of self-consciousness characterized by habitual self-monitoring of one’s outward appearance” (Fredrickson & Roberts, 1997, p. 180). This study explored SO, as both a state and trait, within the context of exercise and online images known as “fitspiration.” Fitspiration, or fitness inspiration, has been described as images used to inspire others to improve their body image by engaging in exercise and healthy eating (Tiggemann & Zaccardo, 2015). As fitspiration is a relatively “new” type of media, there are very few studies specifically examining its effect on consumers. Thus, this study attempted to determine how these images might impact exercise behavior and state SO, as well as how trait SO influences reasons for exercise and exercise behavior.

Hypothesis 1

The first hypothesis of the study was that women with high trait SO, measured by the Body Shame, Surveillance, and controls beliefs scales of the Objectified Body Consciousness Scale, will exercise less frequently compared to those with low trait SO. This hypothesis, which was unsupported in the current study, was based upon previous research suggesting that SO predicts decreased experiences of “flow”. Flow has been defined as a peak motivational experience of being totally absorbed in an activity such that self-consciousness disappears (Csikszentmihalyi, 1990). It was thought that if SO predicts decreased experiences of flow, exercise would be less rewarding for those with higher levels of SO, and therefore these individuals would exercise less than those with low trait SO.

As there was no relationship between SO and exercise found in this study, it is possible that there is no real relationship between SO and exercise. A lack of relationship between trait

SO and exercise may suggest that although women experience SO, it does not have a substantial impact on the degree to which they exercise. Moreover, it may be possible that there is no substantial relationship between SO and experiences of flow, or experiences of flow during exercise do not necessarily impact the amount of exercise in which one engages. The lack of connection between trait SO and exercise may be, in fact, be a positive finding of this study. It would indicate that this trait, which is defined as an enduring aspect of one's personality, does not impact an activity that is required for health and well-being.

While there was no relationship detected between amount of exercise completed and trait SO, it has been previously shown that there is a connection between disordered eating and SO. This relationship has been shown to be mediated by a consequence of SO: Body Shame (Noll & Fredrickson, 1998). In the current study, participants were asked about changes in eating behaviors, but not specifically changes in eating toward disordered eating. There was no quantitative evidence to suggest that significant changes were made.

Although significant changes in eating habits were not found, participants agreed that if they had been someone concerned about their weight, the study would have an impact on both their eating and exercise habits. For example, 76% of participants answered "yes" when asked in an interview, "If you were someone concerned with your weight, do you think exposure to these images would have moved you in the direction of trying to change your exercise habits?" Significantly more participants answered "yes" compared to those who answered "no" or "depends." Also, participants were asked, "If you were someone concerned with your weight, do you think exposure to these images would have moved you in the direction of trying to change your eating habits?" Seventy percent answered "yes," significantly more than those who answered "no" or "depends."

The significant portion of participants who endorsed that the study would impact exercise and eating habits were not also endorsing that their own habits were affected. Rather, when they were asked to imagine that they were concerned about their weight, participants answered that the study would have an impact on their habits. Thus, it appears that participants' perception is that the images *could possibly* have an impact on their own satisfaction with eating and exercise habits. This may be attributed to demand characteristics in the study. In other words, participants may have recognized what the study was about and then attempted to answer in a way that would support the researcher's hypothesis.

Again, there were no significant findings for the question, "Did you change your eating habits at all?" but two-thirds of the participants answered that they were actively trying to lose weight or change their appearance at the outset of the study. This may indicate some degree of dissatisfaction with one's weight, shape, looks, etc. On the other hand, body image dissatisfaction has been couched as a "normative discontent" among women (Rodin, Silberstein, & Streigel-Moore, 1984), and thus it may be that wanting to change one's appearance is not the exception but the rule among women.

Hypothesis 2

While trait SO was not found to have a significant relationship with exercise in the current study, it was found to be correlated with several reasons for exercise. Previous studies have found trait SO to be positively correlated with appearance-related reasons for exercise and negatively correlated with exercising for health and fitness reasons (Prichard & Tiggemann, 2005; Strelan, Mehaffey, & Tiggemann, 2003). The current study hypothesized that these findings would be replicated in a population of college women, but results supported only one aspect of the previous research. Significant positive correlations were found between two scales

of OBCS (Body Shame and Surveillance) and exercising for reasons related to weight control and attractiveness. The subscale of Control Beliefs did not significantly correlate with any reasons for exercise.

Previous research has found significant negative correlations between exercising for fitness, mood, health, and enjoyment reasons and SO (Prichard & Tiggemann, 2005; Strelan, Mehaffey, & Tiggemann, 2003), but this was not supported in the current study. These results may indicate that an individual's level of SO is not related to the degree to which they exercise for reasons related to mood and health. The lack of correlation between exercising for reasons related to fitness, mood, health, and enjoyment and trait SO may indicate that there is no meaningful relationship between the two. This lack of a relationship possibly suggests that attempts to have some impact on SO (e.g., decreasing or reducing it in women) would have little effect on exercising for less image-focused reasons, such as health and mood enhancement. The opposite may hold true as well—that shifting the reasons for exercise would have little effect on SO.

Hypothesis 3

The current research was interested in not only the relationship between SO and reasons for exercise, but also how SO might moderate a relationship between fitspiration and exercise. Specifically, the current study attempted to identify how viewing fitspiration images frequently seen on social media platforms could affect one's exercise behavior. This is important as social media has grown in popularity across all adults in the United States. For example, in 2014, 87% of adult American internet users ages 18-29 used Facebook and 34% used Pinterest (Pew Research Center, 2015). Also, the percentage of female internet users who joined and interfaced with Instagram has significantly increased from 20% to 29% between 2013 and 2014.

Additionally, more than half of internet users ages 18-29 use the platform (Pew Research Center, 2015). All of these aforementioned sites, in addition to other social media platforms, expose users to images on a constant basis; in fact, Instagram is a purely image-based site. As these image-based sites become an ever more popular method of connecting and sharing information online, evaluating the impact that viewing images has on consumers' body image and behaviors has become increasingly important.

When the Bonferroni correction is applied to the results of the study, there were no significant effects when testing the hypothesis that trait SO will moderate the relationship between fitspiration and exercise. When the correction is not applied, Surveillance was found to moderate the relationship between viewing fitspiration images and strength/flexibility exercises in the current study. The Surveillance subscale of the OBCS is said to measure tendency to monitor and focus on how one looks from an outsider's perspective (McKinley & Hyde, 1996). In the current study, for those reporting high Surveillance, there was a difference in strength and flexibility exercise between text and no text in the non-fitspiration group. No difference was found for the fitspiration group. Specifically, participants in the non-fitspiration, high Surveillance, and text group showed less of a difference between minutes of pre- and post-strength/flexibility exercise compared to the no text group. In other words, participants still did less strength/flexibility exercise from pre to post, but non-fitspiration and text showed less of a decrease from pre to post.

On the other hand, when Surveillance was low, there was a large difference in strength/flexibility exercise pre to post between text and no text specifically in the fitspiration group, but not in the non-fitspiration group. Participants in the fitspiration text group increased

their strength/flexibility from pre to post while those in the no text group decreased their strength/flexibility exercise.

For those with a high level of Surveillance, it appears that the effect of text is negligible for fitspiration but not for non-fitspiration. When high Surveillance and non-fitspiration were present, there was an effect of text on strength and flexibility exercise, such that there was less of a decrease in exercise from pre to post. A different pattern emerged for those low in Surveillance. When low Surveillance and fitspiration are present, participants did more strength/flexibility from pre to post in the text group compared to the no text group.

The results may indicate that there is little effect of fitspiration on those who more frequently think about how their bodies look from an outsider's perspective, regardless of text. There appears to be an effect that when Surveillance is high, looking at less objectified images with text may be more motivating for strength/flexibility exercise than no text. For individuals who are not as vulnerable to seeing themselves from an outsider's perspective, objectified images with text may be more motivating than objectified images with no text.

Perhaps the less objectified images with text influenced individuals with a high level of Surveillance to focus more on what their bodies are capable of through exercise that specifically enhanced their strength or flexibility. It is also possible that those with high Surveillance related to the less objectified images and aspired to do more strength/flexibility due to the inspirational text. Fitspiration images may have reminded or inspired those with a low level of Surveillance to engage in exercise that would strengthen their bodies. These participants may have been inspired by the women who appeared to be strong given their prominent muscles.

Related to building strength, an interview question asked if exposure to the images affected muscle tone satisfaction. There were no significant effects of image or text, and

participants answered “yes” and “no” somewhat equally at 51% and 46%, respectively. This reflects that the impact of the images on muscle satisfaction was not contingent upon group membership of participants (i.e., fitspiration /non-fitspiration and text/no text). Additionally, building muscle and improving muscle tone may not have been important goals for the women who participated.

Muscularity and strength of the human body is often directly related to what the body is physically capable of doing. Developing an appreciation and awareness for the body’s capabilities has been shown to significantly increase self-liking and body-liking in college-aged women (Eash & Long, 2016). This was done through a simple intervention which required participants to record five things their bodies allow them to do and five times during the day when they noticed what their bodies allowed them to do. The intervention also produced a small but significant decrease in Body Shame, as measured by the OBCS.

The intervention administered in the Eash and Long (2016) study indicates that effects can be produced with just a small amount of daily effort for participants. Related to the current study, women might learn to appreciate what their bodies are capable of doing by attending to and focusing on one’s strength and flexibility. Developing an awareness of one’s strength and also working to enhance it through strength-building exercises might reinforce the importance of the body’s capabilities and reduce the importance of what the body looks like.

While Surveillance was found to be a moderator between fitspiration and exercise completed, Body Shame and Control Beliefs were not. Although it is difficult to determine why this was, it is possible that the Surveillance scale more accurately captures SO, or Body Shame and Control Beliefs are less accurate with capturing SO. The Control Beliefs scale has been excluded from studies attempting to measure SO, as recently, it has not been typically considered

a defining aspect of SO (Moradi & Huang, 2008; Liss & Erchull, 2015). Or, perhaps Surveillance is capturing another construct that moderates the relationship between fitspiration and exercise behavior.

