UNDERSTANDING HOW MESSAGE FEATURES OF FITSPIRATION POSTS AFFECT BODY IMAGE PERCEPTIONS AND EXERCISE INTENTIONS

by

VOLHA MURASHKA KATEBI

(Under the Direction of

Jiaying Liu)

ABSTRACT

In recent years, scholarly attention has been paid to fitness-promoting social media posts known as fitspiration, which have gained high popularity among young women. Research suggests that fitspiration posts on social media have the potential to promote positive health behaviors such as exercising. However, such content may also trigger unintended negative consequences for viewers' body image perceptions and pose a threat to mental health. Little is known about the specific visual and verbal features of fitspiration posts that may respectively produce positive and negative effects. To address this gap, this dissertation focused on identifying specific message features of social media fitspiration content that could potentially affect young female viewers' body image perceptions and exercise intentions. Informed by the objectification theory and the Modality, Agency, Interactivity and Navigability (MAIN) model, Study 1 used a focus-group approach to understand young women's perceptions of fitspiration content and how that may affect their body image perceptions and exercise intentions. The results revealed a set of image features and themes in fitspiration captions and comments that could affect viewer perceptions. Among these themes, health- and appearance-related verbal

messages were particularly salient for both body image and exercising. Study 2 experimentally tested the effects of health- versus appearance-focused captions and comments accompanying an objectified fitspiration post on body image perceptions and exercise intentions. State self-objectification was proposed and examined as a mediator to account for the effects on body image perceptions. The results revealed that viewing health-focused captions (but not comments) significantly lowered body dissatisfaction and promoted higher exercise intentions compared to viewing appearance-focused captions. However, state self-objectification did not mediate the proposed effects. Findings from this research generated novel knowledge about specific communicative features of fitspiration posts that could affect viewers' self-perceptions and exercise intentions. Strategic use of fitspiration captions has the potential of mitigating unintended negative effects and guiding viewers' self-perceptions and exercise in a positive direction. The findings inform objectification theory by advancing the knowledge about the effects of verbally objectifying cues. Furthermore, this research provides promising avenues for further investigation of fitspiration content under the framework of the MAIN model.

INDEX WORDS: Fitspiration, Body Image, Exercise Intentions, Objectification Theory, MAIN Model, Image Captions, User-Generated Comments

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VOLHA MURASHKA KATEBI

B.A., Minsk State Linguistic University, Belarus, 2013

M.A., Ohio University, 2017

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VOLHA MURASHKA KATEBI

Major Professor:	Jiaying Liu
Committee:	Analisa Arroyo
	John Hulland
	Soroya McFarlane

Electronic Version Approved:

Ron Walcott
Vice Provost for Graduate Education and Dean of the Graduate School
The University of Georgia
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CHAPTER 1

INTRODUCTION

Participation in physical activity promotes health and prevents non-communicable diseases (U.S. Department of Health and Human Services, 2008); yet the level of physical inactivity among adults in the U.S. remains high (Katzmarzyk et al., 2017). In view of this problem, it is crucial to use health-promoting tools that can encourage exercising and consequently improve public health outcomes (Choi et al., 2017). In recent years, a fitspiration trend (i.e., fitness plus inspiration) on social media, which are thought to promote a healthier lifestyle, has gained increasing popularity, particularly among young women (Carrotte et al., 2015; Tiggemann & Zaccardo, 2015). Fitspiration content generally includes images of people (predominantly women) exhibiting exercising behaviors or dressed in workout clothes, accompanied by fitspiration-related hashtags such as #fitspiration and #fitspo. Fitspiration content may also include images of healthy foods although such content is less common on social media (Tiggemann & Zaccardo, 2018). Generally speaking, health is often promoted in fitspiration through visual and textual information about exercising, healthy nutrition, self-care, etc. However, there also are concerns that such presentation may intentionally or unwittingly promote certain body types that are, in reality, less healthy (e.g., thinness), and can thus misguide viewers' perceptions of healthiness (Tiggemann & Zaccardo, 2015).

In line with its health-promotion goals, fitspiration content has benefitted many social media users by helping them set specific health goals and motivating them to attend the gym (Easton et al., 2018; Raggatt et al., 2018). However, viewing fitspiration posts may also result in

unintended negative outcomes, such as producing unhealthy body image perceptions (e.g., Tiggemann & Zaccardo, 2015), that are linked to mental health risks, including depressive symptoms and eating disorders (Tiggemann, 2011). As indicated by a young female follower of fitspiration, "When I see fitness accounts where all the girls are like svelte and toned, I'm like oh, it's hard to love me when I look like this" (Easton et al., 2018, p.7). Considering that social media is thought to be a promising health intervention platform that may encourage physical activity (Cavallo et al., 2012; Rote et al., 2015), it is important to understand how social media fitspiration can contribute to healthy behaviors without triggering unintended negative consequences.

Media and Body Image

Mass media is an important source of influence on women's body image (i.e., feelings, perceptions, and thoughts about the body; Cash, 2004; Grogan, 2017). Media content emphasizes specific beauty ideals, sreminds viewers how important it is to look attractive (Ricciardelli & Yager, 2016) and can serve as references for women regarding how they should look (Van Vonderen & Kinnally, 2012). Idealized images in media are often perfected by using appearance-enhancing tools, including make-ups, special lighting, styling, and image editing. Consumers of such media content, however, may not immediately realize that these idealized body images cannot be achieved naturally (Harrison & Hefner, 2014).

Expanding the inquiry on the link between mass media and body image, it has become crucial to understand the role of social media use in body image perceptions. Social media users edit their images by using easily accessible filters to enhance their appearance (Bell, 2019). By selectively choosing how to present themselves (Lang & Barton, 2015), online users are likely to present the idealized version of themselves in the images. Exposure to such content can

negatively affect other users' body image perceptions (Kim & Chock, 2015). This phenomenon has been frequently observed in consumers of social media fitspiration content.

Fitspiration

To motivate online users to follow a healthy lifestyle, the fitspiration trend has been created on the Internet. Fitspiration can be defined as inspirational fitness-related content, including images, videos, and texts that promote exercising and healthy nutrition (Deighton-Smith & Bell, 2018; Tiggemann & Zaccardo, 2018). Fitspiration was created as a healthy trend as opposed to thinspiration (i.e., a content that encourages losing weight and promotes eating disorders; Borzekowski et al., 2010; Ghaznavi & Taylor, 2015).

Fitspiration content can be observed on various websites and social media, particularly Instagram. For example, our recent search for fitspiration and fitspo hashtags on Instagram in December, 2021 returned 19.4 and 74.2 million images, respectively. Social media users can access fitspiration content by searching the relevant hashtags or following fitspiration accounts (Deighton-Smith & Bell, 2018; Easton et al., 2018). Additionally, online users can also see fitspiration content unintentionally if it is posted by other social media users to whom they are subscribed (Tiggemann & Zaccardo, 2015).

The emerging evidence on the usefulness of fitspiration is mixed. Given that fitspiration relies on promoting strength and empowerment, it shows the potential to elicit the intended positive outcomes on online users' behaviors (e.g., Tiggemann & Zaccardo, 2015). However, unintended problematic issues for body image perceptions have been identified among viewers of fitspiration content (e.g., Prichard et al., 2018). Extensive evidence (e.g., Carrotte et al., 2017; Deighton-Smith & Bell, 2018) shows that fitspiration images include various objectifying cues that emphasize women's bodies and appearance, which may distract viewers from exercise goals.

Given the limited qualitative research and mixed findings on the usefulness of fitspiration in quantitative research, further investigation on fitspiration using different methods is warranted. To date, only a few studies (Davies et al., 2020; Prichard et al., 2018) have examined the specific positive features of fitspiration that should be further promoted or the harmful features that should be minimized.

Verbal Messages Accompanying Idealized Images

Growing empirical evidence suggests that depending on verbal messages that accompany idealized images, the effects of images on viewers can differ (e.g., Davies et al., 2020; Kim, 2021; Slater et al., 2017; Tiggemann & Barbato, 2018; Tiggemann & Velissaris, 2020). On the one hand, some types of verbal messages (e.g., self-compassion quotes in images, body positive captions, comments challenging the presentation of a woman in the image) presented together with the idealized images can reduce body dissatisfaction (Davies et al., 2020; Slater et al., 2017; Tiggemann & Velissaris, 2020). On the other hand, other verbal messages (e.g., comments that favor the idealized body depicted in the images) can contribute to viewers' body dissatisfaction (Kim, 2021; Tiggemann & Barbato, 2018). These findings stress the importance of disentangling the effects of different verbal messages presented with idealized images and identifying verbal cues that can protect against body image concerns. Specific to fitspiration social media posts, textual captions and comments may be well-positioned to mitigate the potentially harmful effects produced by the idealized visual components. However, these two features presented together in a fitspiration post have not been examined yet (Davies et al., 2020). A qualitative examination of message themes in fitspiration captions and comments along with image features among social media users who have first-hand experience with fitspiration posts is a crucial step to understand the potential benefits or harms of fitspiration content.

Research suggests that fitspiration messages on social media often depict appearance- and health-related benefits of exercising (Ratwatte & Mattacola, 2021; Simpson & Mazzeo, 2017). However, the effects of viewing such messages in fitspiration content have not been examined yet. Health is a component of body functionality perceptions, which encompass perceptions of body capabilities (Abbott & Barber, 2010; Alleva et al., 2014; Alleva et al., 2015). Previous research suggested that focusing viewers' attention on specific functionality-related aspects of fitspiration posts can potentially deemphasize appearance focus and reduce body image concerns (Prichard et al., 2018). Therefore, an important goal of this research is to investigate how the two major types of exercising benefits (i.e., improvement in health and appearance) mentioned in the captions and user comments accompanying the idealized fitspiration images, may mitigate or exacerbate the negative effects on body image perceptions among social media users. Considering the exercise-promoting goals of fitspiration, this research also aims to understand whether the two types of exercise benefits would effectively encourage exercise intentions.

Study Overview

Informed by objectification theory (Fredrickson & Roberts, 1997) and the Modality, Agency, Interactivity and Navigability (MAIN) model (Sundar et al., 2008), the overarching goal of this dissertation is to identify message features of fitspiration posts that may exert a positive or negative influence on viewers' body image perceptions and exercise intentions. Limited research has explored, from social media users' perspectives, the specific message features that may influence these outcomes. This dissertation puts forward two parallel studies to understand social media users' experiences with fitspiration content; each of the proposed studies aims to provide unique and complementary perspectives to understanding fitspiration message features

and their respective effects on viewers. Study 1 takes a focus group approach to understand the features of fitspiration posts that are particularly relevant for body image perceptions and exercise intentions among female fitspiration followers. Considering that people's existing body shape conditions may provide different motivations for them to follow fitspiration content (Sumter et al., 2018), the study also aims to examine whether participants' perspectives on fitspiration features may differ depending on their Body Mass Indices (BMI). Comparing perceptions of fitspiration content across individuals with different BMIs provides a novel perspective to explore how individual differences may alter fitspiration experiences.

Guided by findings from Study 1, Study 2 seeks to experimentally investigate how verbal features of fitspiration posts (i.e., messages delivered through captions and user-generated comments) separately and together, may mitigate or amplify the negative effects of idealized fitspiration images on viewers' body image perceptions and exercise intentions. Given that appearance and health are emphasized as benefits of exercising in fitspiration content (Ratwatte & Mattacola, 2021), Study 2 experimentally tests the effects of health- versus appearance-focused benefits presented in fitspiration captions and user-generated comments on viewers' body image perceptions and exercise intentions. The interaction between captions and user-generated comments in predicting these outcomes is also examined. To further understand the underlying mechanism, the proposed study examines state self-objectification as the mediator for the relationships between specific verbal features and body image perceptions. This study offers valuable real-world implications on fitspiration practice on social media, given that social media users do not view fitspiration images in a vacuum; to the contrary, verbal messages associated with the fitspiration images delivered through captions, comments, or both provide important contexts that can profoundly impact interpretations of the images and their downstream effects.

CHAPTER 2

LITERATURE REVIEW

Effects of Fitspiration

Growing research demonstrates that fitspiration content can exert both positive and negative influences on social media users. Mixed evidence on the outcomes of viewing fitspiration content has been identified in both qualitative (Bell et al., 2021; Easton et al., 2018) and quantitative research (e.g., Krug et al., 2020; Prichard et al., 2018; Prichard et al., 2020). Below, I provide a brief overview of qualitative and quantitative research evidence regarding people's perceptions about fitspiration content and its effects.

Perceptions of Fitspiration Content from Qualitative Research

Bell et al. (2021) examined young adolescents' thoughts about fitspiration on social media using the focus group approach. Participants ($N = 77$, 35% girls) of the study criticized fitspiration content due to the pressure to exercise for extrinsic reasons (e.g., to achieve unrealistic appearance ideals). They expressed concerns that fitspiration content may elicit guilt and trigger lower self-esteem. At the same time, participants also emphasized the motivational benefits of fitspiration content when it focused on physical achievements or one's fitness journey and when it presented physical activity as one's own choice (Bell et al., 2021).

Another qualitative study (Easton et al., 2018) examining young adults' experiences of viewing fitspiration content on social media used a combination of focus groups and individual interviews ($N = 20$, 70% female participants). Consistent with findings from Bell et al. (2021), both negative and positive outcomes of exposure to fitspiration were identified. Several

participants shared that fitspiration made them focus on appearance goals and getting approval from others. Participants also mentioned negative outcomes of fitspiration, such as inducing negative body image perceptions, guilt, and obsessive calorie counting. Among positive aspects of fitspiration that participants indicated were getting ideas about healthy recipes, exercising, and gym merchandise. Participants shared that fitspiration content motivated them to attend the gym, eat healthily, and adopt a more positive mindset (Easton et al., 2018).

Furthermore, qualitative analysis of open-ended responses in the online survey ($N = 180$, 84% women) showed that social media fitspiration content could contribute to a shift from thin to strong body ideals among women (Raggatt et al., 2018). Some participants indicated that they had healthier body image perceptions through learning from the fitspiration content. Participants also perceived fitspiration on social media as providing an online community of like-minded people with a shared commitment to pursue fitness and health goals. This aspect was particularly important for the individuals who did not have access to a fitness group in offline settings. Other benefits of fitspiration content included having access to ideas about exercising and nutrition that could improve users' lifestyles, news about fitness events, eliminating financial barriers associated with a gym membership or a personal trainer due to the free information online. In addition to the positive influences of fitspiration, a small number of female participants reported perceptions of failure to achieve the 'ideal' after comparing themselves to individuals in fitspiration images. Such perceptions made them question their self-worth (Raggatt et al., 2018).

As can be seen from the qualitative findings summarized above, some fitspiration content can be harmful for viewers' self-perceptions, and certain visual and verbal message cues are likely to contribute to such outcomes. At the same time, these findings also pinpoint opportunities of using fitspiration as a health promotion tool by thoughtfully employing some

message features to bring about the positive impacts and mitigate the negative. It is thus important to first identify which message features are responsible for the positive and negative outcomes.

Effects of Fitspiration Content from Quantitative Research

Findings on Negative Body Image Perceptions. In addition to qualitative research, several studies used quantitative methods to examine correlates and effects of viewing fitspiration content on body image perceptions. Sumter et al. (2018) found that higher exposure to fitspiration content focusing on weight loss on social media was associated with escalated body dissatisfaction among women. On the contrary, higher exposure to fitspiration content focusing on exercising was associated with increased confidence in achieving the ideal body, although it was also found to induce compulsive exercising. At the same time, linguistic analysis of open-ended responses found that compared to thinspiration, fitspiration content was less harmful to body image perceptions (Jennings et al., 2020).

Experimental research has yielded mixed evidence. Compared to a set of travel images, viewing fitspiration images triggered higher body dissatisfaction (Dignard & Jarry, 2021; Prichard et al., 2020; Tiggemann & Zaccardo, 2015). Rounds and Stutts (2020) examined body image perceptions of young adult women who were randomly assigned to see either a set of fitspiration images, a combination of a half fitspiration and a half travel images, or a collection of travel images only (control group) on Instagram. Compared to the control condition, participants in the fitspiration and the combined conditions were found to experience higher body dissatisfaction. These findings demonstrated that even moderate exposure to fitspiration content could result in negative body image perceptions (Rounds & Stutts, 2020). Krug et al. (2020) examined the effects of viewing fitspiration images on Instagram relative to neutral images

depicting furniture, plants, and paintings for a seven-day period. Exposure to fitspiration images was found to trigger higher pressure to attain an ideal body and decreased satisfaction with the current physical fitness level. However, participants' satisfaction with their body attributes (e.g., weight, muscle tone) was not significantly lowered in the fitspiration condition compared to the neutral condition. The researchers concluded that fitspiration content might not be as harmful to body image perceptions as initially considered (Krug et al., 2020).

Findings on Exercise Outcomes. Given that fitspiration was created to promote physical activity, experimental research has also examined the effects of fitspiration on exercising. Tiggemann and Zaccardo (2015) found that viewing fitspiration images on Instagram produced greater inspiration to improve fitness among young women than viewing travel images. Similarly, Prichard et al. (2020) found that, compared to travel images, viewing fitspiration content on Instagram led to higher inspiration to improve fitness; however, no actual difference in exercising behavior was observed.

Robinson et al. (2017) examined the effects of viewing thin ideal, athletic fitspiration, and muscular fitspiration images selected from Instagram and Google images on exercise inspiration and actual exercising behavior. All images received similar ratings on physical attractiveness but differed on thinness, tone, athleticism, and muscularity. Thin images had high scores on thinness, medium scores on tone, and low scores on athleticism and muscularity. Athletic fitspiration images had medium to high scores on thinness, tone, athleticism, and medium scores on muscularity. Muscular fitspiration images had high scores on tone, athleticism, muscularity, and medium scores on thinness. Athletic fitspiration images were perceived as significantly more inspirational for fitness improvement than thin-ideal images. The difference in the perceptions of inspiration between athletic and muscular images was not

significant. Furthermore, there was no difference in actual exercise behavior (i.e., distance traveled as measured by the treadmill) across the three conditions. Together these findings suggest that feeling inspired to exercise does not necessarily lead to actual exercise behaviors.

Importantly, research on fitspiration has mainly focused on inspirational perceptions rather than an intention to exercise, which is a more proximal indicator of actual behavior (Ajzen, 1988, 1991). So far, only one study examined the link between fitspiration content and exercise intentions suggesting that higher intention to watch fitness influencers' videos on YouTube was positively related to exercise intention among those individuals who were physically active (Sokolova & Perez, 2021).

As fitspiration content on social media gains popularity, it is important to maximize understanding of fitspiration message features that may promote exercise intentions. Informed by the classic behavioral change theories (Fishbein, 2009; Rosenstock, 1974), fitspiration as exercise-promoting media content can trigger specific exercise-related beliefs that can contribute to exercise intentions. In particular, perceptions of benefits and barriers associated with a specific behavior can influence the intentions to perform healthy behaviors (Rosenstock, 1974). Highlighting the benefits of exercise was recommended as an important strategy to encourage exercising behavior among women (Lovell et al., 2010). Perceptions of exercise benefits were observed to be significantly correlated with regular exercising among young adults (Grubbs & Carter, 2002). A recent cross-sectional survey study has also identified women's preference to see the benefits of exercising in fitspiration content (DiBisceglie & Arigo, 2021). However, the effects of fitspiration messages focusing on exercise benefits have not been examined yet.

Objectification Theory

Objectification theory (Fredrickson & Roberts, 1997) provides a useful theoretical framework to understand and prevent unintended negative consequences of fitspiration content on body image perceptions. The theory is widely used to explain social media effects on body image perceptions (e.g., Funk & Coker, 2016; Salomon & Brown, 2020). In accord with the theory, women live in a culture that emphasizes and normalizes women's bodies to be an object of evaluation and inspection (Calogero et al., 2011). When objectified, women are treated as "bodies that exist for use and pleasure of others" (Fredrickson & Roberts, 1997, p. 175). Sexual objectification occurs when sexual parts or functions of the body are separated from personality, reduced to instruments, and considered as the representation of a woman (Bartky, 1990). Objectification experiences can occur in interpersonal and social encounters (e.g., gazing at a woman's body) or in media that either depicts such encounters or accentuates bodies or specific body parts (Calogero et al., 2011; Fredrickson & Roberts, 1997). Considering that fitspiration content on social media often accentuates bodies or specific body parts (Carrotte et al., 2017), exposure to such content can also provide an objectification experience.

Exposure to objectifying experiences over time may lead to internalization of the observer's perspective on self and viewing oneself as an object to be evaluated by others based on appearance, which is known as self-objectification (Fredrickson & Roberts, 1997). Self-objectification facilitates preoccupation with one's body appearance instead of health or functions (Roberts & Waters, 2004). Adopting the observers' perspective may supplant a first-person perspective (Roberts & Waters, 2004) and generate negative consequences, such as body shame, increased anxiety about appearance and physical safety, inability to be fully absorbed in challenging activities, and lower awareness of physiological sensations. Such adverse outcomes

can accumulatively contribute to mental health disorders, including depression, disordered eating, and sexual misfunctioning (Fredrickson & Roberts, 1997).

Self-objectification can be considered both as a trait and as a state (Moradi & Huang, 2008). Some women may take an objectified view of themselves all the time, whether they are in private or public settings (Calogero et al., 2011). Such habitual body monitoring is known as trait self-objectification that differs across individuals. In contrast, state self-objectification emerges from salient cognitions about one's body in a particular situation; it can be induced experimentally by exposing individuals to sexually objectifying content such as media images with objectifying cues (Moradi & Huang, 2008). Viewing media content focusing on body appearance can provoke perceptions that appearance is highly valued in society, which may trigger worries about how others will assess one's appearance (Harper & Tiggemann, 2008; Slater & Tiggemann, 2015).

Objectification in media, including social media fitspiration content, can happen in two ways – visually and verbally. In *visual* media, objectification of a female body can be manifested as image cropping or highlighting specific body parts, posing to attract attention to the body, excessively exposing skin, or strategic undressing (Aubrey & Hahn, 2016; Carrotte et al., 2017; Tiggemann & Zaccardo, 2018). Various objectification features have been found to have different effects on state self-objectification. For instance, Aubrey et al. (2009) found that viewing images of women with a high body exposure triggered higher state self-objectification compared to the control condition (non-body photos of places and things). However, there was no difference in state self-objectification between participants who viewed images of specific parts of a woman's body and those in the control condition (Aubrey et al., 2009).

Objectification in *verbal* media messages is characterized by an emphasis in the media text on the importance of appearance and body (Aubrey & Hahn, 2016). For instance, Aubrey (2010) found that 21% of women's health magazine covers contain phrases that attract attention to the body or specific body parts. Furthermore, analysis of body shaping and weight loss messages in women's health and fitness magazines showed that appearance-related standards in verbal content included references to being sexy, beautiful, and thin (Willis & Knobloch-Westerwick, 2014). The importance of understanding the role of verbal messages in reinforcing negative outcomes of objectification in the media can be further supported by the findings that mere exposure to words emphasizing body shape, size, and appearance can trigger state self-objectification and negative body image perceptions (Calogero & Pina, 2011; Calogero et al., 2014; Roberts & Gettman, 2004).

Although objectification theory was created to explain the effects of objectifying experiences on two particular aspects of body image (i.e., body shame and appearance-related anxiety; Fredrickson & Roberts, 1997), the theory has also been extended to understand the effects of objectifying experiences on body dissatisfaction (e.g., Prichard et al., 2018; Tiggemann & Andrew, 2012; Tiggemann & Barbato, 2018). Given that fitspiration content often includes visually and verbally objectifying cues (e.g., Deighton-Smith & Bell, 2018; Murashka et al., 2021) and can trigger body dissatisfaction (Tiggemann & Zaccardo, 2015), objectification theory is particularly relevant to guide the current study in the investigation on the effects of fitspiration content on body image outcomes.

Negative and Positive Body Image

Over the years, negative body image has been a key focus of media research examining the unintended adverse outcomes of viewing idealized images, including fitspiration content

(e.g., Prichard et al., 2018; Prichard et al., 2020). Negative body image refers to feeling dissatisfied with weight, size, or appearance; having decreased accuracy in determining one's body size; spending a substantial amount of time thinking about or trying to change appearance (Thompson et al., 1999). Negative body image includes multiple facets such as body dissatisfaction, body shame, internalization of appearance ideals presented in the media, and body surveillance.

Body dissatisfaction is a particularly important aspect of negative body image that needs consideration while examining fitspiration. Multiple studies have confirmed that fitspiration content can lead to perceptions of body dissatisfaction (e.g., Barron et al., 2021; Tiggemann & Zaccardo, 2015). In turn, body dissatisfaction increases the risks for mental health issues that can be prevented or treated. Specifically, research has found that body dissatisfaction is associated with depressive symptoms (Sharpe et al., 2018; Johnson & Wardle, 2005) and can increase the risk of eating disorders (Stice & Shaw, 2002; Ward & Hay, 2015). Because body dissatisfaction can contribute to mental health issues, it is important to further understand the role of specific fitspiration features responsible for triggering body dissatisfaction.

In recent years, body image (e.g., Arroyo et al., 2020; Cohen et al., 2019a; Halliwell, 2015) and fitspiration research (Slater et al., 2017) has also emphasized the importance to examine not only how to prevent *negative* body image, but also how to promote *positive* body image. Protecting against negative body image will not automatically form positive body image; therefore, it has been suggested to consider negative and positive body images as two distinct constructs (Tylka, 2011). Research suggests that positive and negative body image perceptions are not on the same continuum and that positive body image should not be simply understood as the opposite of negative body image (Tylka & Wood-Barcalow, 2015a). Positive body image is a

multifaceted construct consisting of distinctive characteristics: appreciating unique beauty and functions of the body, feeling comfortable with the body and accepting its unique physical features, broadly conceptualizing beauty (e.g., perceiving diverse bodies and looks as beautiful). Furthermore, positive body image encompasses adaptive body investment (e.g., engaging in self-care behaviors), experiencing inner positivity that influences outer behaviors and interpreting any incoming information such as accepting positive and rejecting negative aspects of body image perceptions (Tylka, 2018; Wood-Barcalow et al., 2010). Positive body image is commonly assessed in terms of functionality appreciation (Alleva et al., 2017), body appreciation (Tylka & Wood-Barcalow, 2015b), or broad conceptualization of beauty (Tylka & Iannantuono, 2016).

In recent years, emerging scholarly attention has been devoted to understanding the distinction between negative and positive body image perceptions. Positive body image perceptions (body appreciation) have been found to explain additional variance in well-being above and beyond negative body image perceptions (body dissatisfaction; Tylka & Wood-Barcalow, 2015b). Research found that it is possible to experience both negative (e.g., body dissatisfaction) and positive body image (e.g., body appreciation) at the same time (Tiggemann & McCourt, 2013).

Although considerable research on fitspiration has been devoted to examining negative body image perceptions, rather less attention has been paid to positive body image perceptions resulting from viewing fitspiration content. So far, body appreciation was the only positive outcome being examined. Slater et al. (2017) investigated the effects of fitspiration images on Instagram presented alone or in combination with images of self-compassion quotes on negative body image (body dissatisfaction) and positive body image (body appreciation). Compared to viewing fitspiration images only, participants who viewed fitspiration images with images of

self-compassion quotes reported lower scores on negative body image and higher scores on positive body image (Slater et al., 2017). In another study, Barron et al. (2021) tested the effects of fitspiration images, images of self-compassion quotes, combined fitspiration and self-compassion images, and a set of appearance-neutral images on negative body image (body dissatisfaction) and positive body image (body appreciation) among college students and a community sample. Viewing fitspiration images resulted in lower body appreciation than viewing appearance-neutral images, as well as higher body dissatisfaction compared to self-compassion images among college students. Viewing fitspiration images among the community sample led to lower body appreciation than viewing self-compassion images or the combined images. Furthermore, exposure to fitspiration images led to higher body dissatisfaction compared to viewing appearance-neutral or self-compassion images. There was no significant difference in body dissatisfaction between the fitspiration only and the combined conditions in both samples. Taken together, the results of these studies demonstrate the importance to further understand how viewing fitspiration content contributes not only to negative, but to positive body image perceptions as well.

Studies on positive body image have suggested that focusing on body functionality in media content is a fruitful direction to promote positive body image perceptions among viewers (Alleva & Tylka, 2021; Mulgrew & Tiggemann, 2018). Body functionality is a multidimensional construct that describes everything that the body can do and includes the areas of health, internal processes, self-care, physical capabilities, senses, creative endeavors, and communication with others (Alleva et al., 2015). Emphasizing body functionality in messages can foster functionality appreciation (i.e., "appreciating, respecting, and honoring the body for what it is capable of doing, extending beyond mere awareness of body functionality;" Alleva et al., 2017, p. 29).

Researchers emphasized that appreciating body functionality is related to reduced likelihood of engaging in unhealthy behaviors (e.g., dieting), more positive health behaviors (e.g., joyful exercising; Alleva & Tylka, 2021; Wood-Barcalow et al., 2010), and reduced mental health symptoms (e.g., anxiety and depression; Alleva et al., 2017).

Considering that body functionality is a multidimensional construct, special attention should be paid to *how* functionality is framed in media content. Some research has found that depicting body functionality in terms of physical capabilities (e.g., showing individuals who perform some physical activity) in images may not foster positive self-perceptions (e.g., Mulgrew & Tiggemann, 2018; Mulgrew et al., 2020). It has been suggested that bringing viewers' attention to physical capabilities may trigger unfavorable comparisons in terms of viewers' own physical abilities resulting in less positive body image perceptions (Alleva & Tylka, 2021; Mulgrew & Tiggemann, 2018). To benefit viewers' self-perceptions, it is important to employ other aspects of body functionality and frame functionality in media content in ways that can be applicable to all bodies.