Hypothesis 4

This study also evaluated the impact of the images on state SO, which is thought to be prompted by external sources and occur over a discrete period of time (Harrison & Fredrickson, 2003). It was expected that participants who viewed fitspiration images would experience a higher degree of state SO as measured by the Twenty Statements Test (TST). An interaction effect was found between type of image and type of text, such that the effect of motivational text depended upon the presence of fitspiration. Again, this effect was no longer significant when the Bonferroni correction is applied. If interpreted without the correction, it appears that when there was no text, those who viewed fitspiration images made more statements on body shape/body size and other physical appearance characteristics compared to those in the non-fitspiration condition. Participants in the text condition showed similar state SO in both fitspiration and non-fitspiration groups. These results provide partial support for hypothesis 4.

The study also attempted to measure state SO using interview questions. Participants were asked after they had completed the study if the pictures caused them to focus on what their bodies look like rather than what they can do. Of those in the fitspiration groups, 75% answered “yes” to this question. This was significantly more than those in the non-fitspiration groups (50% answered “yes.”). Another interview question attempted to elicit experiences of SO by asking if the images made them think about what their bodies look like from an outsider’s perspective. There was a significant effect of response type but not group, as almost 50% answered “yes,” while 32% said “no” and 19% said “I have always thought of this.”

The results of both the TST and interview questions suggest that fitspiration had an impact of state SO. The results of the TST raises the possibility that those who viewed images without text focused on their own bodies when the fit ideal was featured, while those who viewed images without text could relate more to the functionality of the body when non-fitspiration images, featuring more “realistic” looking women, were used.

Similarly, when asked if the images had an impact on intensity of exercise, another interaction effect occurred between response and text. In this case, it appears that when text is absent, more participants stated the images had no effect on their intensity of exercise compared to those in the text group. This may suggest that the presence of “inspirational” text has an effect on the amount of effort that consumers put into exercise. This is logical given the nature of the text included in the images. For example, “If you don’t work for it, you probably don’t deserve it” and “It’s not that you can’t, it’s that you won’t.” Perhaps participants did not exercise more frequently, but they increased the intensity of exercise. It is also possible that viewing the images with text made participants consider *how* they exercise and not just how frequently they exercise. A quote such as “What doesn’t challenge you doesn’t change you” may provide encouragement to consider the degree to which their exercise routine may be challenging, and this could potentially cause one to increase exercise intensity.

Limitations

As college females, it is likely that the participants had been previously exposed to a variety of images featuring the thin or fit ideal; the degree to which participants had already interfaced with thin ideal and/or fit ideal images in their environment is unknown. Previous exposure to fitspiration was endorsed by some of the participants, but it is assumed that random assignment distributed this factor evenly. Quantifying previous exposure by using a survey

method would be useful in understanding how lifetime exposure to fit and thin images might moderate participants' response to the images.

When considering the exercise data collection in this study, it is clear that there are several issues that may have impacted the reliability and validity of the data. According to previous research, remembering one's physical activity demands accurate memory, which can be affected by numerous factors (Sallis & Saelens, 2000). Therefore, it is possible that participants inaccurately recalled their activities and/or incorrectly recorded exercise into their daily log. Using an objective measurement of exercise, such as an accelerometer device or doubly labeled water, would have been more advantageous for recording exercise (Taylor, Crouter, Lawton, Conner, & Prestwich, 2013). However, these measurements would not provide data regarding the type of exercise or if the movement was indeed intended to be exercise, as the devices would also measure physical activity that was not specifically done for the sole purpose of obtaining exercise. Moreover, these methods were simply not practical for the nature of a study like this. Second, strength and flexibility exercises were recorded according to number of minutes spent on each activity; it may have been more accurate and descriptive to record number of repetitions of exercises such as crunches, sit-ups, squats, lunges, etc.

Another factor that may have impacted the integrity of the data was the actual act of recording exercise data. There is research supporting the efficacy of recording food intake for weight loss (Hollis et al., 2008). In turn, it may be possible that recording exercise increased participants' awareness of their activity level, or lack thereof, and provided an incentive to increase exercise. Social-desirability bias may have also played a role in this study, as it has been shown to impact self-reported behaviors (Mensch & Kandel, 1988). Those who might not have normally exercised may have felt compelled to do so in order to complete a daily exercise

diary. Indeed, some participants shared that they felt negatively when they recorded that they had not completed any exercise.

The study was designed for participants to record their exercise during the first week of the study. After one week of exercise diary data were collected, participants ceased recording exercise and only viewed images for one week. Then, they ceased image-viewing and recorded exercise for another week. Collecting exercise data from participants while they viewed the images would have allowed the messages or feelings (if any) obtained from the images to be immediately reflected in exercise habits. It is not certain that any effects of viewing the images would have generalized to the following week. Thus, in future studies, exercise data should be collected while participants view the images.

Other issues related to technology may have affected study results. Participants were sent images three times per day for 7 days and were asked to check their email at specified times throughout the day. As the images were sent to participants' email addresses, it is not possible to ascertain if the images were viewed at the specific times periods sent. Participants may have viewed the images one after the other, especially if they had not checked their email for that specific day. Future studies would benefit from the use of technology, particularly smart phones, to deliver and confirm the receipt of images in real time.

The use of real-time technology would have been enormously helpful in the collection of state SO data as well. The current study sent the measure of state SO electronically immediately after participants were given access to the final image of the study. However, not all measures were completed directly after they were sent, making it difficult to evaluate if participants' state SO was "activated" by viewing the images. Again, future studies would benefit from the use of

technology that could confirm receipt of the images and immediately administer the TST after the final image was received.

Characteristics of the females in the fitspiration images used in the study were selected by the researcher to be representative of fitspiration in social media, but the chosen images may not have been an accurate depiction of what women frequently see within their own social media “world.” Also, the images chosen to be “less objectified” for the non-fitspiration group still depicted thin women and women of normal BMI. It is conceivable that the non-fitspiration images could cause the viewer to engage in an upward comparison, which could be discouraging and ultimately contribute to negative affect.

The quotes featured in the images may not have uniformly sent the same message, as each was different, and there is an obvious demarcation between empowering and pejorative fitspiration on the web. A Google image search of “fitspiration” appears to uniformly display images of thin but toned women, but the text varies. For example, text from one image states: “Suck it up now and you won’t have to suck it in later” while another image on the same result page states: “Strong is the new skinny.” Clearly the underlying messages within the text, although intended to be inspirational, can be divided into more positively and more negatively-oriented messages. Also, some of the fitspiration images may inspire the viewer to engage in a healthy amount of exercise and to increase fitness for wellness. These words and images may also have an ominous side, as they could encourage over-exercise and/or disordered eating. This is an empirical question, unanswered to date. However, the impact of the images could also greatly depend upon the viewer and her approach to exercise, her thoughts and feelings about her body, and her desire for a toned/fit body. Thus, future research should parcel out more positive images versus more negative images and messages, and code them based on this.

The lack of diversity in the fitspiration images is another limitation of this study. The images selected tended to feature light-skinned women. There was little diversity portrayed in the images, which did affect at least one participant, who spoke about this. It is possible that participants may not have felt as though they could connect with the images given that typically, the images used for the study were of white women. Future studies should consider including images of more diverse women.

Exposure time and a lack of a follow-up beyond one month are perhaps the largest limitations of this study. Participants looked at three images per day for seven days, but it is difficult to determine if this amount of time was sufficient, as individuals in society are constantly presented with media images from various outlets. Also, participants were interviewed about their experiences directly after completing the final aspect of the study, and were then contacted via telephone one month later for a follow-up. Assessing and interviewing an individual periodically during the months after the study concluded would provide valuable information regarding what long-term effects, if any, may occur with viewing fitspiration images.

Finally, the Bonferroni correction was applied to the statistical tests during data analysis. The Bonferroni correction is conservative and could lead to false negatives. Application of the correction made many significant results become insignificant due to the more stringent p value. Therefore, the findings of this study need to be verified with a new sample.

Future Directions

Fitspiration is a relatively new type of media that researchers are just beginning to investigate. Continued research in this area would be beneficial as users of image-based social media platforms have increased in the population (Pew Research Center, 2015) and these images

continue to objectify women. Additionally, researching the impact of such wide-spread exposure to images such as fitspiration is important given that weight and lack of exercise have become major health concerns in America. It is clear that in many communities, sedentary lifestyles contribute immensely to health concerns. If fitspiration was clearly harmful, which it does not appear to be given the current study, it should be reduced and considered a public health concern, just as images of underweight models have been deemed. Again, endeavors to study fitspiration would be helpful to clarify its potential impact on consumers.

While fitspiration research is limited, the literature on self-objectification is not. Interventions to ameliorate SO, which may include exercise, should continue to be researched to reduce the harmful consequences of SO. Research in this area has begun to look at mindfulness. Mindfulness may be helpful for those with high levels of self-objectification, in particular Surveillance. Using mindfulness to draw attention to and observe what the body is capable of doing instead of what the body looks like has been shown to decrease self-objectification over a period of eight weeks in junction with a yoga class (Cox, Ullrich-French, Cole, & D'Hondt-Taylor, 2016). Therefore, bringing mindfulness to activity may allow those with higher levels of self-objectification to re-connect with their bodies during physical activity. Future research might integrate mindfulness into other types of physical activity to identify how it might impact SO.

While mindfulness may allow women to pay attention what their bodies are capable of doing, working out in a gym with peers may elicit the opposite and prompt state SO. Future research might investigate how prompting state SO by drawing attention to what the body looks like from an outsider's perspective effects exercise in the moment. For example, previous research has found that undergraduate women who viewed an "unfit" peer working out at the

gym exercised significantly longer than those who viewed a “fit” peer (Wasilenko, Kulik, & Wanic, 2007). Prompting state SO in a gym or other exercise setting and measuring the impact on exercise would be a useful contribution to the exercise and SO literature.

Additionally, investigating how SO and fitspiration images could impact men and their exercise and motivation would provide a valuable contribution to the literature. The majority of SO research, including the present study, has been focused on women’s experience of this phenomena (Pope, Phillips, & Olivardia, 2000). However, researchers are increasingly utilizing SO theory to explore body image disturbance and drive for muscularity (Parent & Moradi, 2011; Daniel, Bridges, & Martens, 2014; Heath, Tod, Kannis-Dymand, & Lovell, 2015). Due to cultural definitions of what is attractive among young adult men, these men often desire to build muscle and “bulk up,” and thus focus their exercise and fitness efforts on this (Lynch & Zellner, 1999). “Bulking up” and developing defined muscles is clearly somewhat appearance related, although it also strength and capability related. Understanding how social media and images typically seen in magazines and other “health” related venues impact male self-objectification, exercise, and motivation could be helpful in understanding male body image. This is important as research has shown that a majority of anabolic androgenic steroid users are non-athletes and use the drug for cosmetic reasons, not for increasing strength and function of muscles (Parkinson & Evans, 2006).

Conclusion

This study is the first to investigate the link between fitspiration images, self-objectification, and exercise. Fitspiration images are found across social media websites such as Instagram and Pinterest. While fitspiration images could be touted as helpful motivators for fitness, they are also reminiscent of “thinspiration,” which conveys messages of the importance

of thinness and losing weight, often in an unhealthy way (Jett, LaPorte, & Wanchisn, 2010). Moreover, fitspiration tends to objectify women's bodies; the images often focus on one part or segment of the women. This perpetuates the idea that women are "things," which insidiously devalues women. Determining how these specific types of images impact consumers' behavior and interact with trait and state SO provides a new contribution to the research in the field of women's issues, self-objectification, fitness, and social media.

Findings suggest that there is a significant positive correlation between exercising for reasons related to weight control and attractiveness and two facets of self-objectification: Body Shame and Surveillance. This finding supports previous research in this area (Prichard & Tiggemann, 2005; Strelan, Mehaffey, & Tiggemann, 2003). The study did not find a relationship between trait SO and amount of exercise completed at baseline. Also, for those with low levels of Surveillance viewing fitspiration, there was a difference between the text and no text condition. Those who viewed text did more strength/flexibility exercise from pre to post.

Another surprising result was that participants overwhelmingly stated that the study impacted their motivation to exercise, but those who endorsed this actually exercised less after viewing the images compared to those who did not endorse this. This may be explained by the simple fact that expressed motivation for a behavior does not necessarily mean a change in said behavior. Or, participants may have experienced a type of dissonance or internal conflict in response to the images which were clearly meant to motivate them. This finding suggests that overall, viewing fitspiration may not increase exercise. Also, a significant number of participants agreed that the study made them consider their bodies from an outsider's perspective. This suggests that the images used in the study evoked state SO.

The measurement of state SO given after exposure to the images partially supported the original hypothesis. Those who viewed fitspiration images without the motivating text had higher levels of focus on body shape, body size, and other physical appearance characteristics, compared to when fitspiration was absent without text.

The fitspiration image with motivational text, which is considered a typical example of fitspiration, did not differentially impact the temporary state of feeling more like an object than a person, and fitspiration viewers did not differentially imagine themselves from an outsider's perspective. Looking specifically at fitspiration, the study found that consumers of fitspiration did not necessarily increase their exercise. Also, those who saw fitspiration images did not change their eating habits, but felt that if they were someone concerned about their weight, they could imagine that exposure to fitspiration would impact their eating and exercise habits.

In summary, there was no clear association between trait SO and exercise, but there is a positive correlation between exercising for more appearance-focused reasons and trait SO. Additionally, there was no significant change in exercise between pre-image exposure and after image exposure across any of the groups. Surveillance was found to moderate the relationship between fitspiration and strengthening/flexibility exercise. Finally, when there was no text present in the image, there was an effect of fitspiration on state SO.

The implications for these results suggest that on a surface level, trait SO does not necessarily impact exercise, but that a confluence of factors occurs while viewing fitness-focused and objectified images and impacts strengthening and flexibility exercise particularly. Also, it seems that viewing objectified fitness images with motivating text does not produce higher levels of state SO, and that seemingly more benign images can impact state SO. The findings indicate that a careful approach is needed and assumptions should be avoided when considering what

motivates women for physical activity and what produces feelings of self-objectification in women.

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Appendix A

Informed Consent Form

You are invited to participate in this research study. The following information is provided in order to help you to make an informed decision about whether or not to participate. If you have any questions, please do not hesitate to ask. You are eligible to participate because you are a female undergraduate student in the subject pool at Indiana University of Pennsylvania.

The purpose of this study is to evaluate the impact of a health awareness program. Specifically, the study will evaluate how the program could affect behavior, and through what mechanisms may cause the behavior changes. Participation in the study will require approximately 6 hours and will satisfy your research requirements for General Psychology. The study will run during the fall 2014 semester.

Your participation in the study will entail the following. After you consent to be involved in the study, you will be asked to complete several questionnaires. Then, the investigator will ask you to begin recording your daily exercise for seven days using an online survey exercise. The survey will be emailed to you as a link. Completing the survey requires you to record the type of exercise and for how long you exercised each day for seven days. The survey will also ask about strength and flexibility exercise. Completing this aspect of the study should only take you 5-10 minutes per day. If you do not complete a daily survey, you will be emailed by the investigator and prompted to complete the survey the following day. After you complete this for seven days, you will begin to receive three emails per day for seven days. The email will contain a simple image that you must view. After the period of seven days, you will complete two brief questionnaires online, and then complete a final exercise log online for seven days. After completing this seven day exercise log, you will meet with the investigator for a final time for a debriefing session. One month after this debriefing session, you may be called and asked several questions about your experience in the study.

If you complete all portions of the study, you will receive 6 credits for research participation, fulfilling your research requirement. You will be assigned 1 credit for each hour or portion of an hour you complete the following: completing the consent process and baseline questionnaires (1 hour), completing the first seven day exercise log online (1 hour), reading the emails three times per day for seven days and completing the two brief questionnaires (2 hours or 2 credits), completing another seven day exercise survey (1 hour), and participating in the debriefing session (1 hour). During the debriefing session, you will be given an information sheet that will provide a more detailed description of the study's purpose, as well as contact information if you wish to receive the results of the study.

You may be contacted one month after the study on the telephone to answer several brief questions; this should not take more than 20 minutes of your time, but you will not receive additional credits or any other type of compensation for participating in this follow-up portion of the study.

Informed Consent Form

Please note that if you miss a portion of the study, you will not be able to progress through the remaining parts of the study. If at any time you decide to withdraw from this study, you will receive credit for the portions you completed.

You may find participation in this study interesting, especially if you are interested in health, exercise, or fitness. This study may be important in discovering the impact of the health awareness program.

Participation in this study is voluntary, and you are free to decide not to participate or to withdraw from this study at any time without it adversely affecting your relationship with the investigators or IUP. Participation in human participant research is not required to earn credit in any course, and the Psychology Department Subject Pool is required to offer an alternative method of obtaining credit in the form of reviewing a research article. Choosing not to participate will have no effects on the evaluation of your performance in General Psychology. Your decision will not result in any loss of benefits to which you are otherwise entitled.

If you choose to participate, you may withdraw at any time by notifying the researcher or informing the research assistant. Upon your request to withdraw, all information pertaining to you will be destroyed. If you choose to participate, all information will be held in strict confidence and will have no bearing on your academic standing or services you receive from the University. Your responses will be kept confidential, with the exception of threatening to harm yourself or another individual. In addition, your name will be removed from your answers, so please answer as honestly as possible to ensure accurate results. The information you provide to us will be considered only in combination with that of other participants. The information obtained in the study may be published in scientific journals or presented at scientific meetings, but your identity will be kept confidential.

Some women experience emotional discomfort when they compare themselves to pictures of others. Therefore, there may be slight discomfort associated with participating in this study, although the risk is estimated to be very minimal. Should feel that participation in the study is somehow negatively affecting you and it becomes difficult for you to manage this discomfort, then you should contact the investigator directly.

If you are willing to participate in this study, please sign the statement on the following page and return it to the research assistant/investigator. Take the extra unsigned copy with you. If you choose not to participate, please give the unsigned copies to the research assistant/investigator.

Student Researcher & Primary Investigator:
Ms. Julia K. Chasler, M.A.
Clinical Psychology Doctoral Student
Psychology Department
Uhler Hall, 1020 Oakland Ave.
Indiana, PA 15705

Faculty Sponsor:
David LaPorte, Ph.D.
Director of Doctoral Studies
Psychology Department
Uhler Hall, 1020 Oakland Ave.
Indiana, PA 15705

Informed Consent Form

VOLUNTARY CONSENT FORM:

I have read and understand the information on the form and I consent to volunteer to be a subject in this study. I understand that my responses are completely confidential and that I have the right to withdraw at any time. I have received an unsigned copy of this informed Consent Form to keep in my possession.

Name (PLEASE PRINT): _____

Signature: _____

Date: _____

IUP Email address (4 LETTERS): _____

Phone number where you can be reached: _____

Best days and times to reach you: _____

I certify that I have explained to the above individual the nature and purpose, the potential benefits, and possible risks associated with participating in this research study, have answered any questions that have been raised, and have witnessed the above signature.