Influence of User-Generated Comments on Online Users

In addition to the visual features of idealized social media posts, it is also important to understand how textual captions and user-generated comments can contribute to body image perceptions (Tiggemann et al., 2020; Tiggemann & Velissaris, 2020). Research on fitspiration has mainly focused on the effects of textual captions (e.g., Davies et al., 2020; Lewallen, 2016) whereas the effects of comments to fitspiration posts remain underexplored. The importance of the audience (e.g., opinion leaders) in directing the influence of media content has been emphasized in early communication research (Katz, 1957; Katz & Lazarsfeld, 1966; Lazarsfeld & Merton, 1949). The current new media landscape has expanded this assumption to the social

media context where online users' discussions can either amplify or override the intended effects of media messages (Waddell, 2018; Waddell & Bailey, 2017) including the effects of idealized images (Kim, 2021; Veldhuis et al., 2014).

How comments to social media posts influence viewers can be understood from the perspective of the Modality, Agency, Interactivity, and Navigability (MAIN) model. According to this model, the following affordances of new technologies can have an impact on media content processing: modality (i.e., the structure of the medium), agency (i.e., information sources), interactivity (i.e., interaction and activity), and navigability (i.e., interface features that enable the transition from one web page to another). Such affordances may amplify or redirect how online users perceive the media content as well as its effects by triggering various heuristics (Sundar, 2008).

According to the agency affordance (i.e., availability of different sources of information), other users' feedback (e.g., user-generated comments) about the media message can exert an additional influence on the viewer's assessment of the message by triggering the bandwagon heuristic (Sundar et al., 2008; Sundar et al., 2015). By observing how other online users react to a specific media message, viewers can get affected in their evaluations of the media message and are likely to gravitate toward popular beliefs expressed in comments. Specific qualitative features of user comments (e.g., information showing a similar stance in multiple comments) can serve as bandwagon cues in estimating popular beliefs, guiding viewers' beliefs and perceptions in the comment-consistent direction (Kim, 2021; Lee et al., 2020).

Although the MAIN model was developed to explain viewers' perceptions of message credibility, it has been extended to explain other perceptual and behavioral outcomes, including the outcomes of persuasive communication (Sundar et al., 2013; Sundar et al., 2015). Research

shows that viewing negative comments about the message can decrease content enjoyment (Waddell & Sundar, 2017) and perceptions of the issue importance (Waddell, 2018). Additionally, perceptions of more favorable opinions about the product among other users can lead to higher purchase intentions (Sundar, Oeldorf-Hirsch, & Xu, 2008).

Specific to body image research, the bandwagon cues can guide online users' processing of idealized content on social media (Perloff, 2014). Comments that can effectively redirect viewers' attention to focus on the more constructive aspect of the idealized images have the potential to serve as bandwagon cues to contextualize these images in a less harmful way. Emerging research so far has examined how viewers' perceptions of main messages can be shaped depending on the *valence* of user-generated comments serving as bandwagon cues (Kim, 2021). Viewing positive comments to idealized media images enhanced participants' idealized perceptions of the depicted body leading to lower body satisfaction. At the same time, viewing negative comments produced a higher level of body satisfaction via decreased perceptions of body idealization (Kim, 2021). Considering the potential of user-generated comments to override or intensify perceptions triggered by viewing idealized imagery, more research is warranted to understand the role of other comment characteristics in affecting viewers' body image perceptions. Understanding the effects of comments with specific *focuses* instead of valence may be particularly relevant to a fitspiration context as most user-generated comments to fitspiration posts tend to be positive yet focus on different aspects (Murashka et al., 2021; Santarossa et al., 2019). Specific content characteristics, if observed in multiple comments, may guide processing of fitspiration content in a certain direction serving as bandwagon cues. Yet, this direction has not been thoroughly explored in the previous research.

CHAPTER 3

STUDY 1: PERCEPTIONS OF FITSPIRATION FOLLOWERS ON VISUAL AND VERBAL FEATURES OF FITSPIRATION CONTENT

Though fitspiration can benefit viewers in terms of specific health-related outcomes (Easton et al., 2018; Raggatt et al., 2018), some of its content can also trigger unintended negative outcomes (Tiggemann & Zaccardo, 2015). Therefore, it is crucial to identify fitspiration content cues promoting healthy behaviors without bringing unintentional harms. Study 1 takes a qualitative approach to gain an in-depth understanding of the visual and verbal message features of fitspiration posts from the first-hand accounts of the fitspiration followers. By comparing perceptions across individuals with different BMIs, Study 1 also provides unique insights to the role of individual differences in fitspiration experiences.

Visual Features of Fitspiration Posts

As previously noted, content analytical research shows that fitspiration images often include objectifying visual elements associated with focusing on body or specific body parts, posing in a sexy way, absence of a clearly visible head or face (e.g., Carrotte et al., 2017; Tiggemann & Zaccardo, 2018). For instance, Tiggemann and Zaccardo (2018) found that 54% of the selected Instagram images of women (n = 257) with the fitspiration hashtag included objectifying elements with every fourth image to depict sexy posing. The majority of images depicted thin bodies (75%) with visible muscularity (56%). In another study, Carrotte et al. (2017) found that social media fitspiration images depicting women focused on stomach and buttocks, and only half of the images depicted clearly visible faces. The same study found that

fitspiration images that depicted women's bodies were sexualized significantly more than images depicting men. In line with these findings, Deighton-Smith and Bell (2018) found that women in fitspiration images on Instagram were significantly more likely to wear sexualized clothing, show their full bodies, or specific body parts such as legs and buttocks than men. Talbot et al. (2017) found that fitspiration content on social media platforms overrepresented abdominal muscles but was less likely to depict thin and extremely objectified images compared to thinspiration (i.e., content inspiring thinness), as well as bonespiration (i.e., content inspiring thinness by depicting protruding bones).

In summary, content analytical research has identified various visual features in fitspiration that can potentially influence viewers' body image. However, online viewers' perspectives on various visual cues in fitspiration content have not been examined yet. To address this gap, the current study aims to qualitatively explore how visual features in fitspiration images can affect viewers' experiences of fitspiration content in terms of negative and positive body image perceptions. Objectification theory suggests that some visual cues in media can negatively affect viewers' self-perceptions (Fredrickson & Roberts, 1997). The various visually objectifying cues can affect negative body image perceptions differently (Aubrey et al., 2009). In other words, it is likely that different visual cues in fitspiration may impact viewers' body image perceptions in different directions and to different extents. Therefore, understanding the first-hand perspectives from fitspiration followers on the visual features is an important step to identify areas to be targeted for interventions. Furthermore, following recent research focusing on identifying features promoting positive body image perceptions (Barron et al. 2021; Slater et al., 2017), Study 1 takes a qualitative approach to

examine the link between different visual features and both positive and negative body image outcomes. Therefore, the current study seeks to address the following question:

RQ1: What *visual* features of fitspiration images may be related to viewers' (a) positive and (b) negative body image perceptions?

Additionally, in line with the original goal of fitspiration to promote healthy behaviors among online users (Tiggemann & Zaccardo, 2018), it is also important to explore how specific visual features may motivate higher intentions to exercise. Nascent research on fitspiration features shows that depicting a woman who is exercising may be more inspirational for exercise goals than depicting a woman who is merely posing (Prichard et al., 2018). Considering that exercise intention is an immediate antecedent to actual health behaviors (Ajzen, 1991; Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975), the study aims to answer the following question:

RQ2: What *visual* features of fitspiration images can promote higher exercise intentions among viewers?

Communicative Features of Fitspiration Posts

Research indicates that fitspiration images are often paired with some verbal messages embedded in images or captions. In the analysis conducted by Tiggemann and Zaccardo (2018), 58.5% of fitspiration images on Instagram included fitness-unrelated inspirational quotes, and 39.6% of images had fitness-related inspirational quotes. Importantly, 11.3% of fitspiration images included potentially harmful quotations that could encourage unhealthy behaviors or attitudes. In another study, Deighton-Smith and Bell (2018) found that more than 40% of fitspiration images on Instagram included verbal messages. Theme analysis of these verbal messages identified six topics. Specifically, fitspiration texts idealized body and emphasized sexual attractiveness of fit body (7.65%), emphasized commitment and determination as key

factors to improve physical appearance (10.45%), and underscored individual responsibility to be fit (9.18%). Additionally, fitspiration messages normalized the experience of pain during exercising (5.35%), encouraged pursuing fitness goals as a battle against oneself (7.14%), and promoted the perceptions of fitspiration as a community (8.67%).

Alberga et al. (2018) examined the features of captions in fitspiration and thinspiration posts on Instagram, Tumblr, and Twitter ($N = 360$). The results suggested that among all textual captions to fitspiration and thinspiration posts ($n = 352$), 33.8% discussed reducing food intake, 21.1% included messages about mental health issues, and 18.2% discussed weight/fat loss. Compared to thinspiration posts, fitspiration posts included significantly more weight/fat loss messages and fewer messages on mental health issues. Carrotte et al. (2017) found that 79.5% of fitspiration posts selected from Instagram, Tumblr, Facebook, and Twitter included captions; however, specific features of these fitspiration captions were not examined.

Additionally, emerging research has focused on user-generated comments to fitspiration messages. Two studies examined themes of fitspiration comments. In one study, Santarossa et al. (2019) identified the following popular themes of fitspiration discussions on Instagram based on counting the word frequency: good feelings (54%), appearance (12%), and size (7%). A smaller proportion of discussions was centered around the themes of taste, time, touch, quantity, bad feelings, shape, and sound. Health-related words (e.g., #healthy, #health) were among the most used words in verbal messages associated with both post caption and user comments (Santarossa et al., 2019). Using unsupervised machine learning, Murashka et al. (2021) identified the most common themes of user-generated discussions to female fitspiration accounts on Instagram. In addition to inspiration-related and general discussions about image features (e.g., background),

online users shared body-related comments that were focused on specific body parts and often contained sexualized language (e.g., "You have the sexiest legs ever").

In summary, limited but growing research suggests that verbal messages communicated by authors of fitspiration posts and other online users may include both objectifying cues and potentially positive features for exercise intentions. However, perceptions of the communicative features accompanying fitspiration images have not been thoroughly understood. According to the MAIN model, interactions on social media can guide viewers' perceptions (Sundar, 2008). These perceptions will also include specific body image ideals (Kim, 2021), especially in the context of fitspiration. The study, therefore, posits the following research questions:

RQ3: What *verbal* features of fitspiration posts may be related to viewers' (a) positive and (b) negative body image perceptions?

RQ4: What *verbal* features of fitspiration posts can promote higher exercise intentions among viewers?

Focus Groups as a Tool to Understand Fitspiration

Considering that fitspiration content includes various visual and verbal features (Tiggemann & Zaccardo, 2018), it is important to understand perceptions of different features and their respective impacts from the online users' perspective. Despite the great potential of qualitative approaches to understand multiple perspectives and experiences in emerging areas (Bishop & Yardley, 2007), few studies took a qualitative perspective to understand online users' experiences of fitspiration (Bell et al., 2021; Easton et al., 2018). Among various qualitative approaches, the focus group approach is ideally positioned to understand fitspiration due to its ability to collect in-depth information about multiple perspectives on a particular topic and offer

unique data on shared and diverse experiences due to the interactive nature of the group format (Morgan, 1996).

The focus group approach relies on group interactions about a specific topic between individuals to collect data (Morgan, 1996). The conversation format of focus groups enables the researcher to not only obtain a broad spectrum of opinions on a specific topic, but to also understand why and how individuals think about the topic in a certain way. Participants are encouraged to ask questions to one another, exchange information, and comment on others' experiences and opinions (Kitzinger, 1995; Morgan, 1993). Focus groups have been successfully used in research on body image (e.g., Diedrichs et al., 2011; Tiggemann et al., 2000) and exercise-promoting contexts (e.g., Berry et al., 2018; Phipps et al., 2010), including fitspiration (Bell et al., 2021; Easton et al., 2018).

Control and Break Characteristics in Focus Group Research

Focus groups may be especially useful when various groups of the target population may have different experiences about the same topic (Kitzinger, 1995). To understand differences across groups, control and break characteristics are used to organize groups. Control characteristics refer to common features for all focus groups; break characteristics are used to differentiate groups from each other and to contrast views or experiences across groups (Morgan, 1993). This study focuses on the experiences of young women as they are particularly vulnerable to the negative effects of idealized media content (Fardouly & Vartanian, 2016; Tamplin et al., 2018). Therefore, the two relevant control characteristics for the fitspiration-related focus groups are young age (18-25 years old) and identifying oneself as a woman.

At the same time, due to the potential differences in media experiences among women with a lower or higher weight (Aubrey, 2010; Prichard et al., 2018), BMI is a relevant break

characteristic to understand fitspiration experiences. Women with higher BMIs may be particularly vulnerable to the negative consequences of viewing idealized media content (e.g., fitspiration) because it can serve as a reminder that their body weight does not match the idealized standards (Aubrey, 2010). It is therefore important to take into consideration individuals' BMI when examining the effects of idealized media content. Tiggemann (2003) observed that women's weight significantly moderated the effects of internalization of appearance standards on body dissatisfaction. In their investigation on the effects of affinity to favorite media characters on body image concerns, Greenwood (2009) found that the effects of BMI on women's perceptions of body shame were significant and needed to be accounted for to accurately quantify media effects. Recently, Griffiths and Stefanovski (2019) examined how viewing idealized images (thinspiration and fitspiration) is associated with body image outcomes and indicated that those with higher BMIs reported lower body satisfaction. Importantly, recent research on fitspiration also echoed the importance to consider the role of BMI in understanding the impact of fitspiration on viewers (Easton et al., 2018; Prichard et al., 2018).

Relying on the evidence that BMI is closely related to body dissatisfaction (e.g., Griffiths & Stefanovski, 2019) and following the recommendations from previous research on fitspiration to consider BMI when examining the outcomes of fitspiration exposure (e.g., Easton et al., 2018; Prichard et al., 2018), the study also explores the following questions:

RQ5: Will viewers' perceptions of the *visual* fitspiration features in relation to a) body image perceptions and b) exercise intentions vary depending on their BMI?

RQ6: Will viewers' perceptions of the *verbal* fitspiration features in relation to a) body image perceptions and b) exercise intentions vary depending on their BMI?

Method

Participants and Procedure

Participants for this study were young women between the ages of 18 and 25 who followed fitness inspirational accounts on Instagram, viewed fitspiration posts at least most of the time when using Instagram, and read captions and/or comments accompanying fitspiration images at least once. The participants were recruited using the Instagram advertising tool (see Appendix A for the Instagram invitation ad to recruit participants). Participants expressing interest in the study completed a short survey (see Appendix B) where they reported frequency of viewing fitspiration posts and reading fitspiration captions and comments, indicated their favorite fitspiration pages (to verify that they were fitspiration followers) and answered questions regarding their age, gender, weight, and height. Participants were later invited to complete a follow-up survey (see Appendix C) where they indicated their consent and availability to participate in the focus-group session and reported information on eating disorder history and symptoms, trait self-objectification, Instagram use, current exercising behavior, exercise reasons, and demographic characteristics.

To ensure within-group homogeneity on BMI, each participant's BMI was calculated before conducting focus groups. Depending on the BMI score, each participant was placed in one of the three focus groups of individuals with BMIs within the normal range or one of the three focus groups of individuals with BMIs within the high range. Of note, it was expected to conduct the first three focus groups with individuals with BMIs within the low and normal ranges; however, none of the volunteered participants had BMIs within the low range.

In line with Morgan's (1996) recommendation, there were six focus groups – three groups for a category of individuals with BMIs within the normal range (individuals with normal

weight) and three groups for the category of individuals with BMI above normal (individuals who were overweight or obese). Each group included 4-8 individuals following the protocol in Kitzinger (1995). Each focus group session lasted approximately one hour and was conducted online (Abrams & Gaiser, 2017). At the end of each session, participants were thanked and debriefed. All participants received $20 compensation for their participation.

Before the focus group discussion started, participants read and signed the informed consent that explained the study's goals, procedures of recording, benefits and possible risks, information about confidentiality, and the right to quit the session at any moment. Adapted from the previous research on fitspiration using qualitative focus group protocols (Easton et al., 2018), participants first viewed four fitspiration posts with various visual features to facilitate participants' thoughts on fitspiration before engaging in discussions. The posts also included interactive social media elements such as captions and comments; however, specific verbal messages were blurred to avoid priming participants to think in specific directions (see Appendix D for the posts). After that, participants were asked about their thoughts and feelings on fitspiration visual and verbal features in terms of body image perceptions and exercise intentions. There were scripted questions (see Appendix E for Focus Group Guide) used as a guide to direct the discussion in each focus group. Probing questions were used to obtain in-depth responses (Morgan, 1993). At the end of each session, participants were asked whether they had any additional thoughts about their fitspiration-related experiences that they wanted to share. The focus groups were video-recorded, and conversations were transcribed; participants' names were replaced with pseudonyms.

Stimuli

At the beginning of each focus group session, participants briefly viewed four fitspiration posts with different fitspiration features prominent on social media: having a high versus low emphasis on body parts, high versus low body exposure, main characters engaging in fitness activity versus posing (Carrotte et al., 2017; Tiggemann & Zaccardo, 2018). The images were accompanied by captions alone or with comments to reflect the communicative features of Instagram posts (the captions and comments sections were blurred). Images were selected from Instagram using the fitspiration and fitspo hashtags. Adobe Illustrator was used to create the final set of fitspiration posts for the starter activity.

Measures

To better understand the experiences of the participants, additional characteristics were measured (see Appendix C) before the focus groups were conducted.

BMI

Participants indicated their height in feet and weight in pounds. These measures were converted to kilograms and meters and were used to calculate BMI (kilograms/ meters-squared) consistent with previous research (Aubrey, 2010; Robinson et al., 2017).

Instagram Use

Adapted from Fardouly et al. (2018), participants were asked to indicate how often they checked their Instagram accounts every day on an 8-point scale (1 = *never*, 8 = *every 5 minutes*). Participants also reported the average daily amount of time using Instagram on a 13-point scale (1 = *5 minutes or less*, 13 = *10 or more hours*).

Exposure to Fitspiration Content

Adapted from Fardouly et al. (2018), participants indicated how often they viewed fitspiration posts, captions, and comments when they used Instagram on a 5-point scale (1 = *never*, 5 = *always*). Cronbach's alpha was 0.74 in this study.

Trait Self-Objectification

Trait self-objectification was measured before exposure to stimuli using Noll and Fredrickson's (1998) Trait Self-Objectification Questionnaire. Using a 9-point scale (0 = *not at all important*; 9 = *very important*), participants rated the importance of ten body traits for their self-concept. Among these traits, five traits were related to appearance (e.g., sex appeal), and five were related to competence (e.g., energy level). Each of the traits had a unique score such that the most important trait was worth nine points, the second most important was worth 8 points, and so on, according to each participant's ranking. The mean for competence traits was subtracted from the mean for appearance traits. The final scores ranged from -25 to +25, with higher scores indicating higher trait self-objectification (Fredrickson et al., 1998).

Disordered Eating Attitudes and History

Disordered eating attitudes were measured using the 16-item Eating Attitudes Test (Ocker et al., 2007). Participants reported their thoughts and behaviors related to eating patterns on the 6-point scales from (1 = *never*, 6 = *always*). This measure has been previously used to screen individuals with anorexia nervosa. It includes four subscales: Dieting, Food Preoccupation, Awareness of Food Contents, and Self-Perceptions of Body Shape, with higher scores indicating a greater likelihood of anorexia nervosa. The scales were combined for the final analyses. This measure had an acceptable internal consistency ($\alpha = .94$) in previous research (Lilienthal & Weatherly, 2013). Cronbach's alpha for the scale was 0.92 in this study. In

addition, disordered eating history was measured using the question "Do you have a history of eating disorders (e.g., anorexia, bulimia)?" (Alex et al., 2018).

Reasons to Exercise

Participants' reasons for exercise were measured before exposure to stimuli using the Reasons for Exercise Inventory (Silberstein et al., 1988). Using a Likert scale (1 = *not at all important*, 7 = *extremely important*), participants indicated the importance to exercise for 24 items (e.g., to increase my overall health) on the seven aspects: health, fitness, enjoyment, mood improvement, weight control, body tone, and physical attractiveness. This categorization had acceptable internal consistency for the seven categories ranging from .70 to .81 (Crawford & Eklund, 1994). Cronbach's alphas ranged from 0.73 to 0.79 for all the categories in this study.

Current Level of Physical Activity

The current Level of Physical Activity was measured using a 7-day version of the International Physical Activity Questionnaire (Craig et al., 2003). Participants indicated the number of days in the past 7 days that they were engaged in vigorous, moderate, or walking exercise. Participants also reported the time (in minutes) that they spent on each type of activity per occasion. Sample question was "During the **last 7 days**, on how many days did you do **vigorous** physical activities like heavy lifting, digging, aerobics, or fast bicycling?" The products of each activity's duration and frequency were summed to form the final score. Acceptable reliability (test-retest correlation coefficients ranging from 0.71 to 0.89) of the scale has been established in previous research (Dinger et al., 2006). The criterion validity for this scale in past research showed fair to moderate agreement (ϱ= 0.30) against the data from accelerometer worn by participants (Craig et al., 2003). Cronbach's alpha was 0.62 in this study.

Demographic Characteristics

Participants answered questions querying their age, race, and ethnicity. They also indicated their sexual orientation (Ganson & Nagata, 2020) and reported their education level and household income (Hovick et al., 2014).

Data Analysis

All focus groups were videotaped using Zoom, an online meeting application that can be used as a tool for conducting online focus groups (Abrams & Gaiser, 2017; Smith et al., 2020). This platform offers opportunities for qualitative research due to "its relative ease of use, cost-effectiveness, data management features, and security options" (Archibald et al., 2019, p. 1). The video recordings were transcribed verbatim. Participants' names were replaced with numbers. The transcripts were thoroughly checked against recordings. The data were analyzed using a combination of deductive and inductive approaches (Morgan & Hoffman, 2018). The deductive approach was used to develop the set of themes associated with the key research questions (i.e., fitspiration visual or verbal content relevant to positive body image, negative body image, or exercise intentions). The same approach was used to develop the initial set of codes that was based on the list of specific objectifying cues identified in the previous content analytical research on fitspiration (Carrotte et al., 2017; Deighton-Smith & Bell, 2018; Murashka et al., 2021; Santarossa et al., 2019; Simpson & Mazzeo, 2017; Tiggemann & Zaccardo, 2018). At the initial stage, the verbatim transcripts were coded in line with the initial set of codes.

Next, the inductive approach was used to identify and assign specific categories and subcategories for codes as well as develop additional codes to capture new patterns in the dataset. Non-substantive codes were developed to facilitate interpretation and write-up (Morgan, 1993). A constant comparative approach was used to continue looking for instances for

additional categories until the categories became saturated (Corbin & Strauss; 2015; Strauss & Corbin, 1990; 1998). Categories were iteratively reviewed, refined, reorganized, or renamed until coherent categories and subcategories were created (Easton et al., 2018). The main themes, categories, subcategories, and relevant examples for images, captions, and comments are described below (Tables 3.2, 3.3., 3.4). Based on the final categories and subcategories, contrasting and common views between the lower and higher BMIs groups were examined. The data were analyzed using the NVivo software. Descriptive statistics were calculated to obtain more detailed information about the whole as well as the two subsamples (i.e., individuals with low/normal and high BMIs).

Results

Description of the Participants

In this study, participants were 39 young women (mean age: 21.21 years; *SD* = 1.75) from 17 different U.S. states. Among them, 20 participants (51.3%) had a BMI within the normal range, and there were no underweight participants (BMI less than 18.5; Centers for Disease Control and Prevention (CDC), 2021); 19 (48.7%) participants had a BMI within the high range. Since there were no participants with a low BMI, the current study was further focused on comparing perceptions of individuals within the normal versus high BMI ranges. About half of the participants were White (46.2%) and attended some college (without holding the degree) or received a Bachelor's degree (78%). All participants used Instagram at least once a day; most participants (74.4%) used Instagram for at least one hour on a typical day. Table 1 summarizes the main characteristics of the study sample.

Table 3.1

Participant Characteristics (N = 39 women)

Characteristic	**Value**	
	N(%)	***M(SD)***
Age (years)		21.21(1.75)
Ethnicity		
Not of Hispanic, Latino/a, or Spanish Origin	34(87.2%)	
Mexican, Mexican American, Chicano/a	3(7.7%)	
Another Hispanic, Latino, or Spanish origin	2(5.1%)	
Race		
White	18(46.2%)	
Asian Indian	7(17.9%)	
Chinese	5(12.8%)	
Black or African American	2(5.1%)	
Japanese	1(2.6%)	
Korean	1(2.6%)	
White and Black/African American	1(2.6%)	
White and American Indian/Alaska Native	1(2.6%)	
White and Chinese	1(2.6%)	
Asian Indian and Other Asian	1(2.6%)	
Other (Middle Eastern)	1(2.6%)	

Sexual Orientation	28(73.6%)
Heterosexual/Straight	8(20.5%)
Bisexual	2(5.1%)
Gay or Lesbian	1(2.6%)
Not Sure	
Education	
Eighth grade or below	0(0%)
Ninth to 12th grade	1(2.6%)
High school diploma or equivalent	2(5.1%)
Vocational or technological program	0(0%)
Some college but no degree	15(38.5%)
Associate degree	2(5.1%)
Bachelor's degree	14(35.9%)
Graduate or professional school but no degree	2(5.1%)
Master's degree	1(2.6%)
Professional degree	0(0%)
Doctorate degree	1(2.6%)
Income	
Below $20,000	5(12.8%)
$20,000-$39,999	10(25.6$)
$40,000-$69,999	8(20.5%)
$70,000 or higher	16(41.0%)

BMI	20(51.3%)	22.2(2.08)
Within the Normal Range: 18.5-24.9	19(48.7%)	29.6(4.80)
Within the High Range: ≥ 25		
History of eating disorders		
Yes	8(20.5%)	
No	31(79.5%)	
Disordered eating attitudes (scale 1 to 6)		3.33(1.13)
Objectification Trait (scale 0 to 50)*		24.9(14.46)
Frequency of Instagram use		
Never	0(0%)	
A few times a year	0(0%)	
Once a month	0(0%)	
Two-three times a month	0(0%)	
Once a week	0(0%)	
Multiple times a week	0(0%)	
Once a day	2(5.1%)	
Multiple times a day	37(94.9%)	
Instagram use on a typical day		
5 minutes or less	1(2.6%)	
15 minutes	2(5.1%)	
30 minutes	7(17.9%)	
1 hour	6(15.4%)	
2 hours	15(38.5%)	

3 hours	6(15.4%)
4 hours	2(5.1%)
5 hours or more	0(0%)
Frequency of viewing fitspiration posts when using Instagram:	
Never	0(0%)
Sometimes	0(0%)
About half the time	0(0%)
Most of the time	17(43.6%)
Always	22(56.4%)
Frequency of viewing fitspiration captions when using Instagram:	
Never	0(0%)
Sometimes	7(17.9%)
About half the time	6(15.4%)
Most of the time	17(43.6%)
Always	9(23.1%)
Frequency of viewing fitspiration comments when using Instagram:	
Never	3(7.7%)
Sometimes	11(28.2%)
About half the time	9(23.1%)
Most of the time	10(25.6%)

Always	6(15.4%)
Exercising per week (in minutes)	
Vigorous exercising	127.70(109.51)
Moderate exercising	136.95(163.84)
Walking	219.10(166.07)
Reasons for Exercising	
Appearance-related reasons	5.30(1.03)
Health and fitness	5.51(0.95)
Enjoyment and mood	4.66(1.11)

Note: The original scale ranged from -25 to 25 with the higher scores indicating higher self-objectification trait (Frederickson et al., 1998). For easier interpretation, the scale was converted to be 0-50.

Visual Features and Body Image (RQ1a-b)

Visual Features and Negative Body Image

The first research question sought to understand what visual features of fitspiration posts can affect viewers' body image perceptions. In line with objectification theory, participants perceived that specific objectifying cues in fitspiration images could be detrimental to their body image perceptions. Participants mentioned the following objectifying image cues: not clearly visible face, a focus on body parts, posing, sexualization, and wearing revealing clothing. Additionally, participants mentioned that fitspiration images depicting thin or extremely fit body types could also be detrimental to their self-perceptions. See Table 3.2 for the full list of features and selected examples.