Date

Investigator's Signature

Appendix B

Demographic Questionnaire

1. What is your age? _____ (Please note that you must be 18-25 to participate. If you are not, please notify the investigator).
2. What is your gender? (Please note that you must identify as female to participate in the study. If you do not, please notify the investigator).
 - a. Male
 - b. Female
 - c. Transgendered
3. What is your race/ethnicity?
 - a. African American/Black
 - b. European American/White
 - c. Latina/Hispanic
 - d. Native American/Alaska Native
 - e. Asian/Pacific Islander
 - f. Biracial (please specify) _____
 - g. Other (please specify) _____
4. What is your current height? _____ feet _____ inches
5. What is your current weight? _____ lbs
6. Do you have any medical conditions, including injuries, which limit how much you can exercise or prohibit you from exercising?
 - a. Yes (please indicate reason: _____)
 - b. No
7. Are you actively trying to lose weight or change your appearance?
 - a. Yes
 - b. No

Appendix C

Qualtrics Daily Exercise Survey

Please record the exercise you completed today. The activities you list should be activities you completed with the intention of getting physical activity and/or improving fitness or health. Playing a sport would also be considered an exercise activity. Please **DO NOT** record activities that you would normally do such as housework, gardening, and occupational tasks (e.g., walking around at work, shelving at work, etc.) or low intensity sports such as bowling and softball.

Please also list strength and flexibility exercises. They should only be counted if your intention was to improve your strength and flexibility. For example, reaching to a shelf would **NOT** be considered flexibility exercise and moving furniture would **NOT** be considered a strength exercise.

Examples of strength exercises include sit-ups, pull-ups, push-ups, free weights, & weight training machines. Examples of flexibility exercises include yoga and other activities done for the specific purpose of stretching and improving flexibility.

Should you have any questions about how to complete the log, please email or call the investigator (Julia Chasler- j.k.chasler@iup.edu & 717.991.4072).

Date: _____

1. Did you exercise today? YES NO

2. Please list each of the exercise activities you completed today. Please list each type of activity you did as a separate activity. For example, if you jogged and went swimming, you would list each separately.

Exercise 1: _____

For how long? (total time without breaks- please be as exact as possible) _____

Exercise 2: _____

For how long? (total time without breaks- please be as exact as possible) _____

****Participants will be able to add as many exercise sessions as needed in the survey****

3. Did you do any strength or flexibility exercises today? (see first page for examples of strength/flexibility exercises) YES NO

Please list **ALL** of the strengthening activities that you completed today.

For how long? (total time without breaks- please be as exact as possible) _____

Please list **ALL** of the flexibility exercises that you completed today.

For how long? (total time without breaks- please be as exact as possible) _____

Appendix D

Objectified Body Consciousness Scale

INSTRUCTIONS:

Circle the number that corresponds to how much you agree with each of the statements on the following pages.

	Strongly Disagree			Neither agree nor disagree			Strongly Agree
1. I rarely think about how I look.....	1	2	3	4	5	6	7
2. When I can't control my weight, I feel like something must be wrong with me.....	1	2	3	4	5	6	7
3. I think it is more important that my clothes are comfortable than whether they look good on me.....	1	2	3	4	5	6	7
4. I think a person is pretty much stuck with the looks they are born with.....	1	2	3	4	5	6	7
5. I feel ashamed of myself when I haven't made the effort to look my best.....	1	2	3	4	5	6	7
6. A large part of being in shape is having that kind of body in the first place.....	1	2	3	4	5	6	7
7. I think more about how my body feels than how my body looks.....	1	2	3	4	5	6	7
8. I feel like I must be a bad person when I don't look as good as I could.....	1	2	3	4	5	6	7
9. I rarely compare how I look with how other people look.....	1	2	3	4	5	6	7
10. I think a person can look pretty much how they want to if they are willing to work at it.....	1	2	3	4	5	6	7

	Strongly Disagree			Neither agree nor disagree			Strongly Agree
11. I would be ashamed for people to know what I really weigh.....1	2	3	4	5	6	7	
12. I really don't think I have much control over how my body looks.....1	2	3	4	5	6	7	
13. Even when I can't control my weight, I think I'm an okay person.....1	2	3	4	5	6	7	
14. During the day, I think about how I look many times.....1	2	3	4	5	6	7	
15. I never worry that something is wrong with me when I am not exercising as much as I should.....1	2	3	4	5	6	7	
16. I often worry about whether the clothes I am wearing make me look good.....1	2	3	4	5	6	7	
17. When I'm not exercising enough, I question whether I am a good enough person.....1	2	3	4	5	6	7	
18. I rarely worry about how I look to other people.....1	2	3	4	5	6	7	
19. I think a person's weight is mostly determined by the genes they are born with.....1	2	3	4	5	6	7	
20. I am more concerned with what my body can do than how it looks.....1	2	3	4	5	6	7	
21. It doesn't matter how hard I try to change my weight, it's probably always going to be around the same.....1	2	3	4	5	6	7	
22. When I'm not the size I think I should be, I feel ashamed.....1	2	3	4	5	6	7	
23. I can weight what I'm supposed to when I try hard enough.....1	2	3	4	5	6	7	
24. The shape you are in depends mostly on your genes.....1	2	3	4	5	6	7	

Appendix E

Reasons for Exercise Inventory

People exercise for a variety of reasons. When people are asked why they exercise, their answers are sometimes based on the reasons they believe they *should* have for exercising. What we want to know are the reasons people *actually* have for exercising. Please respond to the items below as honestly as possible.

To what extent is each of the following an important reason that you have for exercising?

1. To improve my strength.

Not at all important				Moderately important			Extremely Important
1	2	3	4	5	6	7	

2. To increase my energy level.

Not at all important				Moderately important			Extremely Important
1	2	3	4	5	6	7	

3. To be sexually desirable.

Not at all important				Moderately important			Extremely Important
1	2	3	4	5	6	7	

4. To improve my flexibility, coordination.

Not at all important				Moderately important			Extremely Important
1	2	3	4	5	6	7	

5. To alter a specific area of my body.

Not at all important				Moderately important			Extremely Important
1	2	3	4	5	6	7	

6. To maintain my current weight.

Not at all important				Moderately important			Extremely Important
1	2	3	4	5	6	7	

7. To increase my resistance to illness and disease.

Not at all important				Moderately important			Extremely Important
1	2	3	4	5	6	7	

8. To have fun.

Not at all important				Moderately important			Extremely Important
1	2	3	4	5	6	7	

9. To cope with stress, anxiety.

Not at all important				Moderately important			Extremely Important
1	2	3	4	5	6	7	

10. To meet new people.

Not at all important				Moderately important			Extremely Important
1	2	3	4	5	6	7	

11. To improve my overall health.

Not at all important				Moderately important			Extremely Important
1	2	3	4	5	6	7	

12. To be attractive to members of the opposite sex.

Not at all important				Moderately important			Extremely Important
1	2	3	4	5	6	7	

13. To lose weight.

Not at all important				Moderately important			Extremely Important
1	2	3	4	5	6	7	

14. To improve my muscle tone.

Not at all important				Moderately important			Extremely Important
1	2	3	4	5	6	7	

15. To redistribute my weight.

Not at all important				Moderately important			Extremely Important
1	2	3	4	5	6	7	

16. To maintain my physical well-being.

Not at all important				Moderately important			Extremely Important
1	2	3	4	5	6	7	

17. To cope with sadness, depression.

Not at all important				Moderately important			Extremely Important
1	2	3	4	5	6	7	

18. To be slim.

Not at all important				Moderately important			Extremely Important
1	2	3	4	5	6	7	

19. To improve my overall body shape.

Not at all important				Moderately important			Extremely Important
1	2	3	4	5	6	7	

20. To improve my endurance, stamina.

Not at all important				Moderately important			Extremely Important
1	2	3	4	5	6	7	

21. To improve my mood.

Not at all important				Moderately important			Extremely Important
1	2	3	4	5	6	7	

22. To improve my appearance.

Not at all important				Moderately important			Extremely Important
1	2	3	4	5	6	7	

23. To socialize with friends.

Not at all important				Moderately important			Extremely Important
1	2	3	4	5	6	7	

24. To improve my cardiovascular fitness.

Not at all important				Moderately important			Extremely Important
1	2	3	4	5	6	7	

Appendix F

Twenty Statements Test

In the 20 blanks below, please make 20 different statements about yourself and your identity that complete the sentence “I am_____.” Complete the statements as if you were describing yourself to yourself, not someone else.

1. I am _____
2. I am _____
3. I am _____
4. I am _____
5. I am _____
6. I am _____
7. I am _____
8. I am _____
9. I am _____
10. I am _____
11. I am _____
12. I am _____
13. I am _____
14. I am _____
15. I am _____
16. I am _____
17. I am _____
18. I am _____
19. I am _____
20. I am _____

Appendix G

Follow-up Questions

Post Questions

1. Has the exposure to the images you received in the email affected your satisfaction with your body size or shape? Your fitness level? Your muscle tone?
2. Do you believe that at any point the images make you focus on what your body looks like rather than what it can do? Did the images make you think about what your body looks like from an outsider's perspective?
3. Has the exposure to the images you received in the email impacted your desire or motivation to exercise? Do you think the images had any impact on how frequently or intensely you exercise? Has it made any impact on the types of exercise you choose to do?
4. Do you think that exposure to the images affected you or your behavior in any way?
5. What was your perception of the images you received via email?
6. If you were someone concerned with your weight, do you think exposure to the images would have moved you in the direction of changing your exercising and/or eating habits?

One Month Follow-Up Questions

1. Have you looked at fitspiration since the study for any reason?
2. Did the study impact you?
 - 2A. In what way?
 - 2B. How has the study impacted your thoughts and feelings about your body, if at all?
 - 2C. How has the study impacted your thoughts and feelings about exercise?
3. Did you feel that overall, your experience of looking at the images was positive or negative for you?
 - 3A. What were the positive components?
 - 3B. What were the negative components?
4. Do you feel that that you made any changes that you have been able to maintain because of the study?
 - 4A. What exercise changes?
 - 4B. What food/nutrition changes?

Appendix H

Debriefing Form

Dear Participant:

The purpose of the study was to examine the effects of “fitspiration,” or fitness inspiration, as there is no current research on this topic in the field of psychology. Fitspiration has been described as images of muscular and toned bodies and sometimes just body parts used to motivate others to exercise and achieve fitness. These images are often found on social media websites such as Tumblr and Pinterest. Specifically, the study investigated the impact of fitspiration on frequency, intensity, and duration of exercise.

The study was also interested in *self-objectification*. Self-objectification occurs when a person views herself from the vantage point of an external observer and engages in frequent self-monitoring and vigilance to how one appears. It is a focus on what the body looks like, rather than what it is capable of doing. The study investigated how college women’s self-objectification may affect reasons for exercising as well as exercise frequency, duration, and intensity. Finally, the study’s investigator was also interested in how people with different levels of self-objectification may be impacted differently by fitspiration.

You are reminded that your original consent document included the following information: Participation in this study is voluntary, and you are free to decide not to participate or to withdraw from this study at any time without it adversely affecting your relationship with the investigators or IUP, or on the evaluation of your performance in General Psychology. Your decision will not result in any loss of benefits to which you are otherwise entitled. If you choose not to participate, you may withdraw at any time by notifying the Project Director or informing the research assistant. Upon your request to withdraw, all information pertaining to you will be destroyed. Your responses to all of the questionnaires and the follow-up questions will be confidential, with the exception of threatening to harm yourself or another individual. In addition, your name will be removed from your answers. If you have any concerns about your participation or the data you provided, please discuss this with us. We will be happy to provide any information we can to help answer questions you have about this study.

If your concerns are such that you would now like to have your data withdrawn, please inform the investigator or the research assistant and we will do so.

If you have questions about your participation in the study, please contact me at j.k.chasler@iup.edu, or my faculty advisor, Dr. David LaPorte, at laporte@iup.edu.

If you have questions about your rights as a research participant, you may contact Indiana University of Pennsylvania’s Institutional Review Board at irb-research@iup.edu.

If you experienced distress as a result of your participation in this study, a referral list of mental health providers is attached to this document for your use. If you would like to speak to someone

immediately, please tell the research assistant, and either I or my faculty advisor will be more than happy to speak with you.

Please again accept our appreciation for your participation in this study.

Julia Chasler, M.A.
Student Researcher
Clinical Psychology Doctoral Student

David LaPorte, Ph.D.
Faculty Sponsor
Professor

Appendix I

Study Fitspiration Images



Fitspiration Text



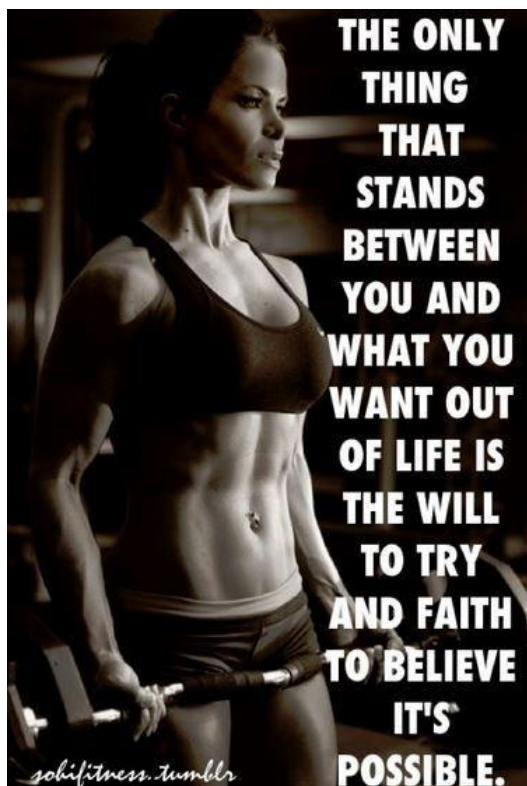
Fitspiration No Text



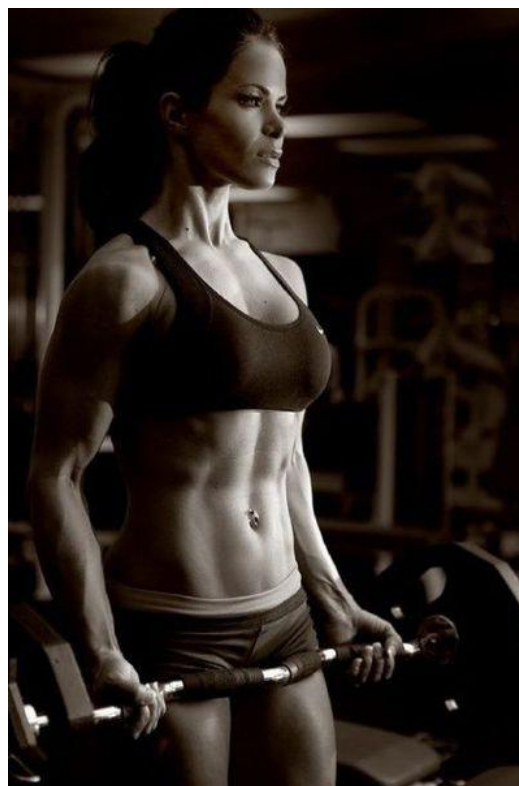
Non-fitspo Text



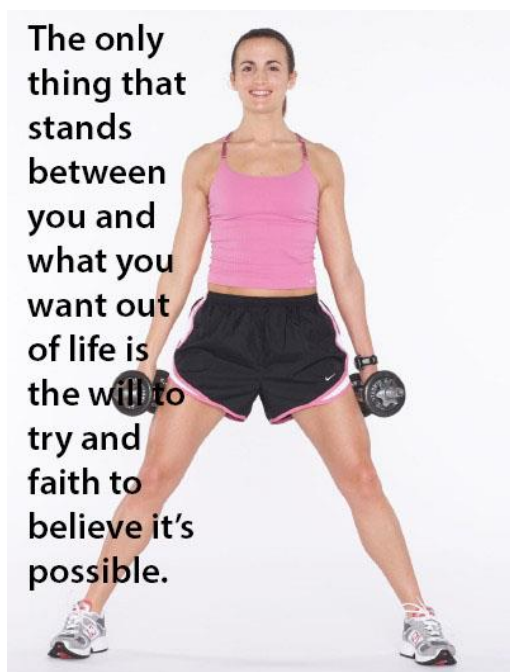
Non-fitspo No Text



Fitspo Text



Fitspo No Text



Non-fitspo Text



Non-fitspo No Text



Fitspo Text



Fitspo No Text



Non-fitspo Text



Non-fitspo No Text



Fitspo Text



Fitspo No Text

WHAT
DOESN'T
CHALLENGE
YOU
DOESN'T
CHANGE
YOU.



Non-fitspo Text



Non-fitspo No Text



Fitspo Text



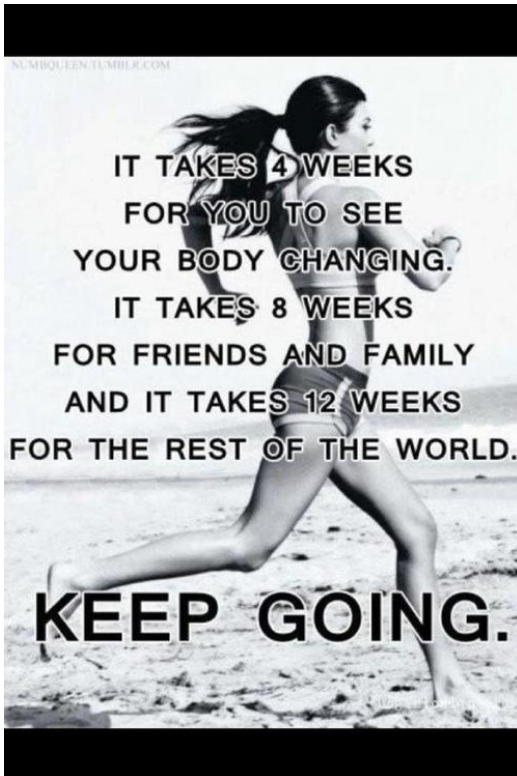
Fitspo No Text



Non-fitspo Text



Non-fitspo No Text



Fitspo Text



Fitspo No Text



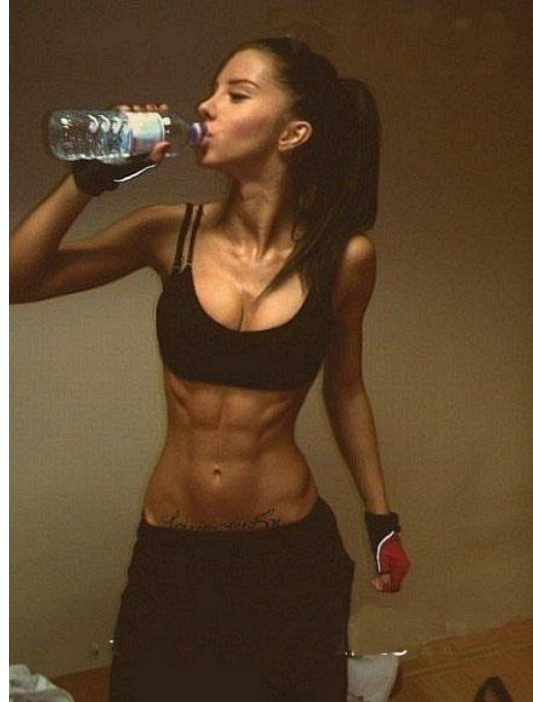
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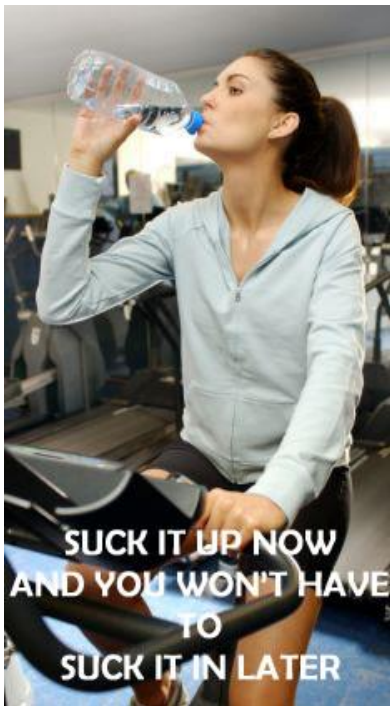
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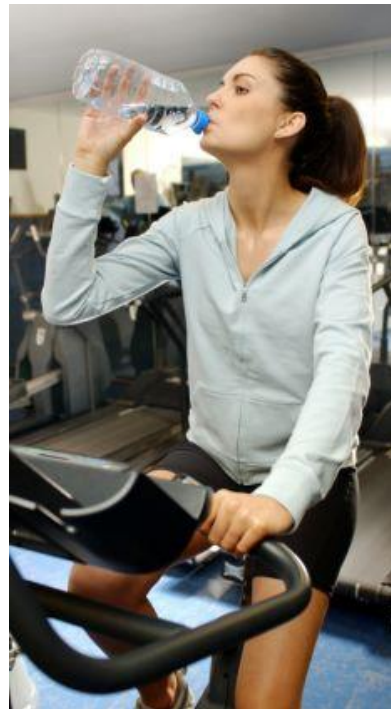
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Fitspo No Text