Table 3.2

Themes and Subthemes for Fitspiration Images

Theme	Categories	Selected Examples
Negative body image perceptions	1. Objectifying cues: (a) Not clearly visible face	*I tend to see photos where the faceless, like body photos. … And I really try not to look at photos like that because when I do, I do feel like my stomach isn't flat enough, and I feel like overweight*. (PID16)
	1. Objectifying cues: (b) A focus on body parts	*Seeing the perfect pair of abs, the legs that I want or the toned arms, toned legs – I would say, that gets to me sometimes*. (PID32)
	1. Objectifying cues: (c) Posing	*I'm trying to make myself not as actively following the influencers that post more just posing. … Because for me that's just going to feed into this unhealthy mindset that I'm just tired of having after over ten years*. (PID28)
	1. Objectifying cues: (d) Sexualization / high skin exposure	*I think I maybe tried to mimic it* [sexualization in fitspiration images] *as much as I can*. (PID33)
	2. Body type: (a) Skinny	*They just look much thinner than they are. … And it makes people really feel bad. … But it's just generally not fitspiration like, "Oh, let's go on to work out together." It's more like, "I look like this, and you don't."* (PID10)
	2. Body type: (b) Extremely fit	*When I see pictures or posts with girls with very hour-glass-shaped bodies … it starts to be negative*. (PID33)
Positive body image perceptions	1. Depicting the body in a realistic manner	*Also, seeing those perfect photos, like you pose, and you look skinny. But then right after it's that same person, but they have body rolls. That honestly makes me feel a lot better about my body*. (PID16)

	2. Similar body shape	*Seeing people who look more like me make me feel like … it is possible to accept myself the way I am*. (PID25)
	3. Exercising for non-appearance reasons: (a) Exercise as a joyful activity	*I'm still very passionate about exercise and fitness and all that but trying to follow more of those people who just make it more a joyful sort of thing, as opposed to just always trying to achieve something that isn't healthy*. (PID25)
	3. Exercising for non-appearance reasons: (b) Showing non-appearance achievements	*A lot of the workouts I tend to follow are more like training, like a power. So, there is more like achievement in the exercise to see that they will celebrate. And then I can kind of set that goal for myself … to feel stronger and be more powerful, to see that powerfulness attained*. (PID28).
Exercise intentions	1. Exercise-related images: (a) Exercise or achievements that viewers aspire to do in the future	*I think I get inspired from pictures … where people are actually doing something … more like exercise oriented. Maybe they are doing some fun gymnastic movement or something that I cannot do and maybe aspire to do*. (PID38).
	1. Exercise-related images: (b) Evidence of actual exercising (e.g., messy hair)	*I would feel a lot more encouraged if I see … someone is really sweaty, their hair is all messed up*. (PID8)
	1. Exercise-related images: (c) Specific exercises / variety in exercising	*But to be able to see what other people are doing and add those into my workout as well, it inspires me to want to go to the gym because I get excited for the next time I get to work out*. (PID34)
	2. Transformation images	*I want to see your transition to see if what you're doing is working and maybe if that works for me*. (PID5)
	3. Showing similarities	*If I see someone that just goes to a regular Planet Fitness or LA Fitness, and I can have access to those resources… I would probably feel encouraged by that person and try to copy them somehow*. (PID2)

	4. Body-related cues: (a) facial expressions	*I just find people that are really confident in their own bodies, really inspirational. Like you can kind of tell just by the look on their faces, whether they are truly confident in their own skin.* (P30)
	4. Body-related cues: (b) Body modifications via photoshop or plastic surgery	*Like you just mentioned, photoshop. … If a girl's waist is smaller than her head, I know that's fake. But that just does not make me feel motivated, because I know it's not real.* (PID9)

Objectifying Cues. Participants felt that fitspiration images that were cropped to deemphasize face and emphasize body parts could trigger perceptions of insecurity about their appearance. Viewing such images made them think negatively about their own bodies or body parts and triggered appearance-focused thoughts while buying clothes. It was also mentioned that images focusing on body parts not only made viewers question their appearance but also affected their perceptions of health. Participant 16 described that viewing such images affected her appearance self-perceptions and triggered doubts whether she was healthy despite having her doctor's verification of being healthy:

> *I tend to see photos where the faceless, like body photos … usually focus on the abs and having really defined abs and a very flat stomach. And I really try not to look at photos like that because when I do, I do feel like my stomach isn't flat enough. And I feel like overweight, you know, like unhealthy even though my doctor literally says I'm fine, I'm healthy and everything. But it makes me feel very self-conscious about my stomach to the point where I'll think of those images when I'll buy clothes. I love crop tops, but I always*

feel very insecure wearing them just because I keep remembering these images of people with very flat stomach.

In line with this, participants admitted that viewing fitspiration images that depicted perfectly looking body parts could trigger concerns about not looking similar to the individuals in fitspiration images. In addition, viewing images emphasizing specific body parts gave rise to perceptions that participants need to focus on improving the same body parts to look similar. While some participants generally talked about the images focusing on body parts (i.e., without specification of body parts), other participants indicated salient body parts depicted in fitspiration images that could be potentially harmful to them. Such body parts included abs/stomach, legs, buttocks, and arms. For example, Participant 32 mentioned that images emphasizing specific body parts made her question her appearance and triggered frustration about not looking the same as individuals in the images:

Seeing the perfect pair of abs, the legs that I want or the toned arms, toned legs – I would say, that gets to me sometimes. You can work hard and hard, but you might not have the same toned body or a huge butt compared to some of those fitspo models, right? And that can get to you too because you can work hard, but then you can look on Instagram where it's full of those photos. And you're like, "Why am I not looking like this?"

One of the most frequently discussed features of fitspiration images that could negatively affect viewers' self-perceptions was posing (as opposed to exercising). Posing in fitspiration images triggered thoughts about weight loss and perfect appearance as the main goals of exercising. Participants were critical of images depicting individuals who posed because such images were likely to trigger higher social comparison than images depicting individuals who

exercised. This objectifying cue in fitspiration images can be particularly harmful to individuals with eating disorders. One woman with a history of eating disorders (Participant 28) mentioned that viewing fitspiration images that included posing could trigger negative thoughts that might be dangerous for her symptoms to come back:

> *When I was a teenager, I was actually put into a human facility for an eating disorder. And I have kind of peaks and lows with recurring symptoms, but it's kind of gotten to this point where it really is going on for a long time. ... If I'm not actively trying to prevent myself from getting fixated on the images, it's just really easy to slide back. I'm trying to make myself not as actively following the influencers that post more just posing. ... Because for me, that's just going to feed into this unhealthy mindset that I'm just tired of having after over ten years. I'm just done."*

Additionally, participants mentioned other objectifying cues in fitspiration images, particularly sexualization and high skin exposure (i.e., not wearing much clothing). Mostly, participants felt positive about sexualized fitspiration images as long as the women in the images reclaimed the fitness journey, looked proud of their results, and seemed to feel empowered. According to Participant 39:

> *I think that it is a completely normal thing for women on social media, especially fitness bloggers, to claim their sex appeal. It's for themselves, they're not doing it to get more men to follow them or anything. It's just them owning their body; they work so hard to get to where they are. So, why shouldn't they show off everything that they have, you know?*

Although participants did not report specific negative outcomes of viewing sexualized and body-revealing fitspiration images, they suggested that such images could encourage female

viewers to post similar visual content even though they might not feel comfortable. One woman (Participant 33) saw sexualization in fitspiration as a common trend that she mimicked to get more attention from men in social media:

> *I honestly think that it* [sexualization] *is in a lot more* [fitspiration] *posts than we are consciously aware of. ... I guarantee you ask any guy, and he will tell you that he finds the picture sexual. I know that I probably have wished I looked a certain way to gain a male's attention. … I think I maybe tried to mimic it as much as I can just because I appreciate male attention if it's offered* (laughing).

Body Type. In addition to objectifying cues, participants mentioned seeing specific body types in fitspiration images that could negatively affect their self-perceptions. Thin and extremely fit body types in fitspiration images were particularly relevant during the discussion of viewers' negative self-perceptions.

Many participants believed that viewing images depicting thin bodies could trigger negative consequences. Viewing such images promoted viewers' concerns about not having the same body type, triggered pressure to eat less and exercise more, and reminded the viewers that they might not look good enough. Participant 10 speculated that fitness influencers might intentionally want to make viewers feel bad by posting thin images of themselves:

> *Sometimes people in fitness community don't care to actually post fitness. They have mal-intentions. They want to make people feel bad or show off their body, or just they can make people feel really insecure. They show really unrealistic photos of themselves. They just look much thinner than they are. … And it makes people really feel bad. And I don't know if they get happy about that; I have no clue. But it's just generally not fitspiration*

like, "Oh, let's go on to work out together." It's more like, "I look like this, and you don't."

Participant 10 also mentioned the harmful consequences of promoting thinness as a healthy ideal, especially when a fitness influencer has eating disorders. She shared:

I think what's really harmful sometimes in fitspiration is … like there are a lot of people who struggle with eating disorders … and they are losing a lot of weight. But they're putting it off as fitness and that it's a really good ideal of body type. Other people are going to follow that … and it makes people feel bad about themselves because they don't realize that something is going on in that person's life or they're really mentally ill and need help. And they think it's fitness and that's so good for them, they should be doing it too.

Viewing idealized fitspiration images depicting a thin body type not only promoted negative appearance-related perceptions but also affected viewers' social media behaviors. In particular, viewing such images might reduce viewers' intentions to publicly share their exercise-related images. Such lowered intentions may be explained by the viewers' beliefs that they do not look perfect enough in their own exercise-related images. According to Participant 2:

I follow some yoga instructors. And they're at the beach on the sand, and they're doing this pose, and they're just super skinny, and they're matching their bra with their tights and with their shoes. And they don't have sand in their face … and they're just perfect. Even if I tried to do that in my bedroom, I wouldn't be able to do that perfectly. … I do a headstand, and my face gets super red. I'm not really happy, so I don't want to show this picture.

In addition to the thin body type, participants also discussed viewing a very fit or toned body type in fitspiration images as potentially detrimental to their self-perceptions. Specifically, images depicting this body type made viewers feel frustrated and less confident about themselves due to not having such an appearance. Such images also promoted feelings of jealousy and guilt for not exercising enough. However, it is worth noting that some viewers reminded themselves about the role of genetics in body appearance while viewing fitspiration images. They suggested that such a reminder could be a potentially helpful strategy to prevent negative consequences. For example, Participant 33 described how she tried not to think in the negative direction when she looked at fitspiration images:

> *I have a more broad built. When I see pictures or posts with girls with very hour-glass-shaped bodies, I have to remind myself that no matter how hard I try or if I work out every day or eat perfectly, my body will never look like that whether I want to or not, unless I got surgery or something to enhance it to be that way. So, I think that it starts to be negative, but … if I'm able to consciously stop myself and think that, then I don't think it is negative.*

Visual Features and Positive Body Image

In addition to the potentially detrimental image cues in fitspiration, participants also discussed visual features that can promote positive body image perceptions. As can be seen from Table 3.1, the most beneficial visual elements were cues depicting the body in a realistic way, showing body types similar to viewers' current body types, or emphasizing non-appearance aspects of exercising.

Depicting the Body in a Realistic Manner. Participants perceived realistic features (e.g., body rolls, some fat, diverse body types, a relaxed body without posing) in fitspiration

images to be positive for their self-perceptions. Such visual cues were important for the participants to see in fitspiration images because they promoted the perception that not having a perfect body is normal and acceptable. While some individuals mentioned the benefits of seeing the realistic features alone, most participants found it particularly helpful when fitspiration images included two contrasting pictures in one post. Specifically, they mentioned the examples of seeing fitspiration posts with the first image showing the fitness influencer in a posing and unrealistic way (e.g., flat stomach, no body rolls, looking skinny) and the second image showing the same individual in a more relaxed and realistic way (e.g., having body rolls, not sucking in the abdomen). According to Participant 16:

> *Also, seeing those perfect photos, like you pose, and you look skinny. But then right after, it's that same person, but they have body rolls. That honestly makes me feel a lot better about my body because I always sort of compare myself to girls at the gym or on Instagram. Like, "Oh, my gosh, my stomach isn't as flat as theirs." But then I see them, "Oh, they have body rolls too." And that's normal; you're supposed to have body rolls. So, honestly that helps so much. Honestly, it's like the biggest thing.*

Furthermore, viewing such images benefitted viewers' body image perceptions when there was some verbal information explaining the importance of the angle of posing. According to Participant 33:

> *I think one of my favorite things of all time … is whenever I see a picture where they have two pictures of themselves and one will be like the perfect angles, and they look like really toned and stuff. And then the second one will be them more relaxed, and they are not doing the perfect poses, and their bodies look more realistic. And then they'll put like*

… "Angles make all the difference." And I find that really inspiring because it gives me hope that … I can look hot too if I do the right angles.

Depicting Individuals with a Similar Body Shape. In addition to the features depicting bodies in a realistic manner, participants reported their preference to see fitspiration images showing individuals whose body shapes were similar to viewers' current body shapes. Such content was perceived as more relatable, realistic, and promoting self-confidence. As an example, Participant 1 shared that seeing fitness influencers with a similarly high weight in revealing clothing made her feel more confident about her own appearance and encouraged her to wear two-piece swimsuit instead of one-piece swimsuit. Showing individuals with similar body shapes in images demonstrated the possibility of feeling happy in any body shape and helped the participants to accept the way they were. Participant 25 shared:

The ones that make me feel more positive about confidence … have more of that realistic body type. They just are more relatable. It seems like more real-life content, like they're incorporating fitness into their life, but fitness is not their entire life. … Seeing people who look more like me make me feel like, "Okay, they can be happy in their body, so that means I should be able to be happy in my body". … So, it is possible to accept myself the way I am.

Furthermore, one woman (Participant 26) noted that fitspiration images of individuals with a similarly thin body type showing body imperfections could help to normalize the perceptions that thinness does not imply always looking perfect. She shared:

I do like seeing people with more similar body types to mine because … when I'm sitting down, with my stomach isn't totally flat, that sucks. But then I'll see if people post photos of themselves sitting down, and they're like, "Oh, look, my stomach also has rolls." I'm

like, "Okay, so this is a natural thing even if you are very fit, even if you are very skinny." And I think that's very helpful.

Exercising for Non-Appearance Reasons. Along with discussing realistic features and similar body types, participants considered images promoting exercising for non-appearance-related reasons (e.g., joy) to be positive. Examples of such images included showing physical activities outside the gym such as hiking, swimming, riding a bike, or walking. For instance, Participant 25, who had a history of an eating disorder and exercise obsession, discussed how seeing images of exercising for joy was a step in her recovery process:

Over the past couple of years, I got really obsessed with fitness to the point where it became like an eating disorder and exercise obsession. … I definitely used to look more at those fitspiration posts, like the people who have the perfect body. ... But over the past year, I've tried to focus a lot more on the body positivity sort of thing, you know, exercising for joyful movement and not necessarily for an aesthetic. … I'm still very passionate about exercise and fitness and all that but trying to follow more of those people who just make it more a joyful sort of thing, as opposed to just always trying to achieve something that isn't healthy.

Another individual (Participant 16) added that fitspiration images showing exercising as a joyful activity (as opposed to punishment for eating unhealthy foods) promoted positive body image perceptions. She considered fitspiration posts showing achievements (e.g., running, push-ups) as opposed to appearance transformations (e.g., weight loss) to be particularly helpful. Similarly, another woman (Participant 28), who was concerned about appearance during exercising, shared that fitspiration images showing exercise achievements helped her to reshape the appearance-focused mindset:

I still struggle with comparing my perceptions of my body with other women's bodies. … Seeing other women who appear more put together in their appearance, wearing an athleisure set or not appearing as red-faced as I tend to get when exercising, can be challenging to focus on the reason I'm at the gym. … A lot of the workouts I tend to follow are more like training, like a power. So, there is more like achievement in the exercise to see that they will celebrate. And then I can kind of set that goal for myself, which helps me reshape that the mindset, that the reason I want to go to the gym is to feel stronger and be more powerful, to see that powerfulness attained.

Visual Features and Exercise Intentions (RQ2)

Overall, participants described three types of fitspiration images that were particularly helpful for higher exercise intentions: exercise-related images, transformation (before-after) images, and images emphasizing similarities between fitness influencers and viewers. Furthermore, participants mentioned that specific body-related features (e.g., facial expressions or body modifications induced by plastic surgery) in the images could also affect intentions to exercise.

Exercise-Related Images

Fitness inspiration followers recognized that fitspiration images depicting individuals who exercised as opposed to posing triggered higher exercise intentions. Participants were not interested in fitspiration images with individuals posing because such images did not provide any ideas on different exercise activities that participants could perform. In contrast, images depicting individuals who exercised provided information on various activities that could be replicated in participants' own fitness routines. They particularly appreciated images showing

some exercise or achievements that participants could not do yet but aspired to do in the future. According to Participant 38:

> *I think I get inspired from pictures … where people are actually doing something, maybe not more so like clothing oriented, but more like exercise oriented. Maybe they are doing some fun gymnastic movement or something that I cannot do and maybe aspire to do. Maybe they are lifting some weights that I can't just yet, but they're doing that. So that's more inspiring versus just seeing purely static effects of fitness.*

Moreover, participants were skeptical about fitspiration images where individuals posed to exercise (e.g., artificially holding the equipment for the image). They preferred real-life images taken during the exercise session that included realistic features (e.g., sweat, messy hair). Participants found it important to see actual exercising in fitspiration images in order to understand that fitness influences were honest with the followers, and their appearance was not the result of other factors (genetics, plastic surgery, having a nutritionist). For instance, Participant 8 shared:

> *I would feel a lot more encouraged if I see … someone is really sweaty; their hair is all messed up. And you can tell they either just finished a hard workout or in the middle of a difficult exercise as opposed to seeing someone who looks like they've never sweated before and the hair is all done, their makeup is beautiful. … It's difficult to understand exactly where the pretty pictures are coming. ... Are they actually working out or do they have a nutritionist making all of their meals for them?*

Furthermore, as a specific type of exercise, some participants preferred fitspiration images showing weightlifting and strength-focused exercising. They believed that, despite multiple health benefits, weightlifting and strength training might feel exclusive to women

because women are generally encouraged to do cardio. Therefore, they felt motivated and appreciated normalization of weightlifting and strength training among women by showing it in fitspiration posts. According to Participant 14:

> *I agree with the weightlifting thing, especially for women. Because a lot of the comments that I've gotten when I'm like, "I want to go workout or do this," is like, "Yeah, you're not trying to build muscle; you are not trying to lift weights. Don't worry about that, you're just trying to lose weight or slim down or whatever." And it's like, "No! I do want to be strong! I do want to lift weights! Maybe that's good for my mental health!"*

Other participants showed preferences to see the variety of exercises in fitspiration social media content in order to feel more encouraged to exercise. As Participant 34 mentioned:

> *I get inspired by seeing … new exercises … because sometimes it's easy for me to just stick to a routine. But to be able to see what other people are doing and add those into my workout as well, it inspires me to want to go to the gym because I get excited for the next time I get to work out.*

Transformation Images

In addition to exercise-focused images, participants discussed how seeing others' progress (e.g., weight loss, muscle gain) in the fitness journey in the before-after images could promote higher exercise intentions. Seeing both significant changes and ongoing progress was perceived as encouraging for exercise intentions. Before-after fitspiration images were perceived positively by viewers because they demonstrated the effectiveness of exercising as opposed to other factors. For instance, seeing fitness results without the before part of the image could make participants doubt whether the fitness routine was actually effective or the results were related to genetics or working as a fitness trainer. Before-after fitspiration images were particularly

effective for participants' exercise intentions when the before part of the images showed body shapes similar to that of the participants. Participant 5 mentioned:

> *When I think about fitness Instagram, I don't think of girls with abs or the perfect body. Things that inspire me is if someone there shows their transition. So, I look for people who look like me, like a little chubby here and there. But then they work on it, and they're like slim. … I want to see your transition to see if what you're doing is working and maybe if that works for me.*

Showing Similarities

Many participants discussed visual features emphasizing similarity between fitness influencers and themselves to be important for their exercise intentions. First, some fitspiration followers felt more represented when they saw individuals with similar appearance, which was inspirational for their exercise goals. They also felt more encouraged to exercise because they had more hope about achieving similar results. For instance, Participant 33 shared:

> *"If I see a post that has a person, where I can identify features about them that are similar to my body type, and then I can see that they're really fit, then I think that those are … really inspiring. Because I'm like, "This is what my body will probably look like if I can get it to this level." So, it's like motivating to do so.*

Second, participants mentioned the importance of the perceived similarity with the fitness influencers on non-appearance aspects, including exercise resources, exercise routine, lifestyle, or age. For instance, participants who exercised at home found fitspiration images of individuals who did home workouts to be particularly encouraging for their exercise intentions. Other participants who went to the gym felt particularly inspired by fitness influencers who used similar resources and exercised at a similar frequency. Seeing similar individuals achieving their

goals increased their confidence and efficacy of performing the same exercise behaviors and promoted such thoughts as "I can do that if she can do that" (Participant 2), "If she can do it … I think I can do this (Participant 1). According to Participant 2:

> *If I follow this person on Instagram … and they have these three hours or two hours to go to the gym every day. I'm not going to do that. I don't have time. ... But if it's someone that will be similar to me … if I see someone that just goes to a regular Planet Fitness or LA Fitness, and I can have access to those resources, and I see that they train one or two hours a day three times a week, I would probably feel encouraged by that person and try to copy them somehow.*

Body-Related Cues

Generally, participants paid substantial attention to faces in fitspiration images, which served as an important feature promoting higher exercise intentions. Participants emphasized that facial expressions indicated how happy and confident the individuals depicted in fitspiration images were. For instance, Participant 6 paid attention to the faces in the before-after images. She felt particularly encouraged to exercise when the face had changed from being sad in the before part of the image to smiling and being happy in the after part of the image. Similarly, Participant 24 mentioned that seeing individuals in fitspiration images whose faces looked happy and smiling made her think that her life would be better if she did a similar exercise activity. In addition, Participant 30 shared that she felt particularly inspired to exercise when she saw images of fitness influencers whose faces expressed confidence. She said:

> *I just find people that are really confident in their own bodies really inspirational. Like you can kind of tell just by the look on their faces, whether or not they are truly confident*

in their own skin. And for me, I am definitely more attracted to the people that are really confident.

In contrast, images with not clearly visible faces were perceived by some participants as demotivating for exercise intentions due to triggering negative self-perceptions. Participant 14 shared:

Those kinds of photos, just a faceless person, the hip bones are jotting out. ... For me, it very much is triggering my sense of body image, and then I feel very pressured to go work out to lose weight. And then I'm like, "Well now, I don't want to go work out or go exercise because now I'm in a bad mindset."

Furthermore, many participants shared that seeing fitspiration images with clearly visible evidence of using editing software or doing plastic surgery negatively affected their exercise intentions. Such images gave rise to the perceptions that the depicted bodies are unattainable and unrealistic. For instance, Participant 9 explained:

Like you just mentioned, photoshop. … If a girl's waist is smaller than her head, I know that's fake. But that just does not make me feel motivated because I know it's not real.

In line with that, Participant 10 felt discouraged to exercise when a fitness influencer clearly went through plastic surgery but tried to pretend that their changes were achieved through their fitness routines:

When … you can clearly tell that they've gotten work done, and they'll try to put it out as like, "Oh, I did this all by myself." But you clearly know that someone got work done. It's really discouraging. At the end, they use something that's not natural to help them get to where they are, and they market it as like they did it.

Verbal Features and Body Image (RQ3a-b)

Overall, participants perceived verbal messages in captions to fitspiration posts as an important feature that could influence or change perceptions of the whole fitspiration post. Some participants reported that they spent more time reading captions than looking at the fitspiration images. Participants shared that verbal information presented in the captions could affect their decisions to dislike the post or unfollow the influencer. Participants also mentioned that verbal messages in fitspiration captions could provide a new avenue for viewers to feel positive and inspired compared to a fitspiration image. This aspect was particularly important because, as noted by Participant 30, viewing a fitspiration image alone "does open a lot of doors for misinterpretation … and can make comparison very easy."

In regard to comments, some participants shared that they often read comments and found them helpful. They shared that viewing comments with different focuses could differently affect their self-perceptions and exercise intentions. Other participants were skeptical about reading comments to fitspiration images and found them meaningless and derogatory toward others. See Tables 3.3 and 3.4 for the full list of caption and comment features.

Table 3.3

Themes and Subthemes for Fitspiration Captions

Themes	Categories	Selected Examples
Negative body image perceptions	1. Body discussions	*They'll say like … "I look very big today". … And sometimes I think, "Okay, should I lose a little bit of weight? I'm not really sure."* (PID21)
	2. Fat-shaming language	*Fat shaming language will also really turn me off. …I don't need this negativity.* (PID3)

	3. Expressing vulnerability about one's appearance	*When they share their own insecurity, maybe it makes you feel like, "Oh wait, I never thought about my calves before."* (PID24)
Positive body perception	1. Health-focused messages: (a) Exercising as a health-related activity	*I think just in terms of what they* [fitness influencers] *are making fitness more of a health thing is a good thing. … I think that it nice that it takes pressure away from how you look.* (PID26)
	1. Health-focused messages: (b) Mental health benefits of exercising	*I could take two extra minutes to read it* [caption] *and get something out of it, maybe not just motivation for working out, but also mentally … because a lot of fitspiration that I follow is linked to mental health.* (PID6)
	1. Health-focused messages: (c) Health at every size	*I find it positive personally, just because to me it just says, "Oh, you can still be healthy and happy, even if you are not as skinny as the rest of the people you're seeing online."* (PID8)
	2. Body positive messages: (a) Diversity and uniqueness of bodies	*I think it's less about what body type that person* [in the fitspiration image] *has, but the fact that I want that person be encouraging and inclusive of all body types.* (PID4)
	2. Body positive messages: (b) Focusing on inner features	*Just because their body has changed a lot, it doesn't mean that their worth is diminished. … And if they use the caption correctly, it can help the person that sees that image say, "I'm not worthless as a person just because I look like that."* (PID17)
	2. Body positive messages: (c) Media literacy messages	*So, they would talk about like, "Oh, I picked up Cosmopolitan the other day, and I saw this body that just is terrible for other women to look at and see it as an ideal body". … It just makes me love my body the way it is.* (PID19)
Exercise intentions	1. Health-focused messages	*If I had seen things that were promoting weightlifting for stress relief, I would have started a long time ago.* (PID27)
	2. Appearance-focused messages	*I feel like it* [appearance-focused message] *sounds artificial … you don't want to make it*

	sound so difficult where the audience is like, "Well what's the point of even trying?" (PID35)
3. Body positive and self-compassion messages: (a) Reminding that viewers do not have to look the same as fitness influencers	*Sometimes in the captions they will say something like …"Oh, just know that you don't have to look like this. You have to just do your best," things like that, kind of like uplifting and motivating*. (PID19)
3. Body positive and self-compassion messages: (b) Self-acceptance	*I really like to read the captions … reminding women and everyone in general to not get down on yourself, not get negative because it's all progress. That's really motivating*. (PID34)
4. Exercise-related messages: (a) Acknowledging hardships	*Not making it* [exercising] *seem it is easy, just being honest ... I could be like, "Yeah, I feel that exact same way. And what you are saying I relate with so much." That's going to make me want to work out*. (PID6)
4. Exercise-related messages: (b) Encouraging messages	*But they're telling me I can do it, and then they probably posting a picture of them doing it. And I'm like, "Okay, I can do this."* (PID5)
4. Exercise-related messages: (c) Fitness progress	*I would say I am more motivated by people … if they're progressing. And then, in addition, if they talk about how they are really busy in their lives, doing other things, and this is not the only thing they focus on. That's motivating to me*. (PID21)
4. Exercise-related messages: (d) Exercise instructions	*That's really good for me because I don't really know how to work out myself. And I look on Instagram for help on that*. (PID23)

Table 3.4

Themes and Subthemes for Fitspiration Comments

Theme	Categories	Selected Examples
Negative body perception	1. Appearance-focused messages: (a) Negative evaluations	*Oh well, people think that she looks bad, and I guess they would think that I look bad*. (PID3)
	1. Appearance-focused messages: (b) Positive evaluations	*And other comments are just praising them or complimenting them. …It affects me negatively because I compare myself a lot*. (PID10)
	1. Appearance-focused messages: (c) Sexually objectifying language	*There can be usually guys saying gross things, and I don't want to see that*. (PID23)
Positive body perception	1. Appearance-focused messages	*If I saw someone who looks like me doing things that I do, and people were like, "Oh my God, you're so good, you're so beautiful," then I'd be like, "Oh well, I'm kind of like that, you know, guessing myself a little."* (PID3)
	2. Emphasizing unrealistic nature of images	*And so, it's just nice to be able to go through there* [comments] *and have people reminding you as you look at these beautiful people that maybe they're not always beautiful*. (PID13)
	3. Health-focused messages	*I do like seeing messages, where people say, "Hey @ the Instagram account, you, helped me get better sleep, because you taught me about this nutrition, or you helped my back problems."* (PID21)
Exercise intentions	1. Health-focused messages	*If … somebody, who's a doctor, was like, "Oh my gosh, yes, this is so good for your health, just walking 30 minutes will, you know, boost your immune system," it kind of boosted their credibility, I would 100% be more convinced and feel better about trusting them*. (PID3)

	2. Appearance-focused messages	*They post something like, "It's really easy … you can achieve this look". ... And then along that seeing a lot of people worship that person for their body. I think that's a little detrimental to my motivation.* (PID21)
	3. Approval of the recommendation	*So, I read the comments section and people are sitting there saying that they tried this for a couple of weeks, and it's been working well. And I think that's what really motivated me.* (PID5)

Captions and Negative Body Image

Participants reported that reading appearance-focused captions in fitspiration posts could trigger negative thoughts and self-perceptions. Most frequent examples of such captions were related to discussing body and body parts, fat-shaming messages, and expressing vulnerability about one's own appearance (see Table 3.3).

First, participants shared that fitness influencers discussed their body, appearance, or weight in the captions to fitspiration posts. Such messages could trigger appearance and body-related comparisons and concerns among the followers. For instance, Participant 21 emphasized that fitness influencers complained about their appearance, which negatively affected her. She shared:

> *They'll say like … "I look very big today." And I'll look at the photo of their torso, and it's like quite small in my eyes. … I think they should just use a lot better language because that's not great for me to hear. And sometimes I think, "Okay, should I lose a little bit of weight? I'm not really sure."*

Second, participants criticized fat-shaming language in fitspiration captions. Participant 1 felt that messages like "A minute on the lips means like a year on the hips" made her feel worse about herself instead of feeling better. As a result, she chose to unfollow fitness influencers who posted similar messages in the captions. Other participants emphasized that they felt negative and frustrated about captions like "everyone can be thin or fit if they were not lazy" (Participant 9) or "let's get the summer butt ready, you can get a butt like this" (Participant 14) because these messages did not take into consideration various factors such as body type, health needs, time, and socio-economic status. Participant 3 shared some examples of fat-shaming captions that she felt negative about:

> *Fat shaming language will also really turn me off if they're like, "Get rid of that ugly bit of belly fat." Or, you know, that kind of referring to natural parts of women's bodies who may not look like them as disgusting or something you should be ashamed of having. I'm definitely like, "Okay, I don't want to read this anymore. I don't need this negativity."*

Third, participants mentioned verbal messages in captions that described fitness influencers' body insecurities. On the one hand, sharing such messages in captions could make fitness influencers seem more relatable to viewers and help them understand that anyone can have insecurities about their bodies. On the other hand, such messages were also recognized by the viewers as triggering insecurities about their own body parts they would otherwise not notice or reflect upon by themselves. For instance, Participants 22 and 24 shared the following thoughts about messages related to body insecurities in fitspiration captions:

Participant 22: *Sometimes they* [fitness influencers] *share that they start working out because of an insecurity with a certain part of your body, and sometimes it was a part of body that I did not think to be insecure about. It will also make me feel insecure. I understand that it*

is just their personal preferences, so somehow reading that makes me reflect on my perception of my own body and just lowers my self-esteem. … It makes me wonder, "Oh, is that something I should also be insecure about?"