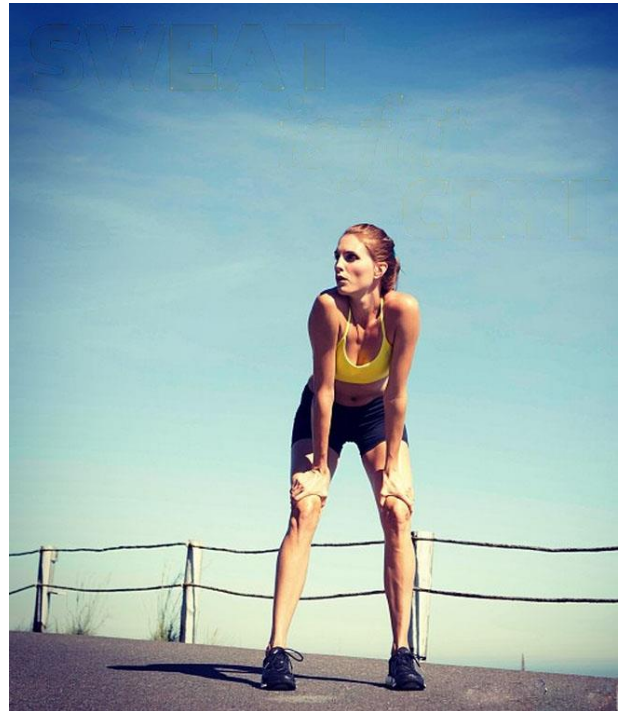
Non-fitspo Text



Non-fitspo No Text



Fitspo Text



Fitspo No Text



Non-fitspo Text



Non-fitspo No Text



Fitspiration Text



Fitspo No Text



Non-fitspo Text



Non-fitspo No Text



Fitspo Text



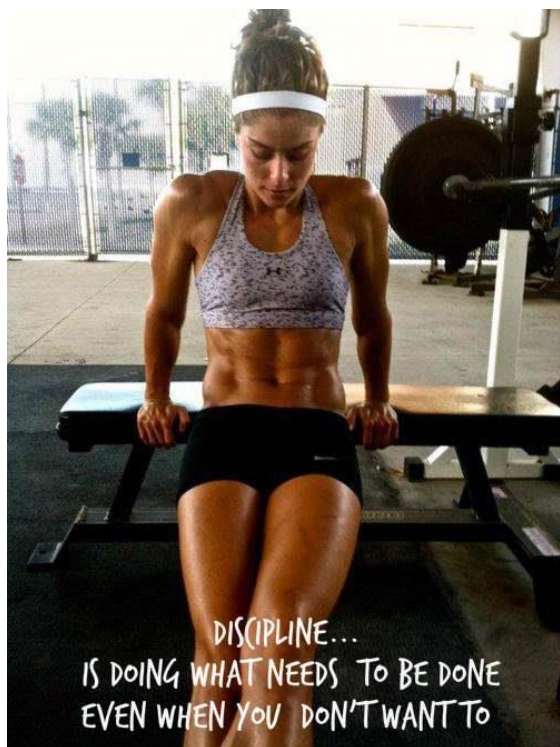
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Non-fitspo Text



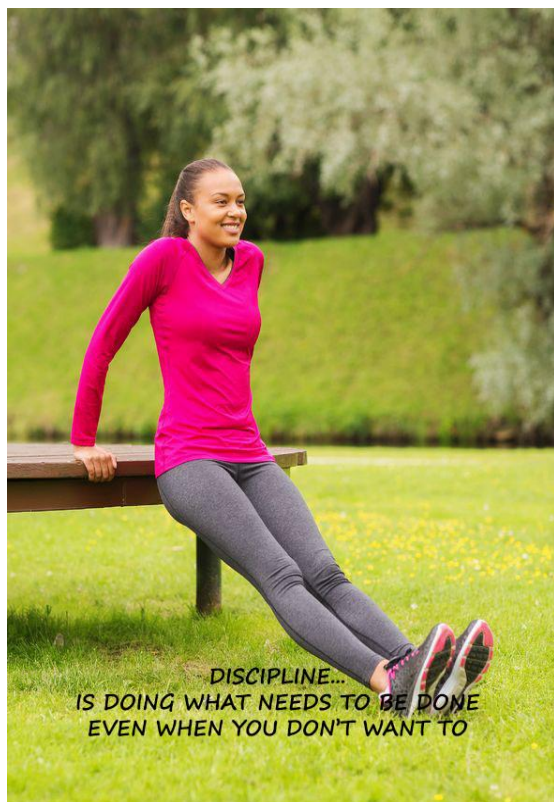
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Fitspo Text



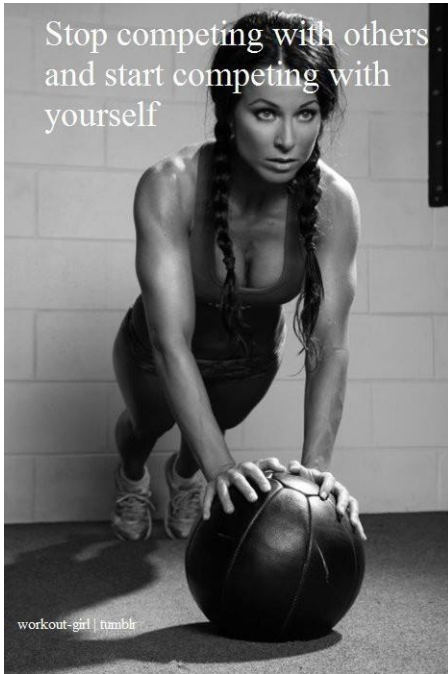
Fitspo No Text



Non-fitspo Text



Non-fitspo No Text



Fitspo Text



Fitspo No Text



Non-fitspo Text



Non-fitspo No Text



Fitspo Text



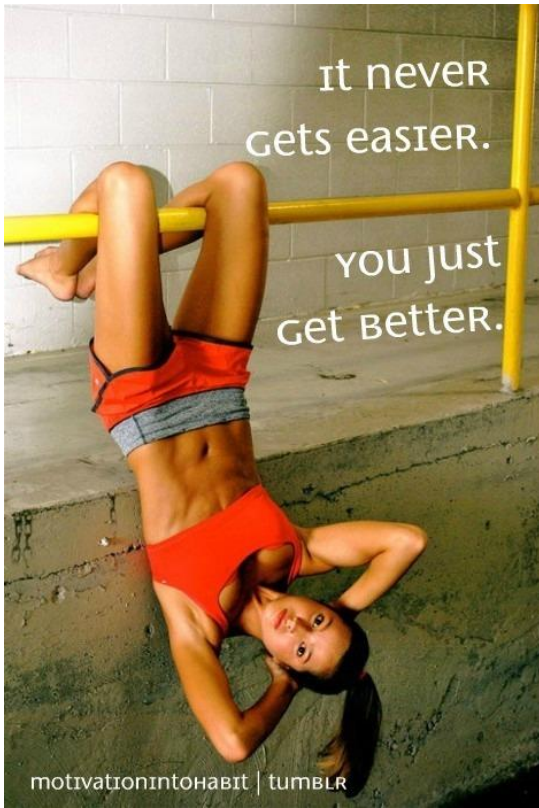
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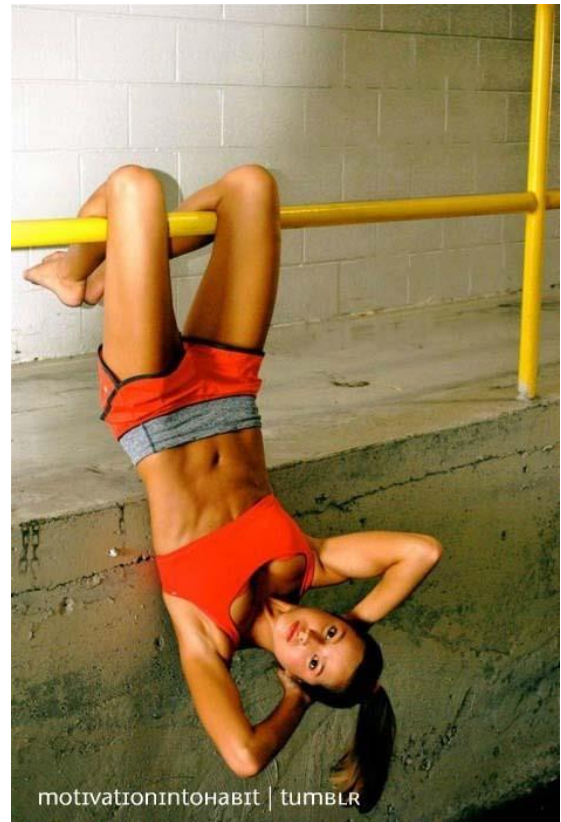
Non-fitspo Text



Non-fitspo No Text



Fitspo Text



Fitspo No Text



Non-fitspo Text



Non-fitspo No Text



Fitspo Text



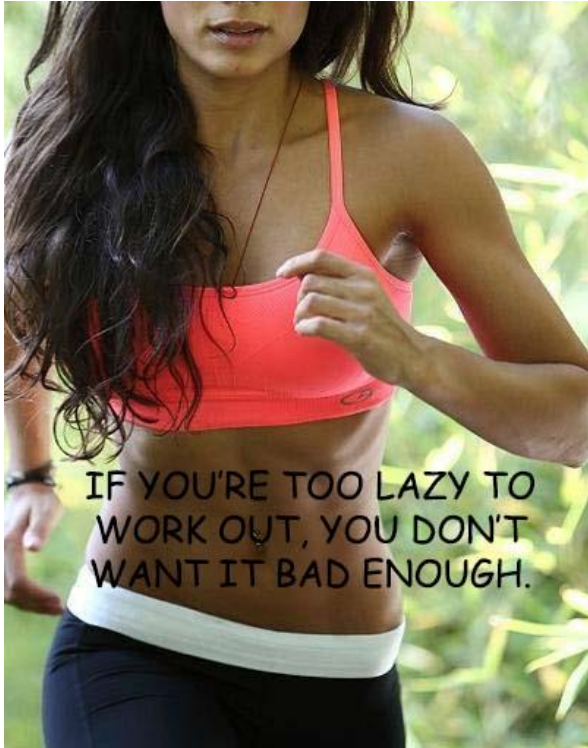
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Non-fitspo Text



Non-fitspo No Text



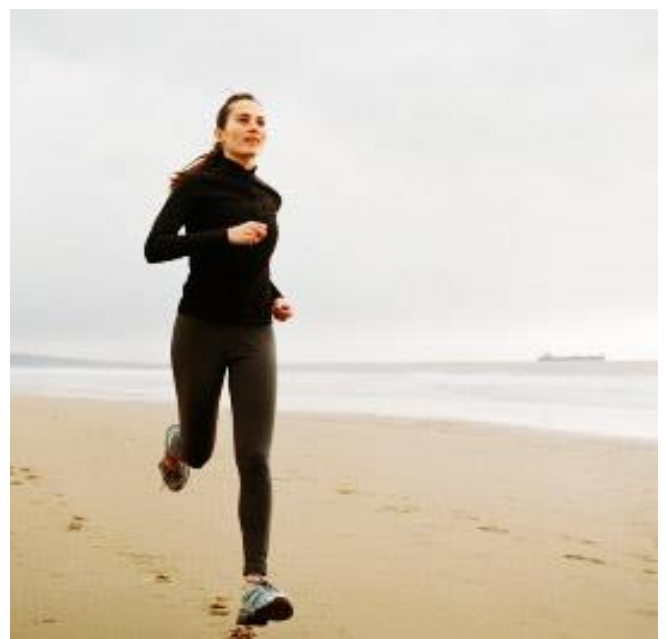
Fitspo Text



Fitspo No Text



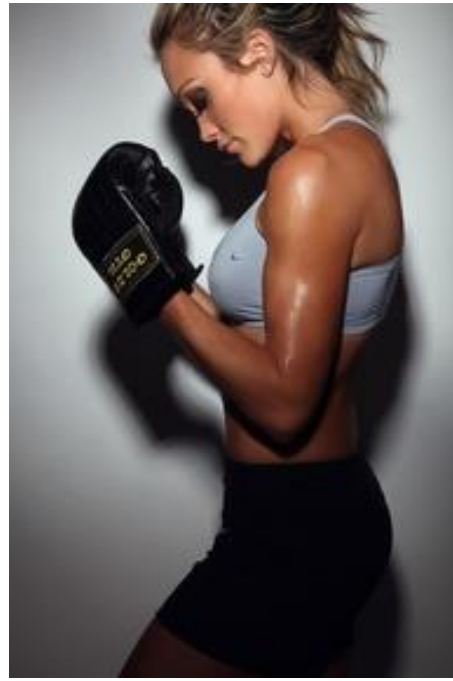
Non-fitspo Text



Non-fitspo No Text



Fitspo Text



Fitspo No Text



Non-fitspo Text



Non-fitspo No Text



Fitspo Text



Fitspo No Text

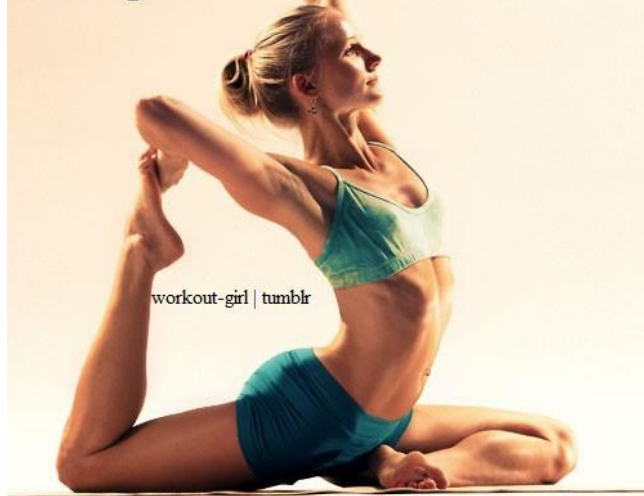


Non-fitspo Text

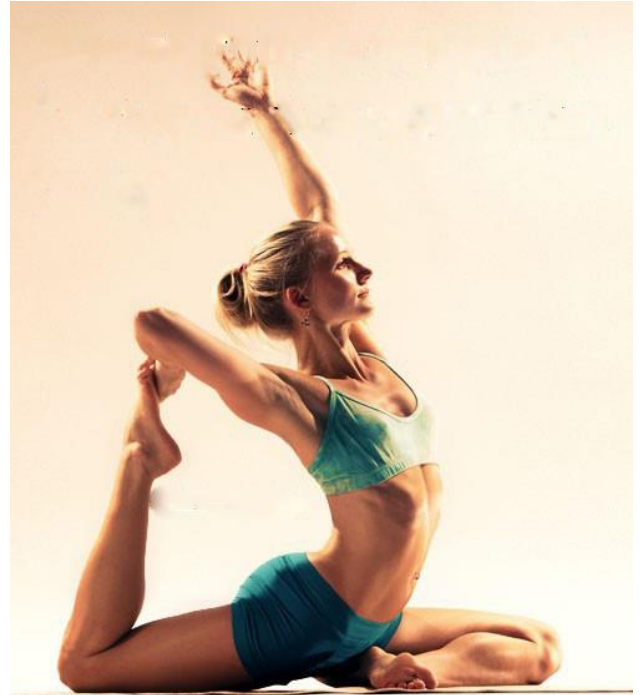


Non-fitspo No Text

You've gotta work for it.
So stop wishing and start
doing



Fitspo Text



Fitspo No Text

**You've got to work for it. So stop
wishing and start doing.**



Non-fitspo Text



Non-fitspo No Text



Fitspo Text



Fitspo No Text



Non-fitspo Text



Non-fitspo No Text



Fitspo Text



Fitspo No Text



Non-fitspo Text



Non-fitspo No Text

Appendix J

Kappa Values for Interview Questions

Table J11

Kappa Values among Raters for Responses to Interview Questions

	Rater 1 & 2	Rater 1 & 3	Rater 2 & 3
Question 1	0.979	0.938	0.918
Question 2	1	0.893	0.893
Question 3	0.917	0.856	0.855
Question 4	0.934	0.978	0.912
Question 5	0.887	0.655	0.646
Question 6	1	0.935	0.935
Question 7A	0.895	0.916	0.895
Question 7B	0.854	0.768	0.875
Question 8	0.855	0.896	0.876
Question 9	0.976	0.928	0.953
Question 10	0.975	0.975	1
Question 11	0.944	0.973	0.973
Question 12	0.846	0.815	0.802
Question 13	0.834	0.875	0.794

Appendix K

Partial Associations and Parameter Estimates for Interview Questions

Table K12

Partial Associations for Fitspiration, Text, and Response Variables-Question 1

Effect	Partial Association χ^2 (df = 1)	Sig.
Fitspiration*Text	.306	.580
Fitspiration*Question1	3.728	.054
Text*Question1	.309	.843
Fitspiration	.258	.612
Text	.093	.761
Question 1	.093	.761

Note. Sig. = *p* value

Table K13

Parameter Estimates for the Hierarchical Model- Question 1

Effect	Estimate	Z	Sig
Fitspiration*Text*Question1	.120	1.170	.242
Fitspiration*Text	-.055	-.531	.595
Fitspiration*Question1	-.197	-1.922	.055
Text*Question1	-.025	-.247	.805
Fitspiration	.052	.502	.616
Text	.055	.539	.590
Question1	-.013	-.130	.897

Note. Sig. = *p* value

Table K14

Partial Associations for Fitspiration, Text, and Response Variables- Question 2

Effect	Partial Association χ^2 (df = 1)	Sig.
Fitspiration*Text	.205	.651
Fitspiration*Question2	.319	.572
Text*Question2	1.376	.241
Fitspiration	.258	.612
Text	.093	.761
Question2	3.746	.053

Note. Sig. = *p* value

Table K15

Parameter Estimates for the Hierarchical Model- Question 2

Effect	Estimate	Z	Sig
Fitspiration*Text*Question2	.280	2.615	.009
Fitspiration*Text	.010	.097	.923
Fitspiration*Question2	-.084	-.783	.433
Text*Question2	.119	1.113	.266
Fitspiration	.005	.048	.962
Text	.076	.707	.480
Question2	-.199	-1.861	.063