Participant 24: *I think it's interesting what Participant 22 said. When I see an image of someone and they look amazing, and then they share an insecurity in the caption, it feels like "Wow, everyone has these insecurities". … But that's also another point. … Like they felt insecure because of those big calves, and you also have big calves, but it was not something you thought insecure about. When they share their own insecurity, maybe it makes you feel like, "Oh wait, I never thought about my calves before."*

Comments and Negative Body Image

Participants admitted that appearance-focused comments could influence their judgment about and interpretations of the original posts, trigger negative thoughts about appearance and make them think that others would negatively evaluate their appearance. For instance, Participant 3 shared her perspective on seeing negative appearance-focused comments to fitspiration posts:

If I was to follow an inspiration person, and that was kind of look more like me, and then somebody in the comments was calling them really derogatory and being really mean, I would be like, "Oh well, people think that she looks bad, and I guess they would think that I look bad."

Perhaps surprisingly, participants also mentioned that not only negative but also positive comments (e.g., praising, complimenting) to fitspiration posts might sometimes have negative effects on them as well. According to Participant 20:

I do read comments. ... And some people ask questions. ... And other comments are just praising them or complimenting them. … It affects me negatively because I compare myself a lot.

Some fitspiration followers mentioned that their perceptions of appearance-focused comments depended on their current mood. For instance, some individuals perceived praising comments positively if they were in a good mood and negatively if they were in a bad mood. Participant 10 said that her mood defined whether she felt uplifted or perceived social pressure when she saw positive comments to fitspiration images:

When you see someone who's really fit working out … and you see the comments, and they're like, "Oh, you're really pretty" … and let's say you're in a good mood, you feel uplifted, you're like, "Oh yeah, I do good things too, I'm proud of myself, I feel pretty just like them." But when you're in a bad mood, you feel like you need to do everything everyone else is doing to feel pretty like them or to get validation from other people.

Although not explicitly focusing on body image perceptions, it is worth noting that participants mentioned sexually objectifying language in comments as a trigger of negative feelings. They perceived sexually objectifying comments to fitspiration posts as annoying and unpleasant and criticized such comments due to the lack of appreciation of fitness influencers' hard work and achievements. For instance, Participant 23 shared:

I usually don't look at comments on Instagram in general because usually, at least for fitness accounts with women, there can be usually guys saying gross things, and I don't want to see that.

Captions and Positive Body Image

Mostly, participants perceived captions in posts to be important for promoting positive self-perceptions. Some individuals also indicated that captions for them were more important than fitspiration images. They shared that health-focused messages and body positive messages were particularly beneficial for their self-perceptions.

Health-Focused Captions. A few individuals noted that messages focusing on health aspects in captions became particularly popular in fitspiration posts. Exercising as a health-related activity, mental health benefits of exercising, and health at every size were mentioned as positive messages for viewers' self-perceptions.

First, some participants shared that framing exercising as a health-related (as opposed to appearance-enhancing) activity in captions helped them to feel less pressure about their own appearance. Such messages were also helpful for them to perceive health in a broader sense, such that a perfect body shape is not considered as the single or the most important indicator of health. While discussing captions, Participant 26 shared:

> *I think just in terms of what they* [fitness influencers] *are making fitness more of a health thing is a good thing. …I think that it nice that it takes pressure away from how you look, which is the most toxic part of it, just the whole obsession with your appearance and how your body looks. And when it focuses more on health, you feel like you are sort of contributing something to yourself, rather than appearance, which is more shallow. … I'm more focused on whether or not I am feeling good and being healthy rather than how I look necessarily.*

Second, followers also appreciated seeing captions that explicitly addressed the mental health benefits of exercising. For instance, Participant 6 mentioned that she usually felt good

after exercising; therefore, she appreciated how fitspiration captions reminded her about the connection between a healthy body and a healthy mind. She further mentioned:

> *I actually look at the caption more than the picture. … I find that the caption when it is long, it has a deeper meaning for me. … I could take two extra minutes to read it and get something out of it, maybe not just motivation for working out, but also mentally … because a lot of fitspiration that I follow is linked to mental health. … So, I end up reading them.*

Furthermore, a few followers mentioned that viewing health-promoting messages targeted at individuals of any weight and/or size helped them think more positively about themselves. They further shared that such messages promoted the idea that happiness is not connected to a specific body size or shape. In other words, viewing such messages can also be potentially beneficial for viewers' mental health. According to Participant 8:

> *I would say the health of every size is a very common movement* [in fitspiration] *right now. … You don't have to be super muscular, maybe you have a little extra weight that you're carrying, but you still feel good about your body. So, it's just kind of the mental aspect as well, not putting yourself down because you may be a little bit heavier than the very thin muscular influencers. … I find it positive personally, just because to me it just says, "Oh, you can still be healthy and happy, even if you are not as skinny as the rest of the people you're seeing online."*

Body Positive Captions. In addition to health-focused messages in fitspiration captions, participants discussed messages promoting body positivity. Participants preferred to see messages discussing the diversity of body types and the uniqueness of each body. As Participant 6 mentioned, such messages were helpful to realize that "people could work out the same amount

of time and not end up with the same end result, so it's still everyone is so great no matter how they look." Another woman (Participant 4) shared:

> *I think it's less about what body type that person* [in the fitspiration image] *has, but the fact that I want that person be encouraging and inclusive of all body types. For me, that that person is encouraging to all and not again highlighting that there's one ideal that we all should be striving for. That's just not realistic, and I think that's really toxic.*

In line with that, other participants discussed the importance of focusing on inner features (e.g., being special and valued irrespective of appearance) in captions, which could help viewers to perceive fitspiration posts in a less harmful way. Participant 17 shared that carefully written messages in captions could prevent negative self-perceptions and thoughts. She said:

> *I personally see a lot of before-and-after images. ... And I think it's really nice when they make sure to mention that the person in the before image is the same person as the after image. Just because their body has changed a lot, it doesn't mean that their worth is diminished. So, it's really important to emphasize, especially because people could see that image, and they could say, "I look exactly like the before image in this picture." And if they use the caption correctly, it can help the person that sees that image say, "I'm not worthless as a person just because I look like that."*

Furthermore, participants discussed other themes in captions focusing on body positivity that were helpful for their self-perceptions. Some participants mentioned captions about media literacy, such as messages emphasizing the nature and tendency of media in presenting unrealistic images or criticizing images that could harm viewers' body image perceptions. Participant 13 shared that she appreciated when fitness influencers reminded viewers that Instagram images are not real and that people on Instagram often pose in a way to look thinner.

She emphasized the importance of showing such messages more to young girls who admire fitness influencers. She also shared why it is important to see such reminders in captions:

> *I know a lot of women are really self-conscious about their stomachs. And to just know that it's normal to have body rolls and stomach rolls, especially because all of our organs are in our stomach, so we're not necessarily supposed to be like stick thin.*

Another woman (Participant 19) shared how messages criticizing popular body standards in fitspiration captions promote body acceptance and love:

> *I love when … they would talk about like, "Oh, I picked up Cosmopolitan the other day, and I saw this body that just is terrible for other women to look at and see it as an ideal body." Or they talk about like, "Oh, I work out for me and only me. Leave me hate comments, I don't even care about what you think about my body, it's my body". … It just makes me love my body the way it is.*

Comments and Positive Body Image

Many participants admitted that comments were less important for them compared to the images and captions because comments did not provide much useful and meaningful information. Yet, some followers shared that comments could affect their self-perceptions in a positive direction. Specifically, participants mentioned comments containing positive evaluations of individuals in the images who were similar to them, discussions about the unrealistic nature of images, and health-related comments (see Table 3.4). Participant 3 shared how she perceived compliments about fitness influencers in the comment section:

> *If I saw someone who looks like me doing things that I do, and people were like, "Oh my God, you're so good, you're so beautiful," then I'd be like, "Oh well, I'm kind of like*

that." You know, guessing myself a little. I definitely think that if you relate to the person in the picture, the comments on the picture can influence your own perception of yourself.

Another woman (Participant 13) appreciated seeing comments that discussed the unrealistic nature of the images. She shared that she intentionally tried to find such types of comments when she perceived some dishonesty in the fitspiration post:

I also look sometimes if there are people that were posting, and we could tell that they hadn't worked out and they were being kind of fake about it. Sometimes I would go through the comments just to make sure … that sometimes people were still reminding people throughout the comments like, "Just remember, this isn't necessarily real. This person has personal trainers, has personal chefs, has had plastic surgery in the past." And so, it's just nice to be able to go through there and have people reminding you as you look at these beautiful people that maybe they're not always beautiful and they weren't always beautiful in the sense of thin … and maybe muscular or the shape of their face or something like that.

Furthermore, some participants preferred to see health-related comments in fitspiration, and they shared examples of messages related to physical health. However, health-related discussions were not commonly observed in the comments to fitspiration posts. According to Participant 21:

When it comes to people, I do like seeing messages where people say, "Hey @ the Instagram account, you helped me get better sleep because you taught me about this nutrition or you helped my back problems". … I find that most of the accounts I follow will actually post those comments on their stories or they will be DMed [directly

messaged] *by those people and share that on their stories. For the most part, comments are like pretty derogatory towards women.*

Verbal Features and Exercise Intentions (RQ4)

Captions and Exercise Intentions

Many participants suggested that fitspiration captions could be encouraging for their exercise intentions. Overall, participants discussed that messages focusing on health benefits, body positivity, and exercising were particularly helpful for them to feel encouraged to exercise. In contrast, some participants mentioned that appearance-focused captions could decrease their exercise intentions (see Table 3.4)

Health and Appearance-Focused Messages. Participants indicated that captions discussing various health-related benefits of exercising were important for their exercise intentions. Participants mentioned that reading health-focused messages could be particularly helpful on the days when they did not want to exercise. For instance, participants reported that they felt more motivated to exercise after seeing messages that exercising helps them feel better due to endorphin release. Others shared that they felt encouraged after seeing messages emphasizing the benefits of exercising for better sleep. Participant 27 shared how reading messages on the mental health benefits of exercising was motivating for her:

I personally about a year ago started lifting weights, and I had never seen anything prior to that about the positive impact on your mental health that regular exercise can have. It was always about losing weight … but never about distressing or having an emotional outlet. So personally, if I had seen things that were promoting weightlifting for stress relief, I would have started a long time ago.

In contrast, some participants mentioned how reading messages about appearance-related benefits in fitspiration captions could be demotivating for their exercise intentions. Such messages triggered perceptions of the unattainability of the body types depicted in fitspiration images. For example, Participant 35 mentioned that she felt discouraged after reading messages in captions where fitness influencers boasted of their appearance and body results. She said:

> *I feel like it* [appearance-focused message] *sounds artificial, and it sounds exclusive to them* [fitness influencers]. *They would make it sound like, "Yes, this is achievable for me, but it's not achievable for you guys" type of vibe. … You don't want to discourage them from even trying; you don't want to make it sound so difficult where the audience is like, "Well, what's the point of even trying? I'm never going to get to her level."*

Body Positive and Self-Compassion Messages. A few participants perceived captions promoting body positivity to be encouraging for exercise intentions. Broadly speaking, body positive messages in fitspiration captions were beneficial for exercise intentions because such messages were targeted at wider audiences with different body types. Participant 35 shared her perspective on body positive captions and exercising:

> *I think that body positivity captions are great. … It lets other people whose bodies might not look like the typical fitness blogger's body ... know that they don't need that body to be successful in their fitness routine. You don't have to be a size zero with a six-pack to be able to get through their workout. So, I feel like the body positivity does help because, honestly, you have to start somewhere. … I feel like body positivity definitely opens stores, and it lets more people enter the fitness industry.*

In line with that, Participant 19 talked about body positive captions reminding viewers that they did not have to look the same as individuals in fitspiration images. Messages encouraging viewers to focus on their own progress were perceived as motivating for her:

> *Sometimes in the captions, they will say something like …"Oh, just know that you don't have to look like this. You have to just do your best," things like that, kind of like uplifting and motivating, which is nice to see.*

Additionally, some participants mentioned messages emphasizing self-compassion in captions to be encouraging for their exercise intentions. They particularly appreciated messages that did not promote perfectionism and emphasized that it was okay to have a day off from exercising and enjoying food. According to Participant 34:

> *I really like to read the captions … reminding women and everyone in general to not get down on yourself, not get negative because it's all progress. That's really motivating.*

Exercise-Related Messages. Consistent with the perceptions about exercise-related images for higher exercise intentions, participants considered exercise-focused messages in captions to be encouraging for their exercise intentions. They indicated preferences to see messages showing exercising as a challenging activity. Messages where fitness influencers acknowledged the hardships of exercising and encouraged viewers not to give up were particularly encouraging for exercise intentions. As an example, Participant 6 shared:

> *Not making it seem it is easy, just being honest. ... I think when people are real and raw, it is so much more impactful, and I can relate to that person. I could be like, "Yeah, I feel that exact same way. And what you are saying I relate with so much." That's going to make me want to work out.*

In addition, some participants mentioned that they felt motivated when they saw simple and short messages providing encouragement to work out. Such messages empowered viewers not to procrastinate with exercising. According to Participant 5:

> *I like seeing a lot of positive affirmation … like "you can do it," "you got this," "I believe in you." And when it's coming from someone who looks good, it makes you feel like they believe in me. That means I have potential to do this, too… So then, I might be waking up and … I don't want to get off this bed. But they're telling me I can do it, and then they probably posting a picture of them doing it. And I'm like, "Okay, I can do this."*

Furthermore, a few participants mentioned the value of seeing fitspiration captions describing progress in the fitness journey along with the messages framing exercising as one out of many various life dimensions. As an example, Participant 21 shared that she felt motivated to exercise when fitness influencers "talk about how they are really busy in their lives, doing other things and that this is not the only thing they focus on." Other followers discussed how guidelines about specific exercise in captions helped them incorporate it into their fitness routines. Such information was also helpful in starting some new types of exercises (e.g., weightlifting, powerlifting). Participant 23 said:

> *Educational type things, I do like that a lot. Or guidance, I guess, commenting about … how they* [fitness influencers] *sustain their workouts. That's really good for me because I don't really know how to work out myself. And I look on Instagram for help on that.*

Comments and Exercise Intentions

Although participants generally paid less attention to comments than captions and images, some individuals mentioned that reading health- and appearance-focused comments could be important for their exercise intentions. Furthermore, some participants added that they

checked comments to fitspiration images to understand how good the fitness advice from the post was.

Health- and Appearance-Focused Messages. Seeing health-focused comments can make the post promoting exercising as more convincing. Participant 3 said:

> *If a fitspiration person posted a workout routine, and then somebody who's a doctor, was like, "Oh my gosh, yes, this is so good for your health, just walking 30 minutes will, you know, boost your immune system," it kind of boosted their credibility, I 100% be more convinced and feel better about trusting them.*

On the other hand, some participants mentioned that appearance-focused comments could be demotivating for exercise intentions, especially when viewers praised the individual's body that was considered unattainable for viewers. According to Participant 21:

> *When some people are genetically predisposed to be able to build muscle very quickly while staying lean … and they post something like, "It's really easy, just lift and eat a lot of rice, and you can achieve this look." And I know that for the majority population that's not attainable, and it's definitely not attainable for me. ... And then along that seeing a lot of people worship that person for their body. I think that's a little detrimental to my motivation.*

Approval of the Recommendation. Some participants shared that they checked comments to decide how valuable the advice from the fitspiration post was. They paid particular attention to comments where other users shared their progress after following the advice from the posts. Furthermore, participants believed that such comments to fitspiration posts were helpful for their exercise intentions because they could give hope that it was possible to change or achieve specific results by following the advice from the posts. According to Participant 5:

I was watching this woman … and she looks good, but she looks healthy. … She was talking a little bit about her transition and how long it took her to actually start her journey to exercising. … It was simple, and the whole title was on how to lose weight by walking … And I was thinking in my head, "She can't be that good from walking." So, I read the comment section, and people are sitting there saying that they tried this for a couple of weeks, and it's been working well. And I think that's what really motivated me. ... It's really the comment section that gives most motivation, because if you see other people are approving this … and maybe sometimes you see their profile picture, it is like, "Wow, that's crazy, this walking exercise works for this person". … It kind of shows that they transitioned, and it's possible that you can transition too.

Perceptions of Fitspiration Posts: The Role of BMI (RQ5-6)

As indicated earlier, 20 individuals (51.3%) reported a BMI within the normal range, and 19 (48.7%) individuals reported a BMI within the high range. Five individuals with a BMI within the normal range and three individuals with a high BMI reported a history of eating disorders. The mean score for disordered eating attitudes on the 1-6 scale was 2.98 (*SD* = 1.07) among individuals with a BMI within the normal range and 3.75 (*SD* = 1.08) among individuals with a BMI within the high range. The average score for trait self-objectification on the 0-50 scale was 24.67 (*SD* = 11.94) and 25.11(*SD* = 17.32) for individuals with a BMI within the normal and high ranges, respectively. On average, participants with a BMI within the normal range were engaged in physical activity for 529.35 (*SD* = 324.73) minutes per week, which included walking, moderate, and vigorous exercising. In turn, participants with a BMI within the high range were engaged in physical activity for 430.56 (*SD* = 259.59) minutes per week. On the 1-7 scale, individuals with a BMI within the normal range reported the following scores on the

perceptions of various reasons as important for exercise: $M = 5.26$ ($SD = 1.09$) for appearance-related reasons, $M = 5.52$ ($SD = 1.05$) for health and fitness, $M = 4.78$ ($SD = 1.25$) for mood and enjoyment. Participants with a BMI within the high range reported the following scores on the importance of same exercise reasons: $M = 5.35$ ($SD = 0.98$) for appearance-related reasons, $M = 5.49$ ($SD = 0.85$) for health and fitness, $M = 5.49$ ($SD = 0.85$) for mood and enjoyment. In other words, participants with a BMI within the normal range considered health and fitness as the most important exercise reasons, whereas appearance, mood, and enjoyment were less important for them. In turn, participants with a high BMI ranked health, fitness, mood, and enjoyment as equally important, whereas appearance reasons were slightly less important.

Visual Fitspiration Features and Body Image Perceptions

RQ5 sought to understand whether there are any differences in how participants with a BMI within the normal range and participants with a high BMI perceived visual features in fitspiration. In general, there were some differences in how participants perceived facial expressions and described appearance-related cues in images as potentially affecting their body image perceptions.

Not having a clearly visible face as a potentially negative feature in images was mentioned mainly by the participants with a high BMI. This visual feature was not observed during the discussion of image features among the participants with a BMI within the normal range. For instance, when answering the moderator's question about negative visual cues for viewers' self-perceptions, Participant 14, who had a high BMI, shared:

> *Anything that is very much doesn't show their face or anything. ... It's very the ideal image of fitness: they are on the beach or something … and it's really focused on a specific body part or something like that. Especially with the no face thing to me too,*

because it doesn't feel like a person, it's very much just like, "Oh, you need to focus on this one part of your body to look like that". … I feel like when there's a faceless person, it's just like, this is just their body, this body part.

It needs to be noted that participants in both BMI groups discussed the importance of facial expressions in the context of exercise intentions instead. They perceived fitspiration images showing happy and smiling faces as encouraging for their exercise intentions. Thus, face as a visual cue was important for the participants in both groups. However, participants with a BMI within the normal and high ranges differently viewed the value of this image feature in fitspiration.

In line with the finding for Research Question 1 that the thin and fit body types may be potentially harmful to viewers, it is worth noting that the thin body type was mentioned as a negative cue for self-perceptions among the participants with a high BMI as individuals with such body types in the images set unrealistic or unhealthy examples for viewers to achieve. Participants often used phrases like "super skinny models" (Participant 5), "skinny" (Participant 2), "much thinner" (Participant 10), and "have like 2% body fat" (Participant 3) and suggested that such images can make them feel frustrated about their own fitness progress. Participant 3 perceived viewing images of thin individuals as torturing herself with "pictures of really skinny, insanely perfect like models might not even exercise that much were just born that way." Participant 16, who had a high BMI, also perceived the images depicting thin bodies in fitspiration to be bad for her and further explained:

A part of me wants to look like that. But then I have to remind myself that's not healthy. I would rather be healthy and feel a little overweight than to just not be eating at all because that's worse for you in the long run.

On the other hand, the participants with a BMI within the normal range rarely mentioned a thin body type and were more likely to use such words as "fit" (Participant 24), "really fit" and "muscular" (Participant 20), "super fit" (Participant 25), "a toned body" (Participant 38), "hour-glass-shaped" (Participant 39), "the perfect pair of abs," "toned arms and legs" (Participant 32). Participants with a BMI within the normal range also mentioned that images depicting fit and toned bodies were not necessarily negative as long as the viewers reminded themselves about the role of genetics or that "everybody is beautiful, each body is beautiful" (Participant 38).

It is also worth noting that when talking about appearance and body features that can be potentially negative for viewers, participants with a high BMI often used appearance-related words emphasizing the edited nature of the images: "edited" (Participant 2), "filtered" (Participant 14), "do photoshop" (Participant 2), "look skinner than they are" (Participant 10), "not realistic" (Participant 1), "fake" (Participant 9). Reference to the unrealistic nature of the images was rarely mentioned among the participants with a BMI within the normal range. In other words, participants with a BMI within the normal range, although had negative perceptions about the idealized body appearance in fitspiration images, were possibly less focused on appearance modifications in images.

Visual Fitspiration Features and Exercise Intentions

Specific to exercise intentions, participants with a BMI within the normal range discussed that their perceptions of the attainability of the body shape in the fitspiration images played an important role in their exercise intentions. They believed that seeing only the final appearance results of exercising in the images or viewing fitness influencers who spent most of the time exercising gave them perceptions of the depicted bodies as unattainable. In turn, such perceptions were discouraging for their exercise intentions. In contrast, viewing an individual in

a fitspiration image whose body shape at the starting point of the fitness journey looked similar to the participants was encouraging for participants' exercise intentions. For instance, Participant 33 said:

> *If I see a post that has a person, where I can identify features about them that are similar to my body type and then I can see that they're like really fit, then I think that those are … like motivating to do so …I have to be able to consciously pick those differences out. Like this is an attainable body for me, this is not an attainable body for me.*

It is worth noting that a few women with a high BMI also discussed the role of attainability perceptions in exercise intentions. However, such discussions centered on the attainability in terms of the ability to perform specific exercises depicted in fitspiration images as opposed to achieving a specific body shape. For instance, some participants said that they did not feel comfortable performing some exercises described in the posts that they perceived as unattainable due to their fitness levels. Furthermore, whether participants with a high BMI perceived exercising techniques as attainable or not also depended on the information provided in the captions and comments to fitspiration posts. For instance, Participant 9 shared that reading other users' comments about exercise modifications made her perceive an exercise from the post as more attainable.

Furthermore, participants with a BMI within the normal versus high ranges differed in their preferences for the transition (i.e., before-after) images for exercise motivation. Participants with a BMI within the normal range were more likely to mention images showing muscle gain. For instance, Participant 21 shared that she was not impressed seeing weight loss in fitspiration images because it was simple and easy for her to lose weight. Instead, she felt impressed and motivated when she saw changes in muscle growth because it was harder for her to gain muscles

than lose weight. In turn, participants with a high BMI tended to discuss weight-loss transition images as motivational for their exercise intentions. They felt particularly inspired by seeing an average type of body that they described as "the normal natural body and not necessarily like all abs and stuff like that" (Participant 19), "nothing super-skinny or super athletic," and with "normal body weight" (Participant 2).

Finally, a few participants with a high BMI emphasized the importance of seeing more ethnic and cultural representation in fitspiration in order to feel more supported in the fitness journey. Such discussions were not observed among the participants with a BMI within the normal range. Followers with a high BMI felt particularly encouraged to exercise seeing individuals in the images with similar ethnic backgrounds and body shapes. According to Participant 14:

> *It's very encouraging just in the aspect of wanting to exercise to see people who look like me in terms of like both ethnicity and body shape. Because I feel like a lot of fitness people that I do see are white and specifically influencers. And then also just seeing people who are working out, are mid-size, plus size, because I just don't see that a lot. When I see people at the gym, I'm very self-conscious of that when I do go to the gym. I'm just, "Oh, people are looking at me and stuff." So, it's very encouraging to see people who are like me because it's like I'm not alone.*

Similarly, another woman with a high BMI (Participant 18) mentioned preferences to see fitspiration images showing different women with various body types, races, and backgrounds:

> *I don't have any athlete that I look up to in the U.S. that comes from background that I come from. So, that's something that's important to me, like representation. Not just for my background but for all. All children growing up should have athletes that focus on*

strength, compared to what our culture has told me about being thin as like a standard of beauty.

Verbal Fitspiration Features for Body Image Perceptions and Exercise Intentions

The sixth research question sought to understand whether there were any differences in how participants with different BMIs perceived verbal features in fitspiration. The results indicated that those with a high BMI repeatedly expressed how body positive captions in posts were crucial for feeling good about themselves. Participants discussed various aspects of body positivity in fitspiration, such as loving one's body, feeling good in one's body, being healthy at every size, talking about the diversity of body shapes as beautiful, and reminding about the unrealistic nature of images. Discussions of these verbal messages in fitspiration were rarely observed among the participants with a BMI within the normal range. One woman (Participant 10) with a high BMI suggested that although including body positivity messages was generally a positive direction in fitspiration, it could backfire and trigger negative reactions from others. She shared:

> *I think body positivity … sometimes gets misinterpreted. People … on the Internet only accept body positivity from skinny people. But when they see people who don't fit their healthy models or their expectations of beautiful or what they find personally attractive, they'll tear them down even though everybody is beautiful. I tend to look at the comments* [to fitspiration posts] *and see if there's anybody hating. And I'll just attack them. If it is something bad about the body, I'll be like, "No! She's beautiful, that's none of your business!"*

Furthermore, some participants with a high BMI reported that they generally expected to see negative appearance-focused comments to images of individuals who did not have a perfect

body shape according to the social standards. Although participants did not discuss the effects of such comments on body image perceptions, they shared that comments containing negative appearance evaluations could make them feel sad. For instance, Participant 2 shared:

> *When I see someone is not actually completely fit and is doing something really cool, sometimes I look at the comments, and I see stuff like … "Why don't you lose weight?" And it's a bummer because I see that image, and I'm like, "Okay, this person is not perfect, I bet there are comments that are discriminating this person." And I'm right. And I look at them like, "Okay, this is super sad."*

At the same time, seeing how other online users opposed appearance criticism in fitspiration comments promoted more positive feelings among the participants with a high BMI. According to Participant 13:

> *I don't tend to read the comments too much, either. But when I do look, I look for the ones that are bashing the person. And then I look to make sure that people are standing up for whoever posted it. … It makes me happy to know that other people are also standing up for them.*

It needs to be noted that participants with a BMI within the normal range did not discuss appearance-criticizing comments to images of fitness influencers whose body shape did not match societal appearance standards. Only one woman (Participant 29) in this group said:

> *When I see other people's posts, especially like accounts who want to promote body positivity, I sometimes see negative comments that say negative stuff about the person in the post. But I tried to just ignore those … because there are people who say negative stuff.*

In regard to the verbal messages in fitspiration and exercise intentions, participants with both BMI groups shared similar feedback. As discussed earlier, both groups of participants mentioned that the information about health-related benefits of exercising was positive for their exercise intentions. They preferred seeing messages that promoted self-compassion in one's fitness journey and talked about the importance of body positivity to promote exercising. Furthermore, participants in both groups felt encouraged to exercise when different aspects of exercising (step-by-step guidelines, framing exercising as challenging) were mentioned in fitspiration captions. In regard to comments, some participants with both BMI groups mentioned that comments could serve as an indicator that the advice from the post was good for them. Considering that most participants generally paid less attention to comments, no substantial differences in the perceptions of comments were identified for viewers' exercise intentions across the two groups.

Discussion

Informed by objectification theory (Fredrickson & Roberts, 1997), the main goal of Study 1 was to examine perceptions of fitspiration content among followers and identify features of posts that may influence viewers' body image perceptions. Considering the main purpose of fitspiration to promote exercising efforts (Tiggemann & Zaccardo, 2018), this research also explored features of fitspiration content that could be promising to encourage exercise intentions. Importantly, informed by the MAIN model (Sundar et al., 2008; Sundar, 2015), this research attempted to understand the role of user-generated comments in addition to images and captions of fitspiration posts in triggering specific perceptions and promoting exercise intentions.

Overall, this study found that both visual and verbal features of fitspiration posts may contribute to viewers' body image perceptions and exercise intentions. This finding is

particularly important considering the mixed evidence from quantitative research on the effects of verbal messages in fitspiration posts (Davies et al., 2020; Prichard et al., 2018). In fact, findings from Study 1 indicated that some followers perceived verbal messages as more important than images and paid more attention to verbal messages than images. Therefore, it is vital to further explore the role of verbal cues paired with images in fitspiration.

Fitspiration Posts and Negative Body Image

Visual Features

Two visual features were particularly relevant for negative body image perceptions: objectifying cues and specific body types. In particular, fitspiration followers negatively perceived visually objectifying cues such as focusing on specific body parts, posing, not having clearly visible faces in the images. These findings are concerning because most fitspiration posts contain these features. As an example, Tiggemann and Zaccardo's (2018) content analysis found that 50.2% of female fitspiration images were focused on specific body parts; 67.3% of images included posing; and 31.1% did not include a clearly visible face. The results of this study are in line with objectification theory suggesting that objectified media images may be detrimental to viewers' self-perceptions (Fredrickson & Roberts, 1997). Importantly, the participants mentioned the examples of images focusing on various body parts (e.g., arms, abdomen, buttocks, legs) as detrimental. This might imply that as long as some body part is emphasized in a fitspiration image, such visual content may trigger negative self-perceptions among at least some viewers.