Note. Sig. = *p* value

Table K16

Partial Associations for Fitspiration, Text, and Response Variables- Question 3

Effect	Partial Association χ^2 (df = 1)	Sig.
Fitspiration*Text	.389	.533
Fitspiration*Question3	1.801	.180
Text*Question3	.599	.439
Fitspiration	.258	.612
Text	.093	.761
Question3	.258	.612

Note. Sig. = *p* value

Table K17

Parameter Estimates for the Hierarchical Model- Question 3

Effect	Estimate	Z	Sig.
Fitspiration*Text*Question3	.056	.553	.580
Fitspiration*Text	-.060	-.588	.557
Fitspiration*Question3	-.134	-1.325	.185
Text*Question3	-.079	-.778	.437
Fitspiration	.051	.499	.618
Text	.037	.364	.716
Question3	-.038	-.373	.709

Note. Sig. = *p* value

Table K18

Partial Associations for Fitspiration, Text, and Response Variables- Question 4

Effect	Partial Association χ^2 (df = 1)	Sig.
Fitspiration*Text	.562	.454
Fitspiration*Question4	5.558	.018
Text*Question4	1.033	.309
Fitspiration	.258	.612
Text	.093	.761
Question4	7.616	.006

Note. Sig. = *p* value

Table K19

Parameter Estimates for the Hierarchical Model- Question 4

Effect	Estimate	Z	Sig.
Fitspiration*Text*Question4	.158	1.458	.145
Fitspiration*Text	-.034	-.314	.754
Fitspiration*Question4	-.245	-2.269	.023
Text*Question4	-.096	-.889	.374
Fitspiration	.003	.032	.975
Text	.044	.408	.684
Question4	-.268	-2.476	.013

Note. Sig. = *p* value

Table K20

Partial Associations for Fitspiration, Text, and Response Variables- Question 5

Effect	Partial Association χ^2 (df = 1 or 2)	Sig.
Fitspiration*Text	.436	.509
Fitspiration*Question5	.521	.771
Text*Question5	4.289	.117
Fitspiration	.258	.612
Text	.093	.761
Question5	12.347	.002

Note. Sig. = *p* value

Table K21

Parameter Estimates for the Hierarchical Model- Question 5

Effect	Estimate	Z	Sig.
Fitspiration*Text*Question5	.158	1.458	.145
Fitspiration*Text	-.034	-.314	.754
Fitspiration*Question5	-.245	-2.269	.023
Text*Question5	-.096	-.889	.374
Fitspiration	.003	.032	.975
Text	.044	.408	.684
Question5	-.268	-2.476	.013

Note. Sig. = *p* value

Table K22

Partial Associations for Fitspiration, Text, and Response Variables- Question 6

Effect	Partial Association χ^2 (df = 1)	Sig.
Fitspiration*Text	.294	.588
Fitspiration*Question6	.078	.780
Text*Question6	.466	.495
Fitspiration	.258	.612
Text	.093	.761
Question6	41.403	.000

Note. Sig. = *p* value

Table K23

Parameter Estimates for the Hierarchical Model- Question 6

Effect	Estimate	Z	Sig
Fitspiration*Text*Question6	.161	1.257	.209
Fitspiration*Text	.044	.346	.729
Fitspiration*Question6	-.024	-.191	.849
Text*Question6	-.087	-.683	.495
Fitspiration	.045	.356	.722
Text	-.017	-.136	.892
Question6	-.707	-5.530	.000

Note. Sig. = *p* value

Table K24

Partial Associations for Fitspiration, Text, and Response Variables- Question 7

Effect	Partial Association χ^2 (df = 1)	Sig.
Fitspiration*Text	.053	.818
Fitspiration*Question7	.956	.328
Text*Question7	7.576	.006
Fitspiration	.258	.612
Text	.093	.761
Question7	.506	.477

Note. Sig. = *p* value

Table K25

Parameter Estimates for the Hierarchical Model- Question 7

Effect	Estimate	Z	Sig
Fitspiration*Text*Question7	.161	1.257	.209
Fitspiration*Text	.044	.346	.729
Fitspiration*Question7	-.024	-.191	.849
Text*Question7	-.087	-.683	.495
Fitspiration	.045	.356	.722
Text	-.017	-.136	.892
Question7	-.707	-5.530	.000

Note. Sig. = *p* value

Table K26

Partial Associations for Fitspiration, Text, and Response Variables- Question 8

Effect	Partial Association χ^2 (df = 1)	Sig.
Fitspiration*Text	.269	.604
Fitspiration*Question8	.191	.662
Text*Question8	.014	.904
Fitspiration	.258	.612
Text	.093	.761
Question8	1.748	.186

Note. Sig. = *p* value

Table K27

Parameter Estimates for the Hierarchical Model- Question 8

Effect	Estimate	Z	Sig
Fitspiration*Text*Question8	-.045	-.448	.654
Fitspiration*Text	-.045	-.448	.654
Fitspiration*Question8	.045	.448	.654
Text*Question8	-.010	-.098	.922
Fitspiration	.045	.448	.654
Text	.036	.353	.724
Question8	.126	1.249	.212

Note. Sig. = *p* value

Table K28

Partial Associations for Fitspiration, Text, and Response Variables- Question 9

Effect	Partial Association χ^2 (df = 1)	Sig.
Fitspiration*Text	.006	.940
Fitspiration*Question9	.888	.346
Text*Question9	.131	.718
Fitspiration	.728	.393
Text	.182	.670
Question9	7.798	.005

Note. Sig. = *p* value

Table K29

Parameter Estimates for the Hierarchical Model- Question 9

Effect	Estimate	Z	Sig.
Fitspiration*Text*Question9	-.063	-.573	.567
Fitspiration*Text	.012	.110	.912
Fitspiration*Question9	-.096	-.866	.386
Text*Question9	-.029	-.261	.794
Fitspiration	.114	1.028	.304
Text	.047	.422	.673
Question9	.304	2.747	.006

Note. Sig. = *p* value

Table K30

Partial Associations for Fitspiration, Text, and Response Variables- Question 10

Effect	Partial Association χ^2 (df = 1)	Sig.
Fitspiration*Text	.334	.563
Fitspiration*Question10	.656	.418
Text*Question10	.472	.492
Fitspiration	.258	.612
Text	.093	.761
Question10	17.887	.000

Note. Sig. = *p* value

Table K31

Parameter Estimates for the Hierarchical Model- Question 10

Effect	Estimate	Z	Sig.
Fitspiration*Text*Question10	.037	.339	.735
Fitspiration*Text	-.042	-.380	.704
Fitspiration*Question10	-.086	-.785	.432
Text*Question10	-.073	-.665	.506
Fitspiration	.019	.173	.862
Text	.006	.053	.957
Question10	-.427	-3.900	.000

Note. Sig. = *p* value

Table K32

Partial Associations for Fitspiration, Text, and Response Variables- Question 11

Effect	df	Partial Association χ^2	Sig.
Fitspiration*Text	1	.270	.603
Fitspiration*Question11	2	.215	.898
Text*Question11	2	.542	.762
Fitspiration	1	.258	.612
Text	1	.093	.761
Question11	2	82.786	.000

Note. Sig. = *p* value

Table K33

Parameter Estimates for the Hierarchical Model- Question 11

Effect	Parameter	Estimate	Z	Sig
Fitspiration*Text*Question11	1	-.428	-1.325	.185
	2	-.005	-.027	.978
Fitspiration*Text	1	-.102	-.571	.568
Fitspiration*Question11	1	.123	.382	.702
	2	-.119	-.623	.533
Text*Question11	1	.213	.661	.509
	2	-.005	-.027	.979
Fitspiration	1	.151	.846	.398
Text	1	.061	.342	.732
Question11	1	-1.235	-3.826	.000
	2	1.315	6.888	.000

Note. Sig. = *p* value

Table K34

Partial Associations for Fitspiration, Text, and Response Variables- Question 12

Effect	df	Partial Association χ^2	Sig.
Fitspiration*Text	1	.147	.701
Fitspiration*Question12	2	.727	.695
Text*Question12	2	4.934	.085
Fitspiration	1	.392	.531
Text	1	.000	1.000
Question12	2	50.403	.000

Note. Sig. = *p* value

Table K35

Parameter Estimates for the Hierarchical Model- Question 12

Effect	Parameter	Estimate	Z	Sig
Fitspiration*Text*Question12	1	-.218	-1.085	.278
	2	-.079	-.505	.614
Fitspiration*Text	1	.021	.154	.878
Fitspiration*Question12	1	-.105	-.520	.603
	2	.050	.318	.750
Text*Question12	1	-.274	.201	.603
	2	-.135	-.865	.387
Fitspiration	1	.008	.056	.955
Text	1	.077	.559	.576
Question12	1	-.377	-1.873	.061
	2	1.014	6.512	.000

Note. Sig. = *p* value

Table K36

Partial Associations for Fitspiration, Text, and Response Variables- Question 13

Effect	df	Partial Association χ^2	Sig.
Fitspiration*Text	1	.178	.673
Fitspiration*Question13	1	.000	.994
Text*Question13	1	.344	.558
Fitspiration	1	.043	.837
Text	1	.170	.680
Question13	1	.682	.409

Note. Sig. = p value

Table K37

Parameter Estimates for the Hierarchical Model- Question 13

Effect	Parameter	Estimate	Z	Sig.
Fitspiration*Text*Question13	1	.060	.590	.555
Fitspiration*Text	1	-.037	-.366	.714
Fitspiration*Question13	1	-.003	-.027	.978
Text*Question13	1	-.060	-.590	.555
Fitspiration	1	.026	.251	.802
Text	1	.037	.366	.714
Question13	1	-.077	-.760	.447

Note. Sig. = p value