Posing (as opposed to exercising) was another prominent feature perceived as negative for body image perceptions by fitspiration followers in this study. Previous research has considered posing as an objectifying feature, as it can promote an emphasis on appearance and attractiveness instead of performance and functionality (Dafferner et al., 2019; Tiggemann &

Zaccardo, 2018). Similarly, this study also identified posing as a potentially harmful feature for viewers' body image perceptions. Participants explained that fitness influencers' posing in the images seemed to deliver the message that exercising is merely a tool to improve one's appearance and lose weight. These findings are concerning because having appearance-related reasons to exercise contributes to body image concerns (Tiggemann & Williamson, 2000; Vartanian et al., 2012) and disordered eating (Prichard & Tiggemann, 2008). Furthermore, viewing images containing posing of fitness influencers was perceived as dangerous as it could trigger a relapse of eating disorders. These findings show tentative evidence that posed fitspiration images are worrisome and can present serious public health concerns.

Interestingly, not including a clearly visible face in the image as a potentially detrimental feature was mentioned only by the participants with high BMIs, suggesting that they might be more sensitive to seeing "faceless" fitspiration images. Clearly visible face/head serves as an indicator of one's intellect, identity, and personality (Archer et al., 1983). Therefore, images depicting bodies without faces might deemphasize unique qualities (e.g., intellect) and attract more attention to the depicted body shape or weight (Archer et al., 1983; Fredrickson & Roberts, 1997). As the participants with high BMIs in this study indicated, such images created pressure to lose weight and triggered concerns about being overweight. Higher weight is a risk factor for perceived pressure to be thin and body dissatisfaction (Stice, 2002); therefore, participants with high BMIs might be more sensitive to cues that attract attention to body appearance.

Surprisingly, participants discussed sexualization in images as a positive feature overall and did not consider it as negatively impacting their self-perceptions. This finding is somewhat inconsistent with previous knowledge on objectification and sexualization. Objectification theory posits that exposure to sexually objectifying experiences (e.g., sexualizing media) leads to

viewing oneself as an object of evaluation by others (Calogero et al., 2011; Fredrickson & Roberts, 1997). In support of that, a meta-analytical review by Karsay et al. (2018) identified a positive link between the use of media that presented sexualized content and self-objectification. Additionally, sexualization has been viewed as a type of oppression of women (Brownmiller, 2013; Calogero et al., 2007) that functions to keep them in underprivileged status in society (Smolak & Murnen, 2011).

Positive perceptions about sexualization in fitspiration can be understood from the gender socialization perspective as girls learn from childhood that it is normative to be looked at and evaluated (Calogero et al., 2011). Because sexualization in American culture is viewed as a social norm (Smolak & Murnen, 2011), female fitspiration viewers may not always consciously realize the negative long-term outcomes of exposure to sexualized media content. Furthermore, perceptions of sexualized fitspiration images revealed by the current study may be explained by findings from some feminist research suggesting that sexualization in media content may not necessarily be negative (Lerum & Dworkin, 2009). Third-wave feminists consider that any choice (e.g., emphasizing a "sexy girl" appearance) is positive and view sexuality as a source of power. They admit the presence of societal rewards associated with women's sexualization and thus support its manifestation in society (McGhan, 2003; Lorber, 2010; Smolak & Murnen, 2011). Consistent with this line of feminist knowledge, it is possible that images of individuals who *choose* to be sexualized (i.e., self-sexualization) may be perceived as empowering and emphasizing the priority of one's desires and agency instead of appearance (Aubrey et al., 2017).

Echoing this knowledge, participants in our study used power-related phrases while talking about sexualization in fitspiration such as "claim their sex appeal," "owning their body," "can do whatever they want with their bodies," and "a woman being empowered by promoting

her body." It is worth noting, however, that previous experimental research did not find a significant link between viewing sexualized visual content and perceptions of empowerment (Aubrey et al., 2017). In view of the established negative consequences of viewing sexualized media content (e.g., Karsay et al., 2018; Karsay & Matthes, 2020; Linder & Daniels, 2018), more research is needed to understand the short-term as well as long-term outcomes of viewing sexualized fitspiration images.

Furthermore, BMI differences were noted in the perceptions of potentially harmful body types depicted in the images. Specifically, participants with high BMIs perceived images depicting thin bodies as most harmful and criticized fitspiration images for including highly edited content. They preferred to see an average body type in fitspiration content. These findings align with previous qualitative research suggesting that individuals with high BMIs saw thinness as an unrealistic and unachievable social norm that was mainly promoted by media (Couch et al., 2016). Viewing thinness-promoting images may pose risks to the mental health of individuals with high BMIs who may experience depressive symptoms when perceiving pressure from the media to look in a specific way (Jeffers et al., 2013).

Participants with BMIs within the normal range talked about a fit body in images as potentially but not necessarily deleterious for their self-perceptions. A fit body type that usually reflects thinness and muscularity has become a popular and desirable standard for many women (Gruber, 2007; Bozsik et al., 2018). Previous research suggests that a preference for the fit beauty ideal might be damaging for women's mental and physical health (Bell et al., 2016). In line with that, participants with BMIs within the normal range in the current study shared that seeing fit bodies in fitspiration images might trigger negative body image perceptions. It is possible, however, that more subtle distinctions in the *degree* of body fitness may affect viewers

to a different extent. In fact, participants in our study mentioned seeing "really fit" and "super fit" individuals in fitspiration as particularly harmful for them. According to Gruber (2007), the gradation of muscularity is an important yet underexplored construct in understanding perceptions of a woman's body ideal. Thus, more research is needed to understand how subtle features of a fit body type in fitspiration images may affect viewers.

Interestingly, participants with BMIs within the normal range shared that they felt less negative after exposure to fitspiration content depicting fit and toned bodies if they reminded themselves about the role of genetics and that each body is beautiful. This might imply that reminding about genetics or emphasizing beauty in a broad way might be a promising direction to mitigate negative outcomes of fitspiration, at least among individuals with the normal BMI range. These findings emphasize the potential of media literacy interventions developing critical processing of idealized images (McLean et al., 2016) to protect against negative outcomes of fitspiration content. In line with the recommendation to understand the role of critical processing during exposure to idealized images (Anixiadis et al., 2019), these findings point to the future direction to explore thoughts of viewers in different BMI categories during their exposure to fitspiration content.

Verbal Features

In addition to visual cues, this research found that appearance-related messages in fitspiration captions or comments could contribute to viewers' negative self-perceptions. These findings enrich previous quantitative research on the effects of appearance-focused verbal messages paired with idealized media images (e.g., Tiggemann & Barbato, 2020; Veldhius et al., 2014). This study, for the first time, identified specific types of appearance-related messages that fitspiration followers viewed as problematic: body-related discussions, fat shaming, and

appearance vulnerability messages. These findings align with objectification theory (Fredrickson & Roberts, 1997), suggesting that verbal objectification in social media context can be harmful to viewers' self-perceptions. Like the previous research suggesting that social media often contains fat-related derogation and teasing (Chou et al., 2014; Yoo & Kim, 2012), the findings of the current study implied that fitspiration posts also include fat-shaming messages. Because body and fat shaming perceptions are harmful to psychological wellbeing (Yoo & Kim, 2012), health communication researchers should focus on the ways to refute anti-fat perceptions in fitspiration.

Surprisingly, sharing information about appearance insecurities by fitness influencers in captions could trigger viewers' negative body image concerns. Recently, Reade (2021) has found that fitspiration followers admire fitness influencers who share messages about their own body image struggles as it helps viewers cultivate a connection with the influencers. The same study has emphasized, however, that fitness influencers need to be careful in the breadth and depth of their self-disclosure to stay inspirational (Reade, 2021). Although being vulnerable in fitspiration messages may not be a negative strategy per se, it is possible that referring to specific body parts in such messages (i.e., using verbally objectified language) can activate self-objectification and result in negative self-perceptions. These findings tentatively imply that fitness influencers need to carefully choose the verbal messages in fitspiration captions that are less likely to trigger appearance concerns.

In addition to captions, this study, for the first time, qualitatively examined fitspiration followers' experiences of viewing user-generated comments to fitspiration posts. Consistent with the MAIN model (Sundar et al., 2008; Sundar, 2015), the overall results indicated that comments could guide viewers in their interpretation of posts. Although user-generated feedback was a less frequently mentioned source of social influence than captions and images, it is important to note

that both positive and negative appearance-related comments were perceived as harmful. These findings inform the previous research on offline and online appearance conversations (e.g., Arroyo & Harwood, 2012; Becker et al., 2013; Wang et al., 2020b), suggesting that both positive and negative appearance-related comments to social media fitspiration posts can affect viewers negatively.

It is important to note that participants in this study often saw sexually objectifying language in user-generated comments to fitspiration posts. Objectification theory proposes that sexually objectifying experiences can pose a threat to viewers' self-perceptions and trigger negative mental health outcomes (Fredrickson & Roberts, 1997). Although fitspiration followers in this study did not report specific negative body-related outcomes associated with viewing such comments, they felt unpleasant and disgusted after viewing such messages. These findings indicate that sexually objectified user-generated comments may contribute to objectifying experiences of fitspiration; however, the specific outcomes of viewing sexually objectified comments (e.g., mood) need further examination.

Fitspiration Posts and Positive Body Image

Overall, the results of this focus group study demonstrate that viewing fitspiration posts can promote more positive body image perceptions; specific visual and verbal cues may be helpful to leverage the fitspiration content in a more positive direction for viewers. This is an important contribution to the literature, as previous research has focused predominantly on the negative outcomes of viewing fitspiration content (e.g., Prichard et al., 2020; Tiggemann & Zaccardo, 2015)

Visual Features

The present study identified three major themes in fitspiration images that could promote positive self-perceptions: realistic body features, similar body types, and non-appearance focus of exercising. First, participants perceived realistic body features (known as appearance "flaws"; Cohen et al., 2019b) and similarly imperfect bodies as cues that promoted normality of not looking perfect. Visual content with these features promoted perceptions of relatability and emphasized that happiness does not depend on body appearance. Realistic body features were often mentioned in the context of showing side-by-side posed and un-posed images, known as 'Instagram vs. reality' (Tiggemann & Anderberg, 2020). These image cues can be understood in the context of the core theoretical components of positive body image: promotion of body acceptance and protective filtering of information (Cohen et al., 2019b; Lazuka et al., 2020; Tylka, 2018). It is possible that realistic body features encourage viewers to accept their own appearance and trigger thoughts about the unrealistic nature of many fitspiration images, which can result in more positive body image perceptions. In line with the theoretical knowledge of positive body image, the results imply that fitspiration images with positive body image features may be less harmful to viewers' self-perceptions.

It needs to be noted, however, that more research needs to be conducted to understand how fitspiration content can contribute to positive body image. Even though fitspiration images may include realistic body features, such images may still be focused on appearance and promote anti-fat attitudes (Tiggemann & Anderberg, 2020). Tiggemann et al. (2020) have recently concluded that body positive messages combined with images of thin (as opposed to average-sized) women may promote less positive body image perceptions. It is also possible that the

suggested features of positive body image might be more beneficial when they are included in images depicting women with less idealized body types.

Non-appearance focus of exercising in the images was another important theme that could promote more positive body image perceptions. Participants believed that images of individuals exercising outside the gym framed exercising as a pleasurable and joyful activity. Such images were reported to demonstrate that exercising should not be perceived as punishment for enjoying food. Showing non-appearance aspects of exercising can be understood from the theoretical knowledge on positive body image, specifically adaptive body investment (i.e., investing in taking care of one's body; Tylka, 2018). Joyful exercise activity is an example of self-care behavior that can be considered as an act of kindness toward one's body (Tylka, 2018; Wood-Barcalow et al., 2010); exercising for non-appearance reasons (e.g., enjoyment, health) is also associated with positive body image (Tylka & Homan, 2015). In line with the construct of adaptive body investment, promoting exercising as a self-care and non-appearance behavior in fitspiration is a promising direction for forming positive body image perceptions.

Verbal Features

Two major themes were identified for fitspiration captions and comments relevant to viewers' positive body image perceptions: body positive and health-focused messages. First, verbal messages emphasizing specific aspects of positive body images were beneficial for viewers' self-perceptions. Such messages were focused on the diversity of bodies and uniqueness of each body, importance of inner characteristics (e.g., being a good person), and unrealistic nature of fitspiration images. In line with the theoretical knowledge on positive body image (Tylka, 2018), broad conceptualization of beauty and promoting protective filtering of information were the most salient verbal features in fitspiration posts that could benefit viewers'

positive body image. Interestingly, although these categories of positive body image mainly overlapped with the visual categories, certain aspects (e.g., beauty of inner characteristics) were unique for verbal but not visual fitspiration features. One plausible explanation for that may be related to the difficulty of visually depicting the beauty of inner qualities in fitspiration images. Thus, these findings extend the research on positive body image by showing that fitspiration verbal messages may provide a unique contribution above and beyond images for positive body image perceptions.

Additionally, fitspiration followers considered messages challenging the unrealistic nature of images in captions and comments as positive for their self-perceptions. Similar to the "Instagram vs. reality" images, such messages can remind viewers that no one is perfect (Tiggemann & Anderber, 2020), which can promote more positive self-perceptions. Importantly, participants discussed not only captions but also user-generated feedback as a reminder that social media images are fake. Consistent with the MAIN model (Sundar et al., 2008; Sundar, 2015), these findings show preliminary evidence that comments can guide viewers in how they perceive fitspiration images. However, experimental studies to understand whether comments can amplify or override perceptions of posts in particular directions would be a helpful addition to this line of research.

Finally, our findings extend previous knowledge on the role of body positive verbal messages on viewers (Davies et al., 2020; Tiggemann et al., 2020). Davies et al. (2020) found that fitspiration images with body positive messages focusing on body acceptance or the unrealistic nature of images were helpful for viewers' body esteem. Tiggemann et al. (2020) found no significant effects of idealized images combined with captions focusing on body love, uniqueness of everyone, or suggesting that life is more important than the body. Based on the

data from this focus group study, it is possible that various aspects of body positive messages may benefit viewers' self-perceptions to a different extent. For instance, participants in our study often discussed messages criticizing the unrealistic nature of images as helpful but never mentioned messages emphasizing that life is more important than body. Second, considering that body positive verbal messages were mainly mentioned by the individuals with high BMIs in our study, it is possible that body positive messages in fitspiration may not benefit individuals with lower BMIs to the same extent.

The findings of this study also show preliminary evidence that focusing on health in fitspiration verbal messages can benefit viewers' body image perceptions. In this study, participants perceived the health emphasis of exercising in fitspiration as a positive trend promoting lower pressure to look according to popular societal standards. Health-related verbal messages were discussed in the contexts of both captions and user-generated comments and included benefits associated with mental and physical health. From the perspective of objectification theory (Fredrickson & Roberts, 1997), triggering perceptions of exercising as a health-promoting instead of appearance-enhancing activity can prompt focus on viewing the body as an instrument to improve or maintain health. As a result, such fitspiration posts can elicit a less objectifying experience for viewers and promote more positive body perceptions. Furthermore, health-focused messages about exercising may remind viewers about exercising as a body care behavior. Fitspiration posts with such messages may exemplify adaptive investment in body care, a theoretical component contributing to positive body image (Tylka, 2018). Taken together, these findings provide preliminary evidence that health-focused messages combined with fitspiration images may have some protective value for viewers' self-perceptions.

It is possible, however, that emphasizing health aspects in fitspiration may lead to the perceptions that health is conflated with attractive appearance (Aubrey & Hahn, 2016), which might still be perceived as an objectifying experience. Indeed, a few participants in this study appreciated when health-focused messages in fitspiration emphasized that everyone can be healthy irrespective of body size and weight. Although this may somewhat imply that typical fitspiration images combined with health-focused messages may not always be beneficial, fitspiration followers often perceived verbal messages as more important than visual cues, including the depicted bodies. In view of the positive perceptions of health-focused messages and considering the frequency of health-related messages in fitspiration content (Simpson & Mazzeo, 2017), it is crucial to experimentally examine the value of health-focused messages as a potential intervention for positive body image perceptions.

Fitspiration Posts and Exercise Intentions

Visual Features

An important goal of this study was to understand the features of fitspiration posts that were particularly relevant for viewers' exercise intentions. Our findings suggest that exercise-related visual content, transformation images, similarity cues, and body-related features are particularly important themes for viewers' exercise intentions.

Consistent with the exercise-promoting goal of fitspiration, participants felt particularly encouraged to exercise when they saw images showing various techniques or types of exercising. Participants further explained that they could incorporate this knowledge into their exercise routine. These findings are consistent with the previous qualitative research stating that fitspiration content might be useful for obtaining ideas and tips about exercising (Easton et al., 2018). From the perspective of classic health behavior change research (Bandura, 1999;

Bandura, 2009; Kelder et al., 2015), knowledge about health behaviors is an important condition to perform the behavior. Indeed, some participants mentioned that fitspiration images gave them ideas about new exercise techniques that they later tried. Other participants shared that they tried new types of exercising (e.g., powerlifting) after viewing fitspiration images. Incorporating visual content focusing on the diversity of exercise types and strategies may be a crucial strategy to increase viewers' exercise-related knowledge and thus promote higher exercise intentions.

Furthermore, appearance transformation images were described as beneficial for viewers' exercise intentions. This finding can be explained using health promotion theories suggesting that perceptions of desirable benefits (e.g., transformation) resulting from the health-related behavior can increase the likelihood of engaging in similar behavior (Rosenstock, 1974). It is worth noting that transformation images, though beneficial for exercise intentions, may also trigger appearance focus as such images are likely to show appearance changes. In the current study, participants often gave examples of transformation images showing weight loss or muscle gain. If such images put high emphasis on body or body parts, then they can also pose a threat to viewers' body image perceptions, as suggested by objectification theory (Fredrickson & Roberts, 1997).

The findings indicate that a higher similarity between fitness influencers and the audience in various aspects (e.g., lifestyle, exercise resources) is a potentially positive feature that can promote exercise intentions. These findings are consistent with the research emphasizing the importance of using similarity cues in media messages to promote health-related behaviors (e.g., Lu, 2013; Malloch & Zhang, 2019). Interesting, many participants in the current study mentioned non-appearance similarity cues as encouraging for their behaviors. Because these cues emphasize aspects other than appearance, they may elicit less objectifying experiences for

viewers and consequently less negative body concerns. From the health-promotion perspective, focusing on similarity cues in media messages can increase viewers' confidence in the ability to perform a health-related behavior (Phua, 2016) and increase expectations of similar success when performing the same behavior (Kim et al., 2019). In line with that, participants in the current study mentioned that images showing similar individuals made them believe that they could perform the exercise. Such beliefs are important cognitive factors motivating health-related behaviors (Bandura, 1977; Kelder et al., 2015; Kim et al., 2019). Taken together, emphasizing non-appearance aspects of similarity in images may be a positive direction to leverage fitspiration as exercise-promoting without triggering unintended concerns.

Based on the results of this study, showing appearance-related cues in images may be negative for exercise intentions. Participants in the current study paid special attention to body-related cues such as faces, posing, and body modifications. Seeing clearly visible facial expressions in fitspiration images made viewers think about exercising as a tool to feel happier and be more self-confident, which motivated them to exercise. These findings may indicate that absence of clearly visible face as an objectifying cue may hide information for viewers that is valuable for their exercise intentions. Participants were also skeptical about posing in fitspiration images; such images did not provide practical exercise-related information and, therefore, were not encouraging for exercise intentions. Furthermore, perceiving bodies as artificially modified in images triggered thoughts about the unrealistic and unattainable nature of the depicted appearance, which was also demotivational for exercise intentions. These findings demonstrate that fitspiration images with certain objectifying cues may be harmful not only for body image perceptions but also exercise intentions. The knowledge on the potentially negative outcomes of visually objectified images for exercise intentions is a novel contribution of this study.

Experimental research may provide additional insights into understanding the link between objectification and exercise intentions.

Verbal Features

Fitspiration messages providing exercise-related information, body positive and self-compassion information, as well as information about workout benefits can be important for exercise intentions. The themes of verbal exercise-related messages generally aligned with the themes of the visual features that were important for exercise intentions. Similar to transformation images and images showing various exercises, participants preferred to see verbal messages about fitness progress and exercise instructions. In view of the similarities between visual and verbal exercise-related cues, it is likely that such features occur together in one fitspiration post (e.g., transformation image combined with a fitness progress message) and thus contribute to exercise intentions jointly. Experimental studies can further understand the conditions when exercise-related verbal and visual cues are particularly effective for viewers' exercise intentions.

Furthermore, some participants perceived short encouraging messages and messages acknowledging exercise hardship as positive for their exercise intentions. These findings are consistent with the theoretical knowledge on health behavior change suggesting that short verbal encouragements (e.g., "You can do this!") can bolster viewers' confidence in performing a health-related behavior (e.g., physical activity). In turn, increased confidence can promote behavioral engagement (Bandura, 1977; Pekmezi et al., 2009; Rosenstock, 1974). Additionally, acknowledging exercise hardships in verbal messages may be relevant for viewers' exercise intentions due to the potential of such messages to cultivate perceptions of relatability with a fitness influencer (Reade, 2021), which can facilitate higher health behavioral intentions

(Kosenko et al., 2016). These findings provide a novel contribution to exercise-promoting research of fitspiration and suggest new directions for experimental research on fitspiration message effects.

Another interesting insight from the current study is that body positive and self-compassion messages were beneficial for viewers' exercise intentions. Participants felt encouraged when they saw messages reminding viewers not to compare themselves with the fitness influencers or triggering self-compassion (i.e., perceptions of forgiveness of one's mistakes and self-kindness; Neff, 2003). Encouraging viewers to not compare themselves with fitness influencers aligns with the 'broad conceptualization of beauty' construct in positive body image (Tylka, 2011). These findings inform the research on body positive verbal messages in fitspiration (Davies et al., 2020), suggesting that specific types of body positive messages may not only benefit body image perceptions but also exercise intentions. The exact mechanism linking such type of messages with exercise intentions is yet to be experimentally examined.

The results of this study inform the nascent research examining the link between self-compassion messages and exercise intentions (Arigo et al., 2021). Although Arigo et al. (2021) did not find significant effects of self-compassion messages in fitspiration on viewers' exercise intentions, they suggested that the effects of self-compassion messages might be accumulated over time. Considering that fitspiration followers in our study shared their experiences of viewing fitspiration posts over time, our findings provide preliminary support for this explanation. Future research might consider longitudinal designs to understand the effects of self-compassion messages more accurately in fitspiration content.

The health belief model (Rosenstock, 1974) suggests that increased perceptions of specific benefits of a health behavior increase the likelihood of engaging in the target behavior.

In line with this, participants in the current study perceived verbal messages focusing on health benefits as motivating for their exercise intentions. Previous research found that perceptions of health-related benefits of exercise were linked to exercise intentions and behaviors among young adults (Ednie & Stibor, 2017; Fletcher, 2016; Ingledew et al., 2014). Furthermore, health-promotion research recommended emphasizing non-appearance (e.g., health) benefits of exercising as an effective intervention strategy to sustain exercising (Ingledew & Markland, 2008). Thus, emphasizing health-related benefits in fitspiration messages might be a promising direction to promote higher exercise intentions.

The findings also suggest that appearance-focused verbal messages in both captions and comments may be detrimental to viewers' exercise intentions. Participants indicated that discussing fitness influencers' appearance achievements in captions or comments was demotivational for their exercise intentions. A few followers shared that appearance-focused messages triggered thoughts about the unattainability of the depicted body or social desirability of the unattainable body shape, which was detrimental for their exercise intentions. These findings can be explained by goal formation research suggesting that "human behavior is driven by goals" (Kruglanski et al., 2018, p. 2), and perceived attainability of the goal is an important precondition to enact goal-related behaviors. Thus, it is possible that viewing appearance-focused messages can contribute to the perceptions that appearance goals are unattainable, resulting in lower exercise intentions. Furthermore, it is possible that exposure to appearance-focused discussions can make viewers think about the appearance motives of exercising, which are negatively linked to actual exercising (Ednie & Stibor, 2017). Taken together, the findings of the current study provided preliminary evidence that fitspiration followers' exercise intentions

can depend on the specific types of benefits (e.g., health vs. appearance) mentioned in fitspiration messages.

Theoretical and Practical Contributions

This study informs the knowledge on the use of objectification theory to understand the outcomes of viewing fitspiration content. First, this study has identified visually objectifying cues (e.g., not clearly visible face, posing) that may be particularly harmful to viewers' self-perceptions. An important contribution of this study is that sexualized cues in the images may not be perceived as explicitly negative by fitspiration followers. These findings tentatively suggest that the effects of visually objectified images on viewers' self-perceptions may depend on the specific objectifying cues that are present in fitspiration images. It is also possible that the negative effects of sexualized images on viewers' self-perceptions accumulate over time; therefore, viewers may not be aware of the negative effects of sexualized fitspiration images.

This research also extends understanding of the association between verbal objectification and negative body image. The results inform objectification theory suggesting that focusing on body and appearance in captions and comments can trigger negative body image concerns, and such messages stay in followers' memories. These findings demonstrate that verbally objectified fitspiration captions and comments might be potentially important sources of negative body image perceptions. It is, therefore, vital to further explore the role of verbal objectification in fitspiration captions and comments in triggering negative self-perceptions.

Study 1 informs objectification theory by qualitatively examining fitspiration followers' thoughts about objectified fitspiration content. Overall, the results suggest that fitspiration visual and textual content may promote the perception of body as an object of intervention and reinforce public beliefs that exercising is a tool to achieve better appearance. Though fitspiration

can be viewed as a valuable educational source of exercise-related information, some of its content may promote restricted views that individuals with certain appearances (e.g., larger body shapes) belong to unhealthy population (Jong & Drummond, 2016). To fully understand the relationships between objectification, fitspiration content, and outcomes, it may be beneficial for future research to link fitspiration followers' perceptions identified in Study 1 to that of fitness influencers. Recent research has found that 50% of fitness influencers feel negative at least sometimes when viewing fitspiration images (DiBisceglie & Arigo, 2021), which suggests that fitness influencers may not always have a positive mindset while they create or engage with fitspiration messages. If creators of fitspiration content are also not immune to the negative outcomes of such content, it is thus crucial to understand factors leading to fitness influencers' perspectives, health-related beliefs, and subsequent fitspiration content production and sharing.

The study also informed the knowledge on positive body image (Tylka, 2011; Tylka, 2018) by identifying important body positive message cues for social media users. Findings from this study suggest that specific themes in body positive messages (e.g., talking about inner traits) may benefit positive body image perceptions; however, such messages seem to be more relevant for individuals with high BMIs. An important finding of this study is related to using health-focused messages in fitspiration as a potentially helpful instrument to promote positive body image perceptions. From the positive body image perspective, health-related information in fitspiration posts may promote perceptions of exercising as a self-care behavior as well as thoughts about instrumental aspects of the body to maintain or improve health. Experimental research needs to be conducted to more accurately understand and confirm these findings.

This study also informs research on the health-promoting nature of fitspiration (Arigo et al., 2021; Sokolova & Perez, 2021) by identifying salient cues for viewers' exercise intentions.

An important contribution of this study is about *verbal* messages in fitspiration captions and comments that are perceived as positive for exercise intentions. Consistent with the classic health behavior change knowledge (Rosenstock, 1974), this study suggests that information about exercise benefits, specifically health-focused messages, may be helpful for exercise intentions. Considering that information about exercise-related benefits was perceived as important in both captions and comments, the next step would be to understand the effects of such messages in captions and comments on exercise intentions.

The findings of Study 1 contribute to advancing our knowledge about viewers' interpretations of idealized media content through the prism of intersectionality (i.e., the view that social experiences are shaped by many factors; Hill Collins & Bilge, 2016). Women's experiences of appearance pressures might differ depending on their various identities (e.g., cultural identity, social class, sexual orientation; Grogan, 2017). For example, African American women consider curvaceous and larger bodies as ideal (Awad et al., 2015); lesbian women have been found to experience lower appearance pressures from peers compared to bisexual and heterosexual women (Hazzard et al., 2019). Echoing knowledge on various factors contributing to individual experiences, some participants in Study 1 emphasized the important role of socioeconomic or structural factors (e.g., access to gym, free time) and cultural/ethnic identities in women's interpretations of their fitspiration experiences. Despite the importance of such factors, fitspiration content overall underrepresents individuals from ethnic minorities (Simpson & Mazzeo, 2016) and may ignore viewers' socioeconomic contexts (Jong & Drummond, 2016; Atherton, 2021). To promote equity in fitness-related support to all followers, it is crucial for fitspiration content to incorporate characters with greater cultural and socioeconomic diversity.

Furthermore, this study shows tentative support of the MAIN model (Sundar et al., 2008; Sundar, 2015), suggesting that user-generated comments can be an important social influence mechanism guiding viewers' perceptions of fitspiration posts. Importantly, user-generated comments were discussed as a social media tool that can affect viewers in the positive (e.g., exercise intentions) or negative (e.g., negative body image) directions. Due to the focus-group method used in the current study, it is not clear whether user-generated comments can affect viewers above and beyond fitspiration image and caption features. Therefore, the complex effects of comments in combination with images and captions need further examination.

At a practical level, the findings point to specific recommendations for effective exercise-promoting interventions using fitspiration content. It might be fruitful to incorporate the message features in fitspiration identified in this study which seemed promising for more positive body image perceptions and exercise intentions. For instance, fitness influencers can be informed about potentially beneficial features of fitspiration content for their viewers' physical and mental health outcomes, and they can further emphasize such content in their posts. However, experimental research is needed to confirm these findings before disseminating them through health interventions.

Study Limitations

The findings of the current study need to be interpreted in the context of some limitations. First, the focus-group approach limits the generalization of the findings to larger populations. Although the focus-group approach maximizes opportunities to provoke discussions (Morgan, 1996), it is also possible that some participants did not want to share their opinions due to social desirability pressures (Easton et al., 2018; Hollander, 2004). It is worth noting, however, that most of the participants (25 out of 39) contributed to focus group discussions by audio only (i.e.,

without showing their faces), and all participants used pseudonyms. This, to some degree, alleviated the social desirability concerns. Second, the findings from this study represent the views and experiences of individuals who frequently access fitspiration content; these results may not describe the experiences of social media users who view fitspiration content less frequently or unintentionally. This group of users was chosen intentionally to maximize the possible feedback about various visual and verbal cues in fitspiration. Third, there were no participants with a low BMI (i.e., below 18.5; CDC, 2021) despite the high number of young women ($N = 415$) who expressed interest in participating in this study. Thus, future research may build upon our findings to explore the perceptions of individuals in more diverse weight groups.

Study 1 also has several strengths. The sample of the participants was diverse in terms of geographical location and ethnicity/race, which provided an in-depth examination of various perspectives on fitspiration content. The focus group approach provided unique opportunities to share experiences on sensitive issues (e.g., the connection between viewing specific fitspiration content and eating disorders) that may not be fully understood using quantitative methods (Morgan, 1997). Finally, this research enabled comparisons between individuals in different BMI groups on their fitspiration-related experiences, providing additional insights about fitspiration cues that might be important for individuals in a specific BMI group. For example, depicting individuals with thin bodies in fitspiration images was a salient and negative feature for individuals with a high BMI, whereas depicting individuals with fit and muscular bodies was predominantly emphasized as potentially negative among individuals with a BMI within the normal range.

Conclusion

This research extends the understanding of visual and verbal message cues in fitspiration on body image perceptions and exercise intentions. Consistent with objectification theory, the study broadens the knowledge about the role of visual and verbal objectification in negative body image concerns. In line with the MAIN model, the study suggests that user-generated comments to fitspiration posts can be an additional social influence source guiding viewers in their perceptions of fitspiration posts. Importantly, the study has identified fitspiration cues, such as appearance-focused messages, that are potentially dangerous for both body image perceptions and exercise intentions. At the same time, the study has identified potentially positive fitspiration cues, such as health-focused messages, that might benefit viewers' body image perceptions and exercise intentions. To confirm and refine this knowledge, the next step of this dissertation is to experimentally test the effects of appearance- and health-focused messages in fitspiration captions and comments on viewers' body image perceptions and exercise intentions.

CHAPTER 4

STUDY 2: THE EFFECTS OF FITSPIRATION POSTS WITH APPEARANCE- AND HEALTH-FOCUSED CAPTIONS AND/OR COMMENTS ON BODY IMAGE PERCEPTIONS AND EXERCISE INTENTIONS

Self-Objectification in the Fitspiration Context

Although fitspiration content on social media tends to include visually and verbally objectifying elements (e.g., Deighton-Smith & Bell, 2018), experimental research on testing the mechanism of objectification theory in fitspiration is nascent. In one study, Chasler (2016) examined how exposure to fitspiration, operationalized as images of women with thin and toned bodies, affected viewers' state self-objectification compared to images of women who wore more clothes. During an after-study interview, participants in the fitspiration condition were significantly more likely to indicate that fitspiration images made them focus more on their body appearance (Chasler, 2016).

In another study, Prichard et al. (2018) experimentally examined whether specific visual and verbal cues in fitspiration posts on social media would trigger higher state self-objectification and negative outcomes of objectification. Specifically, the researchers examined the effects of fitspiration images that depicted bodies in a functional (i.e., exercising) versus nonfunctional (i.e., posing) way, with and without appearance-related image quotes. Although no significant effects on state self-objectification were found, viewing functional images in combination with appearance-focused texts resulted in lower body satisfaction for women with higher trait self-objectification (Prichard et al., 2018).

In a more recent study, Chansiri et al. (2020) tested the effects of viewing both fitspiration and thinspiration on viewers' sexual attitudes via a sequential mechanism involving state self-objectification. They found that viewing inspirational images (i.e., fitspiration and thinspiration) on social media triggered appearance comparison, which sequentially led to state self-objectification, greater body dissatisfaction, and ultimately resulted in lower sexual self-efficacy and higher sexual self-consciousness. This study suggested that state self-objectification could contribute to negative outcomes suggested by objectification theory after exposure to fitspiration and thinspiration content (Chansiri et al., 2020). Taking into consideration the objectifying nature of fitspiration content (Tiggemann & Zaccardo, 2018) as well as the research evidence that idealized images can trigger state self-objectification (e.g., Harper & Tiggemann, 2008), more research is warranted to understand how specific fitspiration features can provoke or prevent state self-objectification and the subsequent negative body-related perceptions. It is particularly crucial to understand how verbal messages paired with fitspiration visuals may contribute to perceiving fitspiration as a more or less objectifying experience (Chansiri et al., 2020).

Effects of Verbal Messages in Captions and Comments to Idealized Images

Considering the prevalence and widespread influence of fitness-related information on social media, there is an urgent need to further understand fitspiration by examining not only visual components but also the texts associated with fitspiration images (Deighton-Smith & Bell, 2018). Two experimental studies have examined the effects of verbal messages presented in captions to fitspiration posts. In one study, Lewallen (2016) examined the differences resulting from the exposure to Instagram images of young and fit women accompanied by body positive messages in captions ("Love and appreciate your body. It is the most amazing thing you will

ever own"), body negative messages (e.g., "My thighs need a divorce. Getting ready for bikini season"), or no captions. The results of the study indicated that participants who viewed images with body positive textual captions reported significantly higher self-esteem than participants viewing body negative textual captions. The specific body image perceptions, however, were not measured in the study (Lewallen, 2016).

In another study, Davies et al. (2020) compared the effects of viewing fitspiration images combined with captions emphasizing either fitspiration, body positive, or neutral theme. In the fitspiration caption condition, participants were exposed to aspirational messages that promoted exercise, fitness, and weight loss (e.g., "Every workout is worth it to achieve the perfect body"). In the body positive condition, participants viewed messages that encouraged body acceptance or highlighted the unrealistic nature of the image (e.g., "After editing it to death, I actually like this picture"). Participants in the neutral condition viewed verbal messages about image background (e.g., "Perfect weather"). The results of the study showed that participants in the body positive condition reported higher esteem about their weight and overall body than participants in the fitspiration and neutral caption conditions (Davies et al., 2020). These findings emphasized the importance to further understand how verbal messages delivered via the captions of fitspiration posts can alleviate potentially negative body perceptions.

Previous studies have examined how another type of verbal messages accompanying idealized images on Instagram, user-generated comments, can contribute to viewers' body image perceptions (Tiggemann & Barbato, 2018; Tiggemann & Velissaris, 2020). Tiggemann and Barbato (2018) found that viewing a set of images depicting attractive women in various locations combined with appearance-related comments (e.g., "Great legs") led to higher body dissatisfaction compared to viewing the same images paired with place-related comments (e.g.,

"Great beach"). It was concluded that anything that directs focus to appearance, even a comment, can lead to negative effects on body image (Tiggemann & Barbato, 2018). Additionally, in the Tiggemann and Velissaris's (2020) study, participants were randomly assigned to view a set of images of thin and attractive women either without comments, combined with a positive appearance comment (e.g., "You look so hot here"), or a positive appearance comment followed by a reality check comment (e.g., "She looks too fake") for each image. Viewing the attractive images combined with a positive appearance comment and a reality check comment resulted in lower body dissatisfaction than viewing images with positive comments only. At the same time, there were no differences in body dissatisfaction for those who viewed attractive images with or without appearance-related comments, which might be related to the possibility that the study was underpowered, as suggested by the authors (Tiggemann & Velissaris, 2020). So far, no study has directly examined the impacts of user-generated comments on viewers' perceptions in the context of fitspiration on social media.

Along with the body image outcomes, limited but growing research has highlighted the role of verbal messages in fitspiration posts in motivating exercise goals. There is some qualitative evidence that fitspiration verbal messages can serve as a booster to increase motivation to go to the gym (Easton et al., 2018). A recent survey study has suggested that focusing on the benefits of exercising effort in fitspiration is particularly encouraging for women's exercise goals (DiBisceglie & Arigo, 2021). In another study, Arigo et al. (2021) tested the effects of fitspiration images paired with a caption containing a traditional fitness-focused message (e.g., "Once you control your mind, you can conquer your body"), self-compassion message (e.g., "Believe in yourself and you'll be unstoppable"), or no text condition. The results indicated no significant differences between self-compassion and the other two conditions on

young women's exercise motivations and engagement. These mixed findings suggest that verbal messages in fitspiration might be a promising source of influence on viewers' exercise-related outcomes; however, additional information regarding specific types of fitspiration verbal messages would be informative for the purpose of promoting exercise-related outcomes.

Exercising for Body Appearance Versus Health

Previous research has found that fitspiration content may include messages that discuss exercising as a tool to improve appearance and promote health. For instance, Simpson and Mazzeo (2017) found that, for fitspiration messages on Pinterest, becoming more attractive was the most frequently mentioned outcome of exercising, followed by health improvement. Ratwatte and Mattacola (2021) performed thematic analysis on YouTube fitspiration videos and identified appearance benefits and health benefits as two prevalent themes. Similarly, Participants in Study 1 shared some positive feedback about various health-related messages in fitspiration posts and discussed how appearance-focused messages may trigger negative perceptions. How viewers would react to different benefits of exercising presented in the fitspiration content, however, has not been thoroughly understood.

From the perspective of objectification theory, discussion of appearance benefits of exercising can be a form of verbal objectification, which may activate state self-objectification and trigger negative outcomes (Calogero & Pina, 2011; Calogero et al., 2014; Roberts & Gettman, 2004). In contrast, emphasizing exercise benefits for health may be a plausible intervention to promote positive body perceptions (Homan & Tylka, 2014; Tiggemann & Barbato, 2018). Exercising for the health benefits is a common goal among women with positive body image (Wood-Barcalow et al., 2010). The health of the body is an aspect of 'body functionality,' a component of body image that refers to everything that the body can do (Alleva

et al., 2014; Alleva et al., 2015). Because focusing on body functionality can decrease self-objectification (Alleva et al., 2015), reduce negative and promote positive body image perceptions (Alleva et al., 2016; Calogero et al., 2014), emphasizing health benefits of exercising may encourage viewers to focus less on appearance and prioritize functional aspects of the body (Robinson et al., 2017; Tiggemann & Barbato, 2018).

Though not directly related to fitspiration, there is some evidence that messages emphasizing appearance versus health benefits of engaging in health behaviors can affect body perceptions differently. Viewing YouTube videos that emphasize appearance benefits in the context of promoting health-related behaviors such as doing yoga, drinking water, or using sunscreen activates state self-objectification and triggers appearance anxiety among younger girls (Aubrey et al., 2020). Exposure to articles that describe the health (as opposed to appearance) benefits of healthy activities triggers lower body shame among women (Aubrey, 2010). Furthermore, exposure to health-related articles about exercising leads to perceptions that fitness is more important than body weight (Pankratow et al., 2013). These findings demonstrate positive consequences of viewing health-focused verbal content and negative consequences of appearance-focused verbal content. However, the effects of such messages combined with fitspiration visuals are yet to be examined.

To address this gap, Study 2 investigates how the different emphases, specifically health benefits versus appearance benefits, in the captions and user-generated comments accompanying a fitspiration post can affect viewers' body image perceptions and exercise intentions. Responding to the scholarly call to consider negative and positive aspects of body image as two separate constructs, this study investigates the direct and indirect effects of fitspiration posts on negative and positive body image perceptions via changing viewers' state self-objectification.

The study focuses on the state body dissatisfaction construct for several reasons. The negative link between exposure to fitspiration content and body dissatisfaction has been established in multiple experimental and cross-sectional survey studies (e.g., Fardouly et al., 2018; Prichard et al., 2020). Given that the overarching goal of this research is to understand how fitspiration content can be made to better benefit viewers, it is important to examine factors that may lead to body dissatisfaction in order to more effectively avoid these undesirable consequences. Furthermore, body dissatisfaction is linked to mental health risks, including depression and eating disorders (e.g., Brechan & Kvalem, 2015; Ward & Hay, 2015). Identifying ways to reduce body dissatisfaction produced by exposure to fitspiration content may help mitigate negative mental health-related outcomes.

In addition, this study also focuses on state functionality appreciation. Although emerging fitspiration research has operationalized positive body image as body appreciation (Barron et al., 2021; Dignard & Jarry, 2021; Slater et al., 2017), functionality appreciation (i.e., another distinct facet of positive body image) might be more relevant in the context of this study. Unlike body appreciation that focuses on broader positive perceptions of one's body, functionality appreciation reflects positive perceptions of body capabilities, and thus it is a distinct component of positive body image (Alleva & Tylka, 2021; Tylka, 2018). Fitspiration messages related to health reflect a functionality-related aspect of exercising (Alleva et al., 2015) and might thus activate thoughts about body capabilities to maintain or achieve better health through exercising. Furthermore, functionality appreciation is a novel and promising direction to promote better mental health and wellbeing that needs further exploration (Alleva & Tylka, 2021; Rosenbaum et al., 2020). By focusing on functionality appreciation, this study provides unique insights on positive body image in fitspiration that might be valuable for promoting better

mental health outcomes. Of note, *state* body dissatisfaction, functionality appreciation, and self-objectification will be used and assumed hereafter unless the trait aspect (e.g., *trait* self-objectification) is explicitly indicated.

Based on the potential of health-focused messages to promote positive body image perceptions (Aubrey, 2010) and previous findings on the negative consequences of verbally objectifying content in the idealized social media images (Tiggemann & Barbato, 2018), it is thus hypothesized that when viewing an objectified fitspiration image,

H1: Exposure to a *health-focused caption/comments*, compared to an *appearance-focused caption/comments* accompanying the image, will lead to a) lower body dissatisfaction and b) higher functionality appreciation.

In addition to investigating the relative effects between health- versus appearance-focused verbal messages, their absolute effects compared to the baseline (i.e., viewing the fitspiration image only) will be examined. As discussed in Study 1, health-related messages can distract viewers' focus from the character's appearance in an image, which might be contributing to less negative outcomes on viewers. In contrast, viewing appearance-related messages might serve as an additional reminder about appearance, which could produce an additive effect compared to viewing an image alone. Based on the findings in the existing literature discussed earlier as well as findings from Study 1, the following hypotheses are proposed:

H2: Compared to viewing the objectified fitspiration *image only*, exposure to a *health-focused caption/comments* accompanying the image will lead to a) lower body dissatisfaction and b) higher functionality appreciation.

H3: Compared to viewing the objectified fitspiration *image only*, exposure to an *appearance-focused caption/comments* accompanying the image will lead to a) higher body dissatisfaction and b) lower functionality appreciation.

Moreover, the current study also aims to understand how different focuses of the verbal messages may impact viewers' exercise intentions. Classic theories of health behavior change (e.g., Rosenstock, 1974) posited that an individual's course of action often depends on their beliefs about the benefits and barriers related to engaging in the health behavior. Focusing on presenting the benefits of being active is considered an effective persuasion strategy to promote physical activity (Latimer et al., 2008). Although some research on fitspiration indicates that women prefer to see fitspiration posts emphasizing the benefits of exercise (DiBisceglie & Arigo, 2021), mixed patterns were observed regarding the potential of fitspiration content in promoting exercising outcomes (Prichard et al., 2020; Robinson et al., 2017; Tiggemann & Zaccardo, 2015). From the health promotion perspective, exercising is an important contributor to both physical (e.g., reduced risk of cardiovascular diseases) and mental health (e.g., reduced anxiety; Rodgers, 2018). Therefore, the link between fitspiration content and exercise intentions presents an important public health direction to promote better physical and mental health outcomes. In view of that, this study proposes to examine the following research question:

RQ1: Will viewing a *health-focused caption/comments* versus *an appearance-focused caption/comments* versus the objectified fitspiration *image only* produce significantly different exercise intentions?

Social media users often view fitspiration images with both the accompanying captions and user-generated comments. Davies et al. (2020) has emphasized the need to understand the joint or interactive impact of captions and user-generated comments when viewing idealized

images. Based on the propositions of the MAIN model (Sundar et al., 2008; Sundar, 2015), user comments may enhance the effects of the main message (e.g., the verbal message in the caption created by the author of the post) on viewers' perceptions. Extending the research on the bandwagon effects of user comments with different features (e.g., valence, Kim, 2021), this study proposes that comments will amplify the effects of the caption on body image perceptions when both the caption and the comments have the same focus on the benefits of exercising. More specifically, when both the caption and the comments emphasize the health benefits of exercising, comments will enhance the protective effects of the caption on viewers' perceptions of the fitspiration post. On the other hand, when both the caption and the comments emphasize the appearance benefits of exercising, comments will enhance the harmful effects of the caption. It is therefore hypothesized, when viewing an objectified fitspiration image:

H4: Exposure to both a *health-focused caption* and *health-focused comments* will lead to a) lower body dissatisfaction and b) higher functionality appreciation, compared to viewing a *health-focused caption* alone.

H5: Exposure to both an *appearance-focused caption* and *appearance-focused comments* will lead to a) higher body dissatisfaction and b) lower functionality appreciation, compared to viewing an *appearance-focused caption* alone.

On the other hand, considering the powerful social influence exerted by user-generated comments as proposed in the MAIN model (Sundar et al., 2008), comments are likely to mitigate or override the effects of the caption message when the focuses of the caption and the comments are different:

H6: Exposure to a *health-focused caption* and *appearance-focused comments* will lead to a) higher body dissatisfaction and b) lower functionality appreciation, compared to viewing a *health-focused caption* alone.

H7: Exposure to an *appearance-focused caption* and *health-focused comments* will lead to a) lower body dissatisfaction and b) higher functionality appreciation, compared to viewing an *appearance-focused caption* alone.

To date, no study has examined how captions and comments accompanying fitspiration images may interact to influence exercise intentions. First, it is not known whether the effects of the two message types (i.e., captions vs. comments) in fitspiration posts would override, offset, or amplify one another when their joint or interaction effects are examined. Furthermore, it is unclear how various combinations of content foci (i.e., health vs. appearance) of the two message types (i.e., captions vs. comments) can interact to influence viewers' exercise intentions. Thus, the following question is proposed:

RQ2: How will the caption and the comment, with the same or different focuses (i.e., health- or appearance-related), interact to influence viewers' exercise intentions?

Considering the objectifying nature of fitspiration content (Tiggemann & Zaccardo, 2018), state self-objectification will be examined as the mediator between exposure to fitspiration posts and body image perceptions. Previous findings suggest that appearance-related words can trigger state self-objectification (Roberts & Gettman, 2004) whereas health-related messages can decrease attention or focus on appearance (Study 1). Additionally, state self-objectification was observed to negatively influence body image perceptions (Aubrey et al., 2020; Calogero & Pina, 2011). Combining these findings, the following hypotheses are advanced:

H8: State self-objectification mediates the effects of exposure to the caption/comments accompanying an objectified fitspiration image, on body image perceptions, such that an *appearance-focused caption/comments* will trigger higher state self-objectification, which in turn lead to a) higher body dissatisfaction and b) lower functionality appreciation, compared to a *health-focused caption/comments* or *the image only* condition.

In addition to examining the above mediational pathways separately for captions and comments, it is important to understand if the mediation effects may vary depending on the different combinations of captions and comments as well, particularly considering that exposure to both captions and comments is more likely to resemble online users' real-life experiences when they view fitspiration posts, compared to exposure to only one of the two message types. Interestingly, the objectification theory and the MAIN model diverge on predictions of how different combinations of caption and comment may influence outcomes. Based on the objectification theory, the presence of verbally objectifying cues in either captions or comments alone may be sufficient to elicit viewers' self-objectifying perceptions. From the perspective of the MAIN model, the effects of verbally objectifying language in captions on self-objectifying perceptions may differ depending on the content focus of comments (e.g., health-focused comments might mitigate the effects of appearance-focused captions). Therefore, the following research question is proposed to examine a potential moderated mediation relationship:

RQ3: Will the mediation above be moderated by the different combinations of the caption and the comments focuses?

The proposed model can be found in Figure 4.1 below.

Covariates

BMI, trait self-objectification, disordered eating attitudes, and age serve as covariates in the analyses. As discussed earlier, research suggests that the effects of media on body image can vary depending on participants' weight (e.g., Tiggemann, 2003), and it is important to consider individuals' BMI in the fitspiration research (Easton et al., 2018; Prichard et al., 2018). Women with higher trait self-objectification may be more sensitive to triggers of objectified cues from the environment (Tiggemann & Andrew, 2012). Higher scores on trait self-objectification have been found to influence the effects of exposure to fitspiration messages (Prichard et al., 2018). Trait self-objectification is also linked to state self-objectification (Aubrey, 2020) and body image concerns during exposure to idealized images (Tiggemann & Barabato, 2018). Therefore, it is important to take into account the influence of trait self-objectification in our analysis.

Because body image is a central concern for individuals with eating disorder symptoms (Griffiths et al., 2018), they may react differently even to the same fitspiration message features compared to those who have no eating disorder tendency. Therefore, this study will control for the effects of disordered eating attitudes (i.e., a widely used measure of eating disorder tendency; Ocker et al., 2007), which were found to be linked to body image concerns (Aparicio-Martinez et al., 2019) and self-objectification tendency (Tiggemann & Slater, 2001). Finally, this study will control for the effects of age as it was found to correlate with body image perceptions (Tiggemann & McCourt, 2013; Swami et al., 2008) and moderate the effects of media messages on state self-objectification (Aubrey et al., 2020).

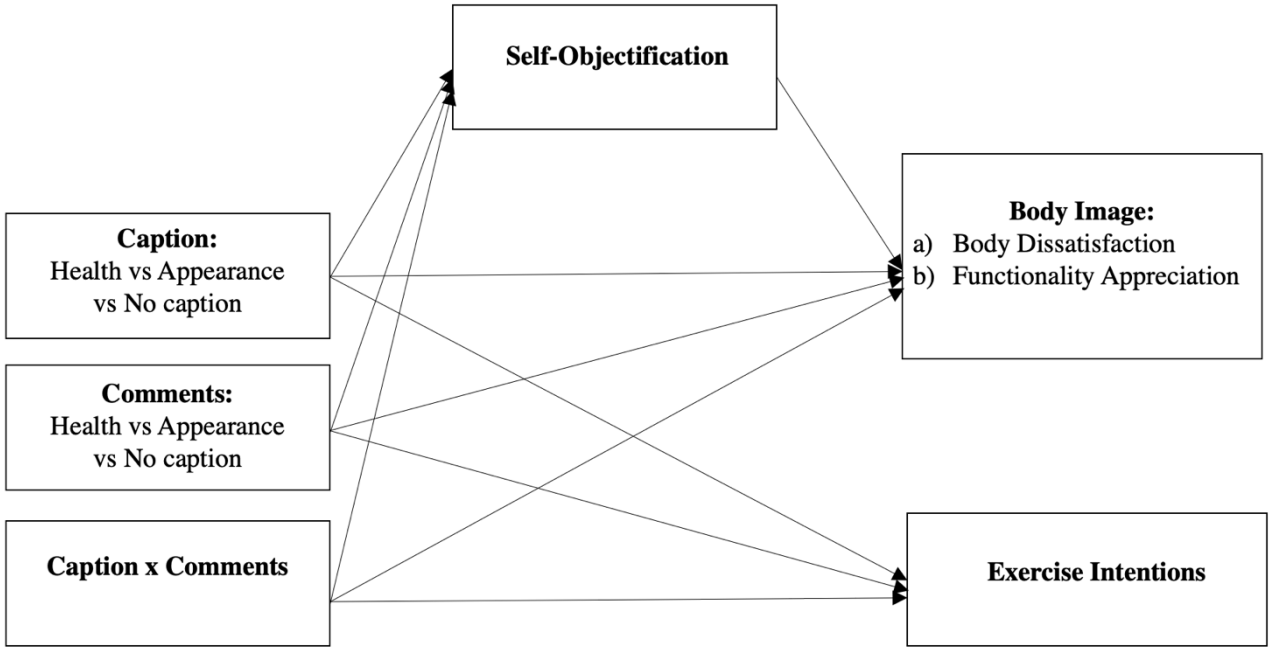

Figure 4.1 The proposed model to predict body image perceptions and exercise intentions

Method

Participants and Procedures

To estimate sample size, an a priori power analysis was conducted using G*Power 3.1. Considering that G*Power does not provide estimates for MANCOVA, MANOVA estimates were considered for the final sample size. By using $\alpha = .05$, power = .90, and the effect size parameter $f^2 = 0.02$, which is a small effect size according to Cohen (1988), the estimated total sample size was 396 for MANOVA global effects and 482 for MANOVA special effects and interactions. Based on these estimations, a total sample of 495 participants (i.e., 55 individuals per condition) was aimed for to identify a small effect size.

The proposed experiment employed a 3 (Captions: health benefits vs. appearance benefits vs. no caption) × 3 (Comments: health benefits vs. appearance benefits vs. no comments) full-factorial between-subject design. Given that young women are particularly vulnerable to the

negative effects of idealized media (Fardouly & Vartanian, 2016; Tamplin et al., 2018), eligible participants were defined to be women between the ages of 18 and 25 who were users of Instagram at the time of the study. The study was conducted online; pretests of images, captions, and comments for the stimuli were conducted among 50 participants, which will be described below (see Appendices F, G, H for images, verbal messages, and the pretesting survey). The sample for the main study was recruited using Amazon's Mechanical Turk (M-Turk). Participants of the M-Turk platform are more diverse and representative than college and convenience samples often used in experimental research. Using M-Turk participants to replicate previous experimental studies with nationally representative and convenience samples has been found to produce similar average treatment effects (Berinsky et al., 2012; Buhrmester et al., 2011). Consistent with the previous practices for obtaining high-quality data on the M-Turk platform (Liu & Shi, 2019; Peer et al., 2014), the sample included the participants with high reputation (above 95% approval ratings with being approved more than 100 times).

Participants first read the consent form and indicated their agreement to participate in the study. As a part of the screening procedures, participants were asked about their gender, age, and Instagram use. Eligible participants then completed an online study where they were randomly assigned to view a fitspiration post from one of the nine experimental conditions (see Appendix I): 1) image only (control condition); 2) health-focused caption; 3) appearance-focused caption; 4) health-focused comments; 5) appearance-focused comments; 6) health-focused caption and comments; 7) appearance-focused caption and comments; 8) health-focused caption and appearance-focused comments; 9) appearance-focused caption and health-focused comments. The number of comments was chosen to be consistent with a recent study examining the role of comments as bandwagon cues in the context of idealized images (Kim, 2021). After viewing the

fitspiration post, participants completed a questionnaire where they indicated their scores on state self-objectification, body dissatisfaction, functionality appreciation, exercise intentions. Participants' trait self-objectification, disordered eating attitudes, BMI, frequency of Instagram use and fitspiration exposure, the current level of physical activity, exercise reasons, and demographic characteristics were also assessed (see Appendix K for details of measurement). To ensure that participants indeed attended to images and the verbal content, they were informed that they would answer some questions about the given post after viewing it. All participants received $2.15 compensation for their participation. See Appendices J and K for the M-Turk eligibility and main surveys.

Stimulus Materials

Image Pre-testing

Considering that the overarching goal of this research was to examine how verbal messages can be used to mitigate the potential negative effects of a fitspiration post, it is important that the stimuli image is perceived as a typical fitspiration image people would normally encounter on social media, but also is likely to elicit negative outcomes. Given prior findings that fitspiration content is likely to produce negative outcomes when objectifying features are present (e.g., Carrotte et al., 2017), the current study focused on identifying a typical and objectified fitspiration image to be used for stimuli creation.

The image part of the fitspiration post was pre-tested (see Appendix F for all images). Relying on content analytical research on potentially harmful visual cues of fitspiration (Carrotte et al., 2017; Deighton-Smith & Bell, 2018; Tiggemann & Zaccardo, 2018) and the problematic visual features of fitspiration identified in Study 1, ten fitspiration images with potentially

detrimental features were selected by searching through retrieved images using fitspiration and fitspo hashtags on Instagram.

Adapted from Slater et al. (2017) and Aubrey et al. (2009), the pre-test of the ten images was conducted among $N = 50$ young adults (18-25 years old, $M = 19.34$, $SD = 1.36$) who were female Instagram users recruited from the University of Georgia Communication Studies undergraduate research pool. Most of the participants (92%) were White; 86% of them used Instagram multiple times a day.

Consistent with previous pilot testing of fitspiration images, participants first read the following definition of fitspiration: "The term 'FITSPIRATION' is based on the words 'fitness' and 'inspiration,' and it is usually applied to images that were created to motivate people to exercise. Images of this term usually depict women who wear workout clothes and have very fit and toned bodies. Women in fitspiration images tend to either engage in exercising or passively pose in front of the camera" (Slater et al., 2017). Participants were then asked to indicate the extent to which each image corresponded to the definition. Participants also indicated whether an image was commonly seen on Instagram and whether it was typical of the images one would see on Instagram. Next, participants read the definition of sexual objectification (i.e., "The term 'SEXUAL OBJECTIFICATION' refers to the experiences whenever a woman's body, body parts, or sexual functions are separated from her person, reduced to the status of mere instruments, or regarded as if they were capable of representing her"; Fredrickson & Roberts, 1997, p.174). Following prior practice (Aubrey et al., 2009), participants indicated the degree of sexual objectification for each image.

The results showed that all fitspiration images matched the definition of fitspiration, with the mean scores ranging from 4.56 to 6.12 on a 7-point scale. In other words, the participants

generally agreed at least somewhat that the stimuli could be considered as fitspiration images. Considering the major goal of this study to understand the ways in which negative outcomes of viewing objectified fitspiration images can be mitigated, the objectification of the individual in the image was the focal criterion for the fitspiration image selection. Specifically, images 4, 5, and 3 (see Appendix F for the images) had the highest scores on objectification (see Table 4.1). Paired *t*-tests showed significant differences between the aggregated mean objectification scores (M= 5.64, SD = 3.15) of these images and the other images (M= 4.23, SD = 2.57), $t(49) = 7.85$, $p < .001$. No significant difference was detected among the three images on the objectification scores: $t(49) = 1.12$, $p = 0.27$ (images 4 and 5); $t(49) = 1.16$, $p = 0.25$ (images 3 and 4); $t(49) = 0.42$, $p = 0.67$ (images 3 and 5). Thus, based on the criterion of objectification scores, images 3,4,5 were preferred as more optimal stimuli than the other images.

Table 4.1

Scores for Each Image on Objectification

Image	**Mean**	***SD***
10	3.18	2.52
6	3.70	2.88
1	4.54	3.09
9	4.82	2.99
2	4.92	3.00
7	4.92	3.00
8	5.28	3.17

4	**5.40**	**3.40**
5	**5.72**	**3.30**
3	**5.80**	**3.36**

Note: Images are organized in ascending order according to means. Means of the images are shown on the scale from 0 (*not at all objectifying*) to 10 (*extremely objectifying*).
Rows for images considered for the final stimuli were bolded.

Next, images 3, 4, and 5 were examined against the criteria of whether they were considered as typical and commonly seen images on Instagram. Among the three images, image 3 had the highest scores on both measures (see Table 4.2 for details). Therefore, image 3 was selected as the stimulus image for the main study.

Table 4.2

Scores for Images 3,4,5 on the Additional Criteria

Image	Criteria			
	Being a Typical Image on Instagram		Being Commonly Seen on Instagram	
	Mean	*SD*	Mean	*SD*
4	4.66	1.87	4.88	1.80
5	5.50	1.58	5.62	1.61
3	**5.88**	**1.30**	**6.12**	**1.02**

Note: Images are organized in the ascending order according to the means.

Text Conditions

The procedure for creating textual stimuli for captions and comments was adapted from Kim (2021). Verbal messages in captions and comments were created by modifying the actual captions and comments to fitspiration posts on Instagram. Actual verbal messages were identified by carefully examining public social media posts with the fitspiration and fitspo hashtags. Two captions and four comments that discuss the benefits of exercising were chosen for further modification. Each verbal message was modified to produce two separate messages that emphasized either health or appearance benefits. The final set of verbal messages (Appendix G) included two caption pairs (i.e., two appearance-focused and two health-focused messages) and four comment pairs (i.e., four appearance-focused and four health-focused comments). This set of verbal messages was pre-tested among the same 50 participants to make sure the focus of the messages (i.e., health vs. appearance) was interpreted correctly as intended.

Two pairs of captions (Appendix G, Table G1), each containing a health- and an appearance-focused message, were pretested with a 7-point Likert scale (1 = *strongly disagree*, 7 = *strongly agree*) to identify the best pair of messages to be used as the caption stimuli in the main study. The results showed that in both pairs, appearance-focused messages had significantly higher scores on appearance emphasis compared to health-focused messages, $t(49) = 6.40$, $p < .001$ and $t(49) = 15.86$, $p < .001$, respectively. Similarly, health-focused messages had significantly higher scores on health emphasis compared to appearance-focused messages in both pairs of captions, $t(49) = 18.91$, $p < .001$ and $t(49) = 10.91$, $p < .001$ respectively. Therefore, health- and appearance-focused captions produced the intended effects. The average scores can be found in Table 4.3. Open-ended responses suggested that some participants found the first pair of captions to be ambiguous. The second pair was therefore selected to be the final caption

stimuli used in the main study: *"It is amazing how exercising positively affects my body shape, weight control, and muscle growth. This is a reminder that exercising is so important to make us look great!"* (Appearance-focused) and *"It is amazing how exercising positively affects my sleep quality, stress control, and energy level. This is a reminder that exercising is so important to keep us healthy!"* (Health-focused).

Table 4.3

Scores for Caption Pairs on Appearance and Health Focus

Caption Pair	Caption Focus	Score on Appearance Focus		Score on Health Focus	
		Mean	*SD*	Mean	*SD*
1	Appearance	6.18	1.85	1.42	1.31
	Health	3.24	2.02	6.72	0.93
2	Appearance	6.44	0.73	3.62	1.94
	Health	2.20	1.62	6.68	0.74

Note: Scores are rated on a 7-point Likert scale, 1 (*strongly disagree*) to 7 (*strongly agree*).

Pretests of comment focus (i.e., health vs. appearance), conducted with the same group of 50 participants, showed that the group of appearance-focused comments ($M = 6.67$, $SD = 0.47$) had a significantly higher score on appearance emphasis than the group of health-focused ($M = 2.03$, $SD = 1.19$) comments, $t(49) = 22.52$, $p < .001$. In turn, health-focused comments ($M = 6.83$, $SD = 0.32$) showed a significantly higher score on health emphasis than the appearance-focused ($M = 3.03$, $SD = 1.24$) comments, $t(49) = 21.67$, $p < .001$. Thus, health- and appearance-focused

comments produced the intended effects and were used in the main study (see Appendix G, Table G2 for all comments). An example of the appearance-focused and health-focused messages for final comments stimuli were: *"With regular exercising, I am becoming more attractive! I have a sexy body, and it looks good!"* and *"With regular exercising, I am able to better manage my blood pressure! I have more energy, and it feels good!"*

Stimuli Creation

Adobe Illustrator was used to create a mock Instagram post. Verbal messages presented in the caption were placed under the fitspiration image and were marked in bold to visually emphasize the distinction between caption and comments. The four comments were placed in the comment section to the right of the fitspiration image. The caption and the comments were designed to be placed at different locations (relative to the fitspiration image) of the post, further distinguishing the caption and the comments on each post. The four comments were formatted so that each comment was presented following a mock female username. The order of the four comments was determined in advance using an online research randomizer (see Appendix I for all final stimuli).

Measures for the Main Study

Manipulation Check

Adapted from Aubrey et al. (2020), participants were asked to indicate (1 = *strongly disagree*, 7 = *strongly agree*) whether the captions and the comments respectively emphasized the health or appearance benefits of exercising using the following items: "The topic of this caption/comment centered on health [appearance] benefits of exercising."

State Self-Objectification

State self-objectification was measured using a novel "word bank" procedure suggested by Aubrey et al. (2020). Specifically, out of 40 adjectives, participants were instructed to select 10 that most accurately described themselves. The word bank included 20 personality and 20 appearance-related characteristics balanced in negative (e.g., unattractive, rude) and positive directions (pretty, polite). The sum of the words chosen from the appearance group was the score for state self-objectification. Aubrey (2020) showed that the sum of the descriptors in the appearance group was positively associated with trait self-objectification, which indicated acceptable construct validity. In this study, state self-objectification was not related to trait self-objectification ($r = .07$, $p = .101$).

Body Dissatisfaction

Following prior practice (Colautti et al., 2011; Halliwell et al., 2011), body dissatisfaction was measured using the Body Image State Scale (Cash et al., 2002). Six items were used to measure body dissatisfaction, including "Right now I feel … with my body size and shape" (1 = *extremely satisfied*, 9 = *extremely dissatisfied*). The scale had high internal consistency in previous research ($\alpha = .93$; Colautti et al., 2011) as well as in this study ($\alpha = .91$).

Functionality Appreciation

Following the previous practice of measuring the state of positive body image (e.g., body appreciation state; Avalos et al., 2005; Homan, 2016), participants were asked to indicate on a 5-point Likert scale (1= *strongly disagree*, 5 = *strongly agree*) their feelings about their body *at the moment* with seven items (e.g., "Right now, I appreciate my body for what it is capable of doing"). Internal consistency of the functionality appreciation scale ($\alpha = .86$) was established in previous research (Alleva et al., 2017). Cronbach alpha of this scale in this study was 0.90.

Exercise Intentions

The Exercise Intention Scale (Jones et al., 2003) was used to measure participants' intention to exercise (1 = *not at all/strongly disagree*, 7 = *every day/strongly agree*). The three items of the scale assess intentions to exercise within the next two weeks. A sample item was "In the next two weeks, my goal is to exercise." The scale was internally consistent ($\alpha = .89$) in previous research (Rhodes et al., 2004) as well as in this study ($\alpha = .91$).

BMI

Participants indicated their height in feet and weight in pounds. These measures were converted to kilograms and meters and were used to calculate BMI (kilograms/ meters-squared) consistent with previous research (Aubrey, 2010; Robinson et al., 2017).

Trait Self-Objectification

Trait self-objectification was measured using Noll and Fredrickson's (1998) Trait Self-Objectification Questionnaire. Using a 9-point scale (0 = *not at all important*; 9 = *very important*), participants rated the importance of ten body traits for their self-concept. Among these traits, five traits were related to appearance (e.g., sex appeal), and five were related to competence (e.g., energy level). Each of the traits had a unique score such that the most important trait was worth nine points, the second most important was worth 8 points, and so forth, according to each participant's own ranking. The mean of competence traits was subtracted from the mean of appearance traits. The final scores ranged from -25 to +25, with higher scores indicating higher trait self-objectification (Fredrickson et al., 1998).

Disordered Eating Attitudes

Consistent with previous research (e.g., Arroyo & Segrin, 2013), disordered eating attitudes were measured using the 16-item Eating Attitudes Test (Ocker et al., 2007). Participants

reported their thoughts and behaviors related to eating patterns from 1 = *never* to 6 = *always*. This measure has been previously used to screen individuals with anorexia nervosa. It includes four subscales: Dieting, Food Preoccupation, Awareness of Food Contents, and Self-Perceptions of Body Shape, with higher scores indicating a greater likelihood of anorexia nervosa. Sample item included "I am preoccupied with the desire to be thinner." The scales were combined for the final analyses. This measure showed strong internal consistency ($\alpha = .94$) in previous research (Lilienthal & Weatherly, 2013) as well as in this study ($\alpha = .95$).

Demographic Characteristics

Participants were asked to indicate their sexual orientation (Ganson & Nagata, 2020) and report their education level and household income (Hovick et al., 2014).

Analytical Strategy

To verify the effects of the appearance and health benefits manipulations of captions and comments, independent samples *t*-tests were performed to compare mean differences in the perceptions of appearance versus health benefits presented in captions and comments. To check pre-existing differences between experimental groups in terms of control variables and demographic characteristics, one-way ANOVAs and chi-squared tests were conducted.

To examine the interactive effects of health and appearance-focused captions and comments, two-way MANCOVA with an interactive effect was conducted with the two factors (caption focus, comment focus) and their interaction term serving as the independent variables, and state-objectification (mediator), body dissatisfaction, functionality appreciation, and exercise intentions (focal dependent variables) serving as the dependent variables. Next, two-way MANCOVA without an interactive effect was conducted to examine the main effects of captions and comments on the same dependent variables, followed by a series of ANCOVAs. Planned

simple contrasts were performed to examine how specific combinations of exercise benefits in captions and comments differently affect viewers' body image perceptions (H1-H7). Post hoc analyses using Bonferroni correction were conducted to examine RQ1-2. Should the pre-requisites of mediation analysis be met, to examine the proposed mediational pathway through state self-objectification (H8, RQ3), bootstrapped mediation analyses were planned to be performed (Hayes, 2017). All analyses controlled for covariates, including BMI, trait self-objectification, disordered eating attitudes, and age. All analyses were conducted in SPSS 27 and RStudio.

Results

Sample Characteristics

In this study, participants were 495 young women between 18-25 years old (mean age: 23.55 years old, *SD* = 1.69). The mean score for BMI was 24.10 (*SD* = 6.87). Most of the participants (77.40%) identified themselves as White. The majority of the participants (69.70%) had at least a Bachelor's degree. Most individuals (76.6%) used Instagram at least once a day; 95.2% spent at least 30 minutes on Instagram on a typical day. Only 39.8% followed fitness inspirational accounts on Instagram. However, most of the participants (82.8%) viewed fitspiration posts on Instagram at least sometimes; 82.2% of the participants read text in captions to fitspiration posts at least sometimes, and 75.6% of the participants read comments to fitspiration posts at least sometimes. Overall, to improve health was the most important reason for participants to exercise (*M* = 5.50, *SD* = 1.11). The average duration of participants engaging in moderate to vigorous physical activity over the past week was 3.5 hours (*SD* = 5.04). Table 4.4 summarizes the main characteristics of the study sample.

Table 4.4

Sample Demographic Characteristics (N = 495 women)

Characteristic	*N(%)*	*M(SD)*
Age (years)		23.55(1.69)
Ethnicity		
Not of Hispanic, Latino/a, or Spanish Origin	429(86.67%)	
Mexican, Mexican American, Chicano/a	31(6.26%)	
Puerto Rican	4(0.8%)	
Cuban	2(0.4%)	
Another Hispanic, Latino, or Spanish origin	27(5.45%)	
Did not respond	2(0.4%)	
Race		
White	383(77.37%)	
Black or African American	50(10.10%)	
Asian-Pacific Islander	37(7.47%)	
Other	4(0.80%)	
Did not respond	21(4.24%)	
Sexual Orientation		
Heterosexual/Straight	376(75.96%)	
Bisexual	26(5.25%)	
Gay or Lesbian	88(17.78%)	
Not Sure	5(1.01%)	

Education	0(0%)	
Eighth grade or below	2(0.40%)	
Ninth to 12th grade	35(7.07%)	
High school diploma or equivalent	3(0.61%)	
Vocational or technological program	72(9.05%)	
Some college but no degree	38(7.68%)	
Associate degree	210(42.42%)	
Bachelor's degree	13(2.63%)	
Graduate or professional school but no degree	117(23.64%)	
Master's degree	2(0.40%)	
Professional degree	3(0.61%)	
Doctorate degree		
Income		
Below $20,000	54(10.91%)	
$20,000-$39,999	96(19.39%)	
$40,000-$69,999	181(36.57%)	
$70,000 or higher	164(33.13%)	
BMI		
Low/normal: <25	298(60.20%)	20.40(3.58)
High: ≥ 25	158(31.92%)	31.08(6.08)
Did not respond	39(7.88%)	
Trait Self-Objectification (scale 0 to 50)*		24.24(12.59)

Disordered Eating Attitudes (scale 1 to 6)	3.42(1.69)

Note: The original scale ranged from -25 to 25 with the higher scores indicating higher self-objectification trait (Frederickson et al., 1998). For easier interpretation, the scale was converted to be 0-50.

Table 4.5 showed descriptive statistics and correlations among the key variables. In terms of the focal variables of interest (i.e., the mediator and the dependent variables), functionality appreciation was significantly and negatively correlated with state self-objectification (r = -.12, p < .01), body dissatisfaction (r = -.50, p < .001), and positively correlated with exercise intentions (r = .23, p < .001). Body dissatisfaction was significantly and negatively correlated with exercise intentions (r = -.39, p < .01).

In terms of correlations between the focal variables and covariates, state self-objectification was positively correlated with disordered eating attitudes (r = .12, p < .001). Body dissatisfaction was positively correlated with trait self-objectification (r = .14, p < .001), BMI (r = .39, p < .001) and negatively associated with age (r = -.24, p < .001). Functionality appreciation was negatively correlated with trait self-objectification (r = -.17, p < .001), BMI (r = -.12, p < .001), disordered eating attitudes (r = -.18, p < .001), and positively correlated with age (r = .10, p < .001). Exercise intentions were negatively correlated with BMI scores (r = -.13, p < .001), and positively correlated with disordered eating attitudes (r = .34, p < .001) and age (r = .14, p < .001).

Table 4.5

Descriptive Statistics and Correlation Matrix of Key Variables

	Mean	*SD*	1	2	3	4	5	6	7	8
1. State Self-Objectification	4.12	1.48	--							
2.Body Dissatisfaction	3.94	1.80	.03	--						
3.Functionality Appreciation	4.08	0.74	-.12**	-.50**	--					
4.Exercise Intentions	5.30	1.41	.01	-.39**	.23**	--				
5. Trait Self-Objectification	24.24	12.59	.07	.14**	-.17**	-.01	--			
6. BMI	24.10	6.87	-0.4	.39**	-.12**	-.13**	.08	--		
7. Disordered Eating Attitudes	3.42	1.69	.12**	-.04	-.18**	.34**	.08	.04	--	
8. Age	23.55	1.69	.01	-.24**	.10*	.14**	-.05	-.02	.24**	--

Note: ***$p < .001$; **$p < .01$

Differences across Conditions (Randomization Checks)

One-way ANOVAs and chi-squared tests were conducted to check pre-existing differences between experimental groups in terms of control variables and demographic characteristics. The results indicated no significant differences across the nine conditions: $F(8, 486) = 0.224$, $p = .987$ for trait self-objectification; $F(8, 485) = 1.356$, $p = .214$ for disordered eating attitudes; $F(8, 447) = 0.878$, $p = .535$ for BMI; $F(8, 486) = 1.712$, $p = .093$ for age; $\chi^2(32)$

= 32.88, p = .424 for ethnicity; $\chi^2(72) = 65.45$, p = .694 for race; $\chi^2(24) = 18.70$, p = .768 for sexual orientation; $\chi^2(24) = 29.36$, p = .207 for income; $\chi^2(72) = 75.40$, p = .369 for education.

Manipulation Check

Independent samples *t*-tests were performed to compare mean differences in the perceptions of appearance versus health benefits focus presented in captions and comments. The results showed that the appearance-focused caption (M = 5.56, SD = 1.39) produced significantly higher scores on appearance emphasis compared to the health-focused caption (M = 4.64, SD = 2.09), $t(328) = 4.71$, $p < .001$. Similarly, the health-focused caption (M = 5.96, SD = 1.10) produced significantly higher scores on health emphasis compared to appearance-focused caption (M = 4.77, SD = 1.79), $t(328) = 7.27$ $p < .001$. Therefore, health- and appearance-focused captions produced the intended effects.

Furthermore, the appearance-focused comments (M = 6.08, SD = 1.31) had a significantly higher score on appearance emphasis than the health-focused comments (M = 4.41, SD = 1.99), $t(328) = 9.03$, $p < .001$. In turn, health-focused comments (M = 6.10, SD = 1.10) had a significantly higher score on health emphasis than the appearance-focused comments (M = 4.16, SD = 2.17), $t(328) = 10.26$, $p < .001$. Thus, health- and appearance-focused comments produced the intended effects.

Testing Assumptions of Multivariate Analyses

Following the guidelines and procedures outlined by Hair et al. (2019), before testing the main assumptions of multivariate analyses, the data for each condition and each dependent variable were examined in terms of missing values; no missing values were identified. Next, homogeneity of variance–covariance matrices as well as variances for each of the dependent variables, correlation, normality, and outliers were examined.

The test of equality of covariance matrices (Box's M test) showed nonsignificant results $F(80, 239535) = 1.04$, $p > .05$ indicating that covariance matrices of the dependent variables were equal across groups. The univariate homogeneity of variances using Levene's test indicated nonsignificant results for each of the dependent variables and the potential mediator: $F(8, 446) = 1.253$, $p = .266$ for self-objectification; $F(8, 446) = 0.438$, $p = .898$ for body dissatisfaction; $F(8, 446) = 1.201$, $p = .296$ for functionality appreciation; $F(8, 446) = 0.662$, $p = .725$ for exercise intentions.

Barlett's test for sphericity was used to examine intercorrelation among all the dependent variables. The results were significant $\chi^2 (6) = 231.44$, $p < .001$, indicating that significant intercorrelation exists collectively among all dependent variables. Separate correlations between the focal dependent variables for this study varied between .23 to .50 in absolute values. Based on these results, all focal dependent variables were included in MANCOVA.

After that, the normal probability assumption was examined by running normality tests. Although the *p* values for Shapiro-Wilks tests for the dependent variables were less than .05, given the understanding that "a violation of the multivariate normality assumption typically has little effect on the *p* values reported for MANOVA hypothesis tests" (Huberty & Olejnik, 2006, p.138), proceeding with multivariate analyses was still considered appropriate. Next, boxplots for each independent variable were examined; no observations had extreme values for all dependent variables; therefore, all observations were used for further analyses.

Hypotheses Testing

An initial MANCOVA with an interaction term was performed to understand the effects of captions and comments on the mediator variable (state self-objectification) and the three focal dependent variables (body dissatisfaction, functionality appreciation, exercise intentions). Trait

self-objectification, disordered eating attitudes, BMI, and age were included as covariates. Overall, the interaction between captioned messages and messages in comments was not significant, $F(16, 1342) = .91$, $p = .555$, $\eta p^2 = .008$, power = .494. Univariate ANCOVAs confirmed nonsignificant interactions for the dependent variables (Fs < .69, ps > .347). Due to the nonsignificant interaction between captioned messages and comments on the dependent variables, interaction-related hypotheses (i.e., H4-H7) and research questions (i.e., RQ2) were excluded from further analyses. Thus, I proceeded with the analyses for H1-H3, H8, RQ1, and RQ3.

After that, a two-way MANCOVA without an interaction term was conducted in order to examine the main effects of captions and comments on the dependent variables. The results indicated a significant effect of captions, $F(8, 886) = 2.127$, $p < .05$, $\eta p^2 = .019$, power = .852, but not comments, $F(8, 886) = 0.219$, $p = .988$, $\eta p^2 = .002$, power = .119 on the dependent variables collectively. Thus, separate hypotheses were further examined for captions while keeping both factors without an interaction term in subsequent ANCOVAs.

Verbal Messages and Body Image

Hypothesis 1 suggested that viewing health-focused messages leads to lower body dissatisfaction (H1a) and higher functionality appreciation (H1b). To examine this hypothesis, univariate ANCOVAs were conducted followed by planned contrasts. The main effect of the caption condition was significant for body dissatisfaction, $F(2, 446) = 4.546$, $p < .05$, $\eta p^2 = .020$, power = .772, but not functionality appreciation, $F(2, 446) = 1.554$, $p = .213$, $\eta p^2 = .007$, power = .330. The simple contrasts showed that participants exposed to health-related message in the caption condition ($M = 3.66$, $SD = 1.73$) experienced significantly lower body dissatisfaction ($p < .05$) than participants who viewed appearance-related message ($M = 4.23$, $SD = 1.96$).

Furthermore, consistent with MANCOVA results, the main effects of comments were not significant for body dissatisfaction $F(2, 446) = 0.182$, $p = .834$, $\eta p^2 = .001$, power = .078, and functionality appreciation, $F(2, 446) = 0.161$, $p = .851$, $\eta p^2 = .001$, power = .075 in ANCOVA models. Thus, Hypothesis 1a was supported for the effects of captions while Hypothesis 1b was not supported.

Hypothesis 2 suggested that viewing health-focused messages produces lower body dissatisfaction (H2a) and higher functionality appreciation (H2b) than viewing the objectified fitspiration image only. Considering the observed significant main effect of captions on body dissatisfaction but not on functionality appreciation reported earlier, simple contrast for health-focused caption versus no-caption conditions was examined for body dissatisfaction. The results suggested a significant effect ($p < .01$), indicating that participants who viewed health-focused captions ($M = 3.66$, $SD = 1.73$) reported lower body dissatisfaction compared to those who viewed fitspiration image without any captions ($M = 4.11$, $SD = 1.73$). Thus, Hypothesis 2a was supported for captions while Hypothesis 2b was not supported.

Hypothesis 3 suggested that viewing appearance-focused messages accompanying a fitspiration image leads to higher body dissatisfaction (H3a) and lower functionality appreciation (H3b) compared to viewing a fitspiration image alone. The simple contrast indicated no significant difference in body dissatisfaction between the appearance-focused and no-caption conditions ($p = .879$), though the mean scores were in the expected direction: $M = 4.23$, $SD = 1.96$ for the appearance-focused condition and $M = 4.12$, $SD = 1.73$ for the no-caption condition. Furthermore, considering the nonsignificant main effect of the caption on functionality appreciation discussed earlier, Hypothesis 3 was not supported.

Verbal Messages and Exercise Intentions

Research Question 1 asked how different types of messages (health- vs. appearance-focused vs. image only) in a fitspiration post can differently affect viewers' exercise intentions. Univariate ANCOVA indicated significant main effect for captions, $F(2, 446) = 3.333$, $p < .05$, $\eta p^2 = .015$, power = .629. Post-hoc pairwise comparisons with Bonferroni adjustments for captioned messages showed significant difference ($p < .05$) for appearance and health conditions suggesting that viewing health-focused captions ($M = 5.44$, $SD = 1.38$) led to higher exercise intentions than appearance-focused captions ($M = 4.99$, $SD = 1.50$). Compared to the no-caption condition ($M = 5.27$, $SD = 1.41$), health condition showed higher exercise intentions whereas appearance condition showed lower exercise intentions (see the scores above); however, the differences were not statistically significant ($ps > .181$).

As discussed earlier, the main effects of comments in MANCOVA were not significant for all dependent variables. Examination of the main effects of comments on exercise intentions in ANCOVA also showed a similar pattern, $F(2, 446) = 0.825$, $p = .439$, $\eta p^2 = .004$, power = .191. Therefore, pairwise comparisons for comments were not performed.

The Roles of State and Trait Self-Objectification

Hypothesis 8 and Research Question 3 aimed to examine the potential mediational pathways between the effects of captions and comments on the focal outcomes of interest (body dissatisfaction and functionality appreciation). The first step of conducting mediation analysis was to establish the effects of captions and comments on the mediator (i.e., state self-objectification). However, univariate ANCOVAs indicated nonsignificant main effects of caption, $F(2, 446) = 1.430$, $p = .240$, $\eta p^2 = .006$, power = .306, and comments, $F(2, 446) = 0.018$,

p =.982, ηp^2 = .001, power = .053, on state self-objectification. Therefore, Hypothesis 8 and Research Question 3 were not further examined.

Although not a major focus of this study, *trait* self-objectification, which served as a covariate in the analyses, exhibited an interesting pattern that is worth noting. ANCOVA results indicated that across all the conditions, *trait* self-objectification was significantly and positively associated with body dissatisfaction, $F(2, 446) = 4.668$, $\beta = 0.13$, $p < .05$, $\eta p^2 = .010$, power = .578, and significantly and negatively associated with functionality appreciation, $F(2, 446) = 6.618$, $p < .05$, $\beta = -0.007$, $p < .05$, $\eta p^2 = .015$, power = .728. Thus, women with a higher tendency to self-objectification were prone to experience more negative and less positive body image perceptions in all conditions.

Discussion

Informed by objectification theory (Fredrickson & Roberts, 1997) and the MAIN model (Sundar, 2008), Study 2 aimed to understand how verbal messages in fitspiration caption and comments might contribute to social media users' mental and physical health outcomes along with viewing potentially harmful fitspiration images. The study tested how viewing health-focused (as compared to appearance-focused) messages in captions and comments can potentially mitigate negative and promote positive body image perceptions and exercise intentions among viewers. Despite scholars' recommendation to investigate the effects of fitspiration messages in both captions and comments (Davies et al., 2020), no research so far has examined how they may separately and/or jointly affect viewers' self-perceptions and exercise intentions. This study was the first to explore this question.

Overall, Study 2 results showed that different types of verbal messages in captions could exert an influence on viewers' body image perceptions and exercise intentions above and beyond

the effects of fitspiration images. Specifically, viewing health-focused captions of fitspiration posts resulted in lower body dissatisfaction compared to viewing appearance-focused captions or fitspiration images without captions. However, these effects were not mediated by state self-objectification. Additionally, viewing health-focused captions resulted in higher exercise intentions compared to viewing appearance-focused captions. At the same time, no significant effects of comments or caption-comment interaction on body image perceptions or exercise intentions were observed. In the next section, these findings are discussed in more detail.

Fitspiration Verbal Messages and Body Image

Caption Effects

The findings from Study 2, for the first time, showed that viewing a short health-focused message in a caption to an objectified fitspiration image resulted in lower body dissatisfaction compared to viewing an appearance-focused message or no-caption condition. In other words, health-focused verbal content in fitspiration posts can mitigate negative outcomes of objectified fitspiration images compared to presenting such images alone or with appearance-focused messages. It is worth noting that these results should not lead to the conclusion that objectified fitspiration content will no longer be harmful for viewers as long as some health-related caption is included. Instead, these findings suggest that health-focused messages may serve as a promising tool for fitness influencers to mitigate followers' negative health outcomes in case such images indeed produce harmful effects unwittingly. Fitness influencers may not always realize that viewers' negative self-perceptions can be triggered by their posts; furthermore, due to the vast variations in their individual differences, followers may also differ in their sensitivity and susceptibility even when exposed to the same fitspiration image. More frequent use of health-focused verbal messages in posts may help to shift overall attention of the audience to

health-related aspects of exercising and accumulatively reduce the negative outcomes. These results are in line with previous research suggesting that less negative outcomes might be triggered during the exposure to health-focused than appearance-focused videos on social media (Aubrey et al., 2020). These results also support the finding from Study 1, where participants shared that health-focused verbal content in fitspiration could promote more positive outcomes by decreasing the pressure to match idealized appearance standards. Overall, these findings can be interpreted through the lens of objectification theory (Fredrickson & Roberts, 1997), as focusing on health in verbal captions may elicit a less objectifying experience for viewers by shifting attention from idealized appearance to non-appearance aspects of exercising. These findings are important and novel as they provide initial evidence that careful use of fitspiration captions can guide viewers' self-perceptions in a less negative direction. An important next step for effective health interventions would be to understand specific categories of health messages (e.g., mental versus physical health) that can be particularly important and relevant for viewers' self-perceptions during fitspiration exposure.

Although Study 2 did not identify the negative effects of appearance-focused messages in captions above and beyond fitspiration image effects, the means were in the predicted directions. On the one hand, these nonsignificant results were inconsistent with the previous research that identified negative outcomes of verbal objectification on participants' self-perceptions (Calogero & Pina, 2011; Calogero et al., 2014; Roberts & Gettman, 2004). On the other hand, the results from Study 2 are in line with recent findings showing nonsignificant effects of appearance-related messages in other formats (e.g., quotes, comments) when combined with idealized images (Prichard et al., 2018; Tiggemann & Barbato, 2018). Although it is possible that the

results could become significant with stronger manipulations, some potential explanations for the nonsignificant effects are proposed.

First, it is possible that the effects of appearance-focused captions in fitspiration posts may vary depending on specific visual features of fitspiration images. Prichard et al. (2018) found that women with higher trait self-objectification were particularly sensitive to appearance-related quotes combined with fitspiration images showing women who exercised. It is thus possible that appearance-focused messages may be particularly detrimental when images prompt non-appearance focus. Alternatively, it is possible that the effects of appearance-focused messages on viewers may depend on objectifying features emphasized in the messages. Different operationalizations of objectification can prompt negative self-perceptions to different degrees (Aubrey et al., 2009), and researchers have suggested differentiating between sexual and literal objectification – which refers to perceiving an individual as an object with or without explicit sexualization, respectively (Heflick & Goldenberg, 2014). In Study 2, appearance-focused messages in captions did not contain explicitly sexualized language (e.g., sexy, hot); therefore, it might be a fruitful direction to compare effects of appearance-focused fitspiration captions depending on how verbal objectification is operationalized.

Additionally, the results indicated that verbal messages in fitspiration captions were linked to negative but not positive body image perceptions (functionality appreciation). These results are not consistent with theoretical knowledge suggesting that shifting attention to functional aspects of the body may promote more positive self-perceptions and help resist cultural pressures to perceive one's body as an aesthetic object (Alleva & Tylka, 2021). First, it is possible that nonsignificant results were related to the use of modified functionality appreciation *state* scale that, though reliable in Study 2, was previously used to measure

functionality *trait* mainly. As another possible explanation, focusing only on one aspect of body functionality (health) while displaying idealized appearance may help decrease negative perceptions but may be insufficient to shift viewers' mindset fully toward positive body image perceptions. The negative features of idealized images are likely to distract viewers from thinking about body functionality, preventing them from forming positive body-related thoughts. In line with that, previous research has emphasized that focusing on body functionality may need to be more holistic in nature to produce positive outcomes (Alleva et al., 2018; Alleva & Tylka, 2021). It is possible that the health-focused messages in Study 2 shifted attention to body health as a specific aspect of body functionality but did not trigger more holistic thoughts about body functionality in general. Thus, it might thus be an interesting direction to explore whether it is possible to activate more holistic perceptions about body functionality via fitspiration and what visual and verbal features can contribute to that. Alternatively, some research suggests that instructing individuals to focus on *their own* (as opposed to the depicted individual's) functionality when viewing idealized images might be important for promoting positive body image (Mulgrew & Tiggemann, 2018). In line with that, it is possible that health-focused messages in fitspiration need to include more direct and persuasive language to encourage viewers to think about their own (as opposed to fitness influencer's) health while viewing fitspiration content.

Comments Effects

Guided by the assumptions of the MAIN model (Sundar, 2008), Study 2 also examined whether user-generated comments to fitspiration posts can override or amplify the effects of messages in the captions. The results of this study showed that neither health-focused nor appearance-focused comments had an impact on viewers' body image perceptions. These results

extended the previous knowledge on the effects of appearance-focused comments to idealized images (Tiggemann & Barbato, 2018; Tiggemann & Velissaris, 2020). suggesting that such comments do not contribute to viewers' body image perceptions above and beyond the verbal messages presented in fitspiration captions. Furthermore, shifting viewers' attention to health via user-generated comments was not identified as an effective strategy to mitigate the negative effects of fitspiration. Although these findings are not consistent with the MAIN model's assumption on bandwagon cues, there might be several potential explanations for these findings.

First, it is possible that user-generated comments to fitspiration posts may not guide viewers' perceptions due to their generally skeptical attitudes to fitspiration comments formed through past social media experiences. This speculation was derived from the responses identified in Study 1, where participants shared that fitspiration comments often included derogatory, unpleasant, or sexualizing language. Since the demographic characteristics of participants in Study 1 and Study 2 were similar, it is possible that participants in Study 2 had similar experiences and therefore were generally skeptical about fitspiration comments. Thus, it is possible that past experiences of viewing unpleasant comments to idealized images might have affected participants' general attitudes to user-generated comments in the context of fitspiration, making them less likely to base their evaluations or judgments on these comments.

Second, it is possible that participants were affected by the captions but not comments due to a higher trust in the captioned messages expressed by a fitspiration "expert" as opposed to comments from unknown users. In fact, this explanation aligns with another assumption of the MAIN model, which states that perceptions of an individual as an expert (e.g., fitness expert) in a specific area can guide perceptions and attitudes compared to non-expert sources (e.g., unknown online users). This explanation is also consistent with the qualitative findings from Study 1:

mentioning health-related benefits of exercising in user-generated comments to fitspiration messages is more likely to be taken into consideration if an expert posted this information. As online users' attitudes can be guided by expert-related cues in social media content (Lee & Sundar, 2013), the role of expertise cues in the effects of fitspiration content needs further examination.

Third, it is possible that some health-related aspects discussed in comments (e.g., heart diseases, blood pressure) might be less relevant for young women, which might have prompted less health-focused thoughts after the exposure to a fitspiration post. Simpson and Mazzeo (2017) suggested that young people may not perceive health-focused messages in fitspiration posts as relevant due to unrealistic optimism about health. In the context of Study 2, it is possible that young women perceived health aspects discussed in comments (e.g., blood pressure) as irrelevant for their lifestyles, resulting in nonsignificant effects. Considering past findings on the significant effects of the other types of user-generated comments on viewers' body image (Tiggemann & Barbato, 2018; Tiggemann & Velissaris, 2020), it is crucial to further understand viewers' reactions to various messages in fitspiration comments.

Mediation of State Self-Objectification

Following the logic laid out by self-objectification theory as well as existing research on the negative effects of idealized media images (e.g., Harper & Tiggemann, 2008) and verbally objectified content (e.g., Calogero et al., 2014), the current study suggested that viewing fitspiration images with messages focusing on appearance as opposed to health would lead to greater state self-objectification resulting in higher body dissatisfaction. The results of the current study did not identify significant mediation of state self-objectification between verbal message conditions and body image outcomes, indicating that the average scores for state-self-

objectification were similar across all the conditions. There might be a few relevant explanations for these findings.

As indicated by Prichard et al. (2018), it is possible that fitspiration images do not promote state self-objectification in the same manner as other idealized media images do. This explanation is somewhat consistent with our findings because our visual stimuli had high scores on sexual objectification during pretesting; yet, the scores for state self-objectification were relatively moderate in all the conditions. In the future, it will be important to examine the pre-exposure state self-objectification scores to better understand these results. Additionally, some research (Tiggemann & Harper, 2008) suggests that body thinness is an important feature triggering state self-objectification during exposure to idealized images. Study 2's visual stimuli pretesting did not include measures of image thinness perceptions; it is possible that state self-objectification was not activated or was weakly activated during fitspiration exposure if thinness was not salient in the image. Future research is invited to explore what objectifying features in fitspiration are particularly responsible for triggering state self-objectification.

Furthermore, it is possible that one objectified fitspiration post may not be enough to activate state self-objectification. Although recent research has suggested that even moderate exposure to fitspiration posts may be detrimental for viewers (Rounds & Stutts, 2020), it is not clear whether a specific dose of fitspiration exposure is necessary to activate state self-objectification. In this study, it was clear that viewing one fitspiration post with visually and verbally objectifying cues was enough to trigger body dissatisfaction; however, the outcomes for state self-objectification were less clear. Future research needs to identify how the dose of fitspiration exposure can matter for activating self-objectifying perceptions.

Finally, it is possible that some methodological decisions of Study 2 contributed to some of the nonsignificant findings. First, state self-objectification was measured using the "word bank" approach that has been recently developed by Aubrey et al. (2020) to overcome limitations of the traditional state self-objectification scale (Frederickson et al., 1998). Although the scale showed a significant, positive correlation with trait self-objectification in previous research (Aubrey et al., 2020), the correlation of state and trait self-objectification in this study was positive but weak and nonsignificant. Future research is needed to explore the applicability of the "word bank" approach to measure state self-objectification in a fitspiration context.

Fitspiration Verbal Messages and Exercise Intentions

In addition to examining fitspiration effects on body image perceptions, this research has examined how fitspiration content with health- and appearance-focused messages can influence exercise intentions. This study contributes to the small number of experimental studies (e.g., Prichard et a., 2018; Prichard et al., 2020; Robinson et al., 2017) on exercise-related outcomes of fitspiration exposure by demonstrating for the first time that verbal messages in fitspiration captions can differently affect viewers' exercise intentions. Specifically, viewing a health-focused message in captions predicted significantly higher exercise intentions compared to an appearance-focused message. Compared to the image-only (control) condition, viewing appearance-focused captions resulted in lower intentions and exposure to health-focused captions led to higher intentions; however, the difference was not statistically significant. It can be that with stronger or different manipulations, future research would be able to detect a significance between the control versus health or appearance conditions.

The findings of Study 2 contribute to the limited but growing research on the role of fitspiration in exercise-promoting behaviors suggesting that fitspiration viewers not only feel

inspired (Prichard et al., 2018; Tiggemann & Zaccardo, 2015) but can also have actual intentions to exercise after viewing fitspiration posts with health-focused captions. Sokolova and Perez (2021) found that fitspiration videos on social media can improve viewers' exercise intentions via forming better attitudes toward fitness. Similarly, this study shows that a single fitspiration post focusing on the health benefits of exercising can positively affect viewers' exercise intentions. In view of Sokolova and Perez's (2021) findings and consistent with health behavioral change knowledge (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975), it is likely that health-focused fitspiration posts can activate specific health-related beliefs that can favorably affect attitudes toward exercising and increase exercise intentions. As fitspiration content continues to gain popularity on social media, it is important to understand underlying mechanisms and features responsible for increasing or decreasing viewers' exercise intentions.

More positive outcomes of health versus appearance-focused messages on exercise intentions can also be considered from the research suggesting that health and appearance motives can have a different impact on exercising behaviors. For instance, Ednie and Stibor (2017) found that appearance-related motive is a negative predictor of exercising among female college students, whereas Ebben and Brudzynski (2008) identified health as the most prevalent exercise motive among the predominantly female sample of college students. It is possible that short exposure to appearance- versus health-focused fitspiration content may temporarily activate specific exercise motivations, which in turn can guide exercise intentions into a positive or a negative direction. In line with that, Aubrey (2009) found that exposure to appearance-focused (versus health-focused) verbal messages resulted in higher appearance motivations to exercise; however, health-related motivations and actual exercise intentions were not examined. It would

be interesting to investigate pre- and post-exposure appearance- and health-related exercise motivations and test mediation of specific motivations on exercise intentions.

The results of this study contribute to our knowledge about the role of verbal messages in fitspiration for exercise-related outcomes. Arigo et al. (2021) concluded that "traditional fitspiration" captions emphasizing fitness and self-compassion did not produce significant effects on viewers' exercise motivation, speculating that exercise-related outcomes of fitspiration exposure might be potentially delayed. The results of Study 2 extended this knowledge by suggesting that other types of captions, specifically health- and appearance-focused messages, can immediately exert influence on viewers' exercise intentions to different extents.

The results on appearance- and health-focused caption effects align with findings in Study 1, where participants shared that seeing health-focused messages in fitspiration posts was likely to benefit their exercise-related outcomes, whereas appearance-focused messages might reduce exercise intentions through triggering perceptions of unattainability. Together, these findings are particularly interesting for exercise promotion efforts, as research suggests that even unintentional exposure to fitspiration content is linked to exercise-related outcomes (Pasko & Arigo, 2021). The results from Study 2 provide initial experimental evidence that fitspiration posts with health-focused captions can be a promising strategy to promote exercising via fitspiration content. However, it is important to better understand how to leverage this approach without triggering unintentional appearance-related concerns that might be activated during fitspiration exposure.

Similar to comment effects on body image perceptions, no significant effects of comments were identified on exercise intentions. Consistent with the speculations in the previous section, it is possible that past engagement with user-generated comments to idealized images,

expertise-related perceptions, or potentially irrelevant comment discussions (e.g., heart diseases) contributed to nonsignificant outcomes. Although no comment effects on exercise intentions were identified in Study 2, it is important to emphasize that participants in Study 1 discussed that seeing some comments to fitspiration posts (e.g., health-related advice; compliments on unattainable body shapes; online users' verification of exercise technique as effective) did impact their exercise intentions. Therefore, one of the challenges for future research is to understand when and how user-generated comments to fitspiration posts can be beneficial or harmful to viewers.

Theoretical and Practical Contributions

Findings from Study 2 can potentially inform objectification theory in a fitspiration context by advancing our knowledge about the effects of verbally objectifying cues above and beyond visually objectifying features. So far, only a small number of experimental studies have focused on the effects of body- and appearance-focused messages either in captions (Arigo et al., 2021; Davies et al., 2020) or comments (Tiggemann & Barbato, 2018; Tiggemann & Velissaris, 2020). To our best knowledge, this is the first study that has attempted to disentangle the effects of verbally objectifying cues in both fitspiration captions and comments. Perhaps the greatest contribution of this research to objectification theory is that exposure to a visually objectified fitspiration image with appearance-focused messages resulted in more negative body-related perceptions than seeing the same image with health-focused verbal messages. These results are especially troubling because fitspiration posts on social media often include verbally objectifying messages (Deighton-Smith & Bell, 2018; Murashka et al., 2021). It is also important to note that this study, for the first time, demonstrated that exposure to a single fitspiration post (as opposed to multiple posts as in Prichard et al., 2018; Prichard et al., 2020; Tiggemann & Zaccardo, 2015)

with verbally objectifying cues can be detrimental to viewers' body image perceptions. These findings demonstrate the insidious nature of sexual objectification in fitspiration posts that may have important implications for viewers' health.

Although not a major goal of this study, another theoretical contribution was that trait self-objectification was linked to higher body dissatisfaction and lower functionality appreciation regardless of verbal message conditions. In other words, for individuals with a chronic tendency to view themselves in an objectified manner, the potentially protective fitspiration cues might not be equally effective. Considering that trait self-objectification can moderate the effects of other potentially protective fitspiration cues for body image perceptions (Prichard et al., 2018), we need more research to understand how trait self-objectification interacts with such cues and what can be done to mitigate the negative effects of this trait.

Additionally, this study may inform the theoretical knowledge of the MAIN model (Sundar et al., 2008) in a fitspiration context. The study showed that bandwagon cues (operationalized as user-generated comments) were not as important for viewers' self-perceptions and exercise intentions as messages presented in the captions of fitspiration posts. These results provided interesting avenues for further investigation on fitspiration message effects under the framework of the MAIN model. Specifically, the findings of Study 2 may point to the possibility of authority heuristic at work. Authority heuristic refers to perceiving information presented in the messages (captions in our case) as important and relevant when information is presented by a topic expert (Sundar et al., 2008). Previous research also suggested that expert cues in messages can influence viewers' judgments and decisions when expert's ingroup identity cues can be identified (Wang et al., 2020a). It is possible that the ingroup cues of fitspiration stimuli (e.g., similar age and the same gender of the depicted individual) can

contribute to a stronger activation of authority heuristic than bandwagon heuristic, resulting in higher perceived credibility and making captions to be more salient than user-generated comments. More research is warranted to expand on the examinations of the MAIN model's assumptions and credibility judgments in fitspiration context.

Study 2 also offered several practical implications. First, the results suggest that health-promotion fitspiration campaigns need to target not only the potential viewers of fitspiration content but more importantly, the fitness influencers. It is crucial to inform fitness influencers on the benefits and harms of messages in fitspiration captions for viewers' mental and physical health. It seems beneficial to encourage fitness influencers to discuss more health benefits of exercising while avoiding discussions of the appearance benefits of exercising in their fitspiration posts. Because some online users may pay more attention to fitspiration images than verbal messages in captions, fitness influencers are also recommended to encourage their followers to read the messages in captions assuming that such messages follow the recommended practices.

Study Limitations

The results of this study should be interpreted with some limitations. First, this research was limited to fitspiration experiences on Instagram. While fitspiration has gained high popularity on Instagram, this fitness-promoting trend also exists on other social media platforms, including Twitter, Pinterest, and YouTube (Ratwatte & Mattacola, 2021; Simpson & Mazzeo, 2017; Tiggemann et al., 2018). The effects of fitspiration content on viewers may not be the same on different social media platforms, given that the platforms may differ in modality (e.g., videos on YouTube vs. short texts on Twitter). It will be interesting to explore and compare the effects of health- and appearance-focused fitspiration content across different platforms.

In addition, participants saw only one fitspiration post, which may not reflect the real-life experience of Instagram use. Given that the goal of this study was to disentangle the effects of specific message features, it was important to minimize the effects of other factors (e.g., various features in multiple posts) to prioritize the internal validity of the study findings. Future research could extend the scope of this study to examine message effects under higher exposure to fitspiration content as well as when other types of social media posts are included.

Another limitation is related to the modification of real-life messages identified in fitspiration captions and comments for the verbal stimuli in Study 2. Specifically, the messages were modified to maximize information equivalence between health- and appearance-focused conditions. But at the same time, this may also, to some degree, limit the ecological validity of the stimuli. It is worth noting, however, that this approach is consistent with previous practice (Kim, 2021), and all the verbal stimuli were pretested to be perceived as clear and understandable by the target audience.

Finally, this study measured exercise intentions but not actual exercising behavior after exposure to fitspiration stimuli, although intentions to perform a health-related behavior are closely linked to performing the behavior (Ajzen, 1991; Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). Laboratory evidence shows that fitspiration content may not necessarily trigger viewers' higher physical activity (Prichard et al., 2020; Robinson et al., 2017); therefore, it is important to further explore the link between fitspiration exposure, exercise intentions and actual exercising or other alternative behavioral measures (e.g., purchasing gym membership, signing up for a fitness class) in more natural settings. In addition, previous experimental fitspiration research focused on the link between *inspiration* to exercise and actual exercising, concluding that "perceptions of inspiration did not translate into actual behavior" (Robinson et al., 2017, p.

69). It will be interesting to build on the knowledge from Study 2 and compare the separate effects of exercise *intentions* and perceptions of *inspiration* on actual exercising.

Conclusion

This study, for the first time, has attempted to experimentally examine the separate and joint effects of two major verbal components of fitspiration posts, captions and comments, on fitspiration viewers' body image perceptions and exercise intentions. The findings show that health-focused captions in fitspiration posts may trigger less negative self-perceptions when viewing potentially harmful visual content. It is important that future studies build on this knowledge to understand how to leverage these and other potentially beneficial cues to promote positive outcomes and at the same time mitigate the negative ones. As fitspiration continues to rapidly grow on social media, it is of high priority for health communication and body image researchers to join hands to harness this trend and guide it toward a positive direction.

CHAPTER 5

GENERAL DISCUSSION

Summary and Discussions of Major Findings

The main goal of this dissertation was to understand fitspiration message features and their effects on viewers' mental and physical health-related outcomes. This research first used a focus-group method to identify a broad spectrum of fitspiration features that are likely to be linked to fitspiration followers' positive and negative mental and physical health outcomes (Study 1). The effects of the most salient verbal features were then experimentally manipulated and tested to understand the ways in which verbal messages can guide perceptions of fitspiration content into a less negative direction. Informed by health communication and body image theories, both studies showed that health-focused verbal content may help mitigate negative effects of fitspiration images. Furthermore, findings from Study 1 and Study 2 both suggested that viewing appearance-focused verbal content might be harmful for viewers' self-perceptions. In both studies, the effects of captions (compared to comments) were more salient for viewers: participants in Study 1 shared that they generally paid more attention to captions than comments which aligns with findings from Study 2 where the effects of captions (but not comments) were found significant. Despite these similarities, some differences were identified between the two studies. Participants in Study 1 discussed how appearance-related verbal messages in fitspiration could trigger harmful body-related thoughts suggesting the potential mechanism of self-objectification. However, self-objectification was not found to mediate the effects of appearance-

related messages on self-perceptions in Study 2. The findings from both studies provided several takeaway messages to be considered in fitspiration research and health promotion practices.

First, the results of Study 1 clearly showed that social media users pay attention to verbal messages presented in fitspiration content. In fact, some participants even mentioned that they looked at verbal messages more than images and that verbal messages in fitspiration posts "can make a big difference" (Participant 18). Importantly, participants shared that verbal content in fitspiration could trigger specific body image perceptions; the impact of verbal messages on self-perceptions depended on the theme of the message. Participants often provided examples of appearance- and body-focused messages as harmful to their self-perceptions. These results extended our knowledge about the negative impact of verbally objectifying fitspiration content by suggesting that even messages created to support viewers might pose a threat to body image perceptions if appearance was the focus of the messages. On the other hand, health-focused messages were discussed as beneficial to self-perceptions as they diverted pressure from focusing on having an idealized appearance and served as a reminder that exercising was a self-care behavior. Thus, it can be concluded that verbal content in fitspiration posts can be utilized to promote viewers' positive body perceptions and needs more thorough understanding and examinations.

Second, findings from the qualitative Study 1 indicated that verbal messages can affect viewers' exercise-related outcomes. Specifically, appearance-focused messages were considered as posing a negative influence, while health-focused messages were mentioned as positive for exercising outcomes. Participants shared that appearance-focused messages discourage exercise whereas health-focused messages are important for feeling encouraged; one participant even mentioned that she would have started exercising much earlier if she had known about the health

benefits better. Together, these findings provided initial evidence that health- and appearance-focused messages in fitspiration can have drastically different impacts on viewers' physical and mental health outcomes.

Third, the results of the experimental Study 2 confirmed findings from Study 1 that health- and appearance-focused captions in fitspiration posts can influence viewers' body image perceptions and exercise intentions. These results presented an initial step in disentangling fitspiration cues that can produce positive and negative effects on viewers, respectively. Together, these result from both studies showed that captions can be strategically used to mitigate negative outcomes of fitspiration, which is an important micro-level step to leverage fitspiration in a less negative direction. These findings may have the potential of advancing our theoretical understanding toward objectification theory by revealing the important role and substantial impacts of verbal objectification in fitspiration. At the same time, shifting attention to non-appearance aspects of exercising, specifically health benefits, can produce less negative self-perceptions as well as higher exercise intentions. Study 2 made a novel contribution to fitspiration literature by experimentally showing the causal link between verbal fitspiration content and viewers' mental and physical health outcomes. As the next steps, it is important to further understand specific mechanisms responsible for these effects.

Deeper Layers of Fitspiration

Though the main goal of this dissertation was to understand how to leverage fitspiration in a less negative direction, fitspiration trend was examined on the micro-level by focusing on message features and short-term, instant outcomes. To further understand the effects of fitspiration, it is important for future research to examine how broader, macro-level social and cultural factors are linked to fitspiration trends and effects.

Although health-related messages in this research led to less negative outcomes on viewers' self-perceptions and more positive outcomes on exercise intentions, more research is needed to understand the long-term effects of health-related content in fitspiration. It is particularly important to further consider health-related fitspiration content through the prism of healthism, a moralized ideology that prioritizes the idea that the individuals should take responsibility for their health (Crawford, 1980). As "a form of medicalization" and "a new health consciousness", healthism promotes the perceptions that healthiness is an individual's duty that should be performed through maintaining an appropriate lifestyle and consuming knowledge and technologies that are normalized as relevant for better health (Crawford, 1980, p. 365; Wiest et al., 2015). Furthermore, healthism deemphasizes structural factors affecting health disparities and can privilege those with access and resources to participate in moralized health-related behaviors (e.g., having a personal trainer or access to a gym) while stigmatizing those who do not participate or succeed in the existing system framing them as irresponsible (Dworkin & Wachs, 2009; Wiest et al., 2015). By incorporating health-related discourses, some fitspiration content on social media might reinforce the perceptions of health as an individual choice and moralize health-related decisions (e.g., purchasing a fitness app) that serve the monetary interests of fitness influencers. As a result, such content might become problematic by privileging certain lifestyles without considering existing constraints, socioeconomic contexts, and differences in physiology (Riley & Evans, 2018).

An important question remaining unclear concerns the similarity between fitspiration and thinspiration. Though this dissertation examines fitspiration as a trend that was created to contrast thinspiration and has the potential to promote better health (consistent with DiBisceglie & Arigo, 2021), some researchers (e.g., Dignard & Jarry, 2021) emphasize similarity between

fitspiration and thinspiration suggesting that fitspiration may be as damaging as thinspiration. This argument generally arises from the fact that fitspiration content may still emphasize thinness and promote weight stigma (Boepple & Thompson, 2016; Tiggemman & Zaccardo, 2018). Furthermore, like thinspiration, fitspiration may include moralized vocabulary in relation to food, separating it into "bad" and "good" categories, which can reinforce fatfobia, "a form of bodily normativity that identifies thinness with dignity, normalcy, desirability, and worthiness, and casts fat bodies as undignified, disgusting, socially threatening, and abject" (Atherton, 2021, p.1). This dissertation was able to identify specific health-related cues that might produce less harmful instant outcomes at the individual, micro-level; however, it is important to simultaneously approach fitspiration from the macro-level perspective to understand how to address broader problematic aspects of fitspiration (e.g., weight stigma, fatfobia) and move away from privileging or denigrating specific appearances. Encouraging fitness influencers to incorporate the weight inclusive approach to fitspiration content (i.e., emphasizing that everyone can achieve better health irrespective of weight; Tylka et al., 2014) can be an important macro-level step to mitigate fat- and weight-related biases in fitspiration leveraging fitspiration into a more positive direction.

Lastly, the findings of this dissertation provide insights on message interventions to mitigate negative outcomes of fitspiration. However, it is important to consider fitspiration in the context of the existing mainstream patriarchal culture in the U.S. The role of fitspiration in reinforcing traditional patriarchic beliefs is yet to be explored. Though this research has been looking at fitspiration as a trend that can be positive at the micro-level if leveraged correctly, it is impossible to ignore the fact that objectification and sexualization is not going to be fully eradicated from fitspiration content in the nearest future. Though sexualized fitspiration content

may be perceived as empowering for some women, it can be still treated as objectifying by men (Brunner, 2013) reinforcing the existing patriarchal beliefs and women's disadvantaged status. To bring the positive aspects of fitspiration to the society, it is crucial not only to identify the ways to improve fitspiration at the micro-level, but also address the ways how fitspiration content can contribute to reinforcing structural inequalities in the society. It is clear that fitspiration trend is problematic at various layers, and it needs to be approached from a multidisciplinary perspective.

Future Directions

This dissertation serves as an initial attempt to explore fitspiration social media users' perceptions of various visual and verbal message features in fitspiration and understand how to divert message features from producing detrimental effects and positively contribute to viewers' health outcomes. While previous body image (e.g., McComb & Mills, 2021; Tiggemann & Velissaris, 2020; Weaver & Mulgrew, 2021) and health communication research generally resorted to different approaches or employed different theoretical frameworks to understand media effects on health (e.g., Kernot et al., 2013; Namkoong et al., 2017; Yoo et al., 2018), this dissertation drew insights from both research traditions to unravel message effects in the context of fitspiration, which presents both an opportunity to promote physical health (with regard to motivating exercise) and a potential challenge to mental health well-being (with regard to objectified and demeaned body image perceptions; Prichard et al., 2018; Sokolova & Perez 2020). An important next step would be to enrich fitspiration research by employing both body image and health communication theories to identify constructive fitspiration visual and verbal messages and corresponding mechanisms that can effectively promote viewers' exercise intentions, but at the same time maximally protect their body image perceptions.

An additional important direction for future research would be to examine the effects of appearance- and health-focused fitspiration messages with different types of fitspiration images. In Study 2, each stimulus included the same fitspiration image that was rated as high on objectification. The decision to choose a highly objectified fitspiration image was based on the goal to understand whether objectified (appearance-focused) and non-objectified (health-focused) verbal messages could amplify or mitigate negative outcomes of commonly seen objectified fitspiration images. It needs to be noted that fitspiration images on social media do not necessarily include objectifying cues (Tiggemann & Zaccardo, 2018). Therefore, it will be interesting to explore the effects of verbal objectification in captions and comments combined with fitspiration images that do not contain visually objectifying cues or cues that can deemphasize appearance (e.g., images of individuals performing exercises).

Furthermore, a logical extension of this dissertation would be to test the effects triggered by multiple fitspiration messages with an appearance or health focus. It is important to understand whether accumulatively these messages will exhibit a different effect pattern at a high exposure dosage level. The answer to this question will elucidate more concrete knowledge on the potential of health-focused messages as a health-promotion tool in fitspiration. Additionally, given that in real life it is more likely that social media users will view fitspiration posts with a mix of appearance- and health-focused messages, it will be interesting to explore viewers' reactions when exposed to several fitspiration posts containing both appearance- and health-focused captions to understand the dynamic interplay between the two types of messages.

Although fitspiration followers in Study 1 discussed appearance-focused comments as detrimental for their self-perceptions, we did not observe such effects in Study 2. An interesting direction for future research would be to build on the previous research on appearance-related

conversations on social media (Wang et al., 2020b; Wang et al., 2020c) as well as findings from Study 1 to explore how various types of appearance-focused comments may contribute to viewers' body image perceptions differently. For instance, participants in Study 1 mentioned diverse appearance-focused fitspiration messages including compliments, criticism, fat shaming language as detrimental. As such, this suggests an interesting venue for future research to compare outcomes associated with viewing different types of appearance-focused comments in fitspiration on viewers.

An important additional future direction would be investigating the effects of the same fitspiration message cues among men. Research suggests that viewing fitspiration content contributes to higher body dissatisfaction among men as well (Fatt et al., 2019). However, research focused on examining fitspiration content among male viewers is still comparatively rare. Furthermore, men and women have different preferences in fitspiration message features (DiBisceglie & Arigo, 2021) as well as different reactions to specific cues in fitspiration posts (Arigo et al., 2021). Thus, future research should seek to examine these research questions among male fitspiration users and compare the effects of health and appearance-focused verbal fitspiration messages across genders.

In conclusion, this research offered insights into understanding fitspiration cues that can be potentially detrimental or beneficial for viewers' physical and mental health outcomes. The findings have the potential to advance our theoretical understanding of verbal objectification and social influence of user-generated content in a fitspiration context. The results also provide several practical implications for fitness influencers and health promotion researchers to better leverage the power of fitspiration messages to achieve the desired health goals. The findings from Study 1 and Study 2 highlighted the need to further examine the benefits and harms of

fitspiration posts with different verbal message features while integrating insights from both health promotion and body image theories. Such an approach will help improve exercise-promoting social media interventions while limiting or mitigating the potential unintended consequences on viewers' valued self-perceptions.

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APPENDIX A

Instagram Invitation Ad for Study 1

Figure A1. Instagram Invitation Ad for Study 1

APPENDIX B

Pre-Screening Questionnaire for Study 1

1. How would you prefer to be called?

   _____

2. What gender do you see yourself as?
   - o Man
   - o Woman
   - o Other, please specify: _____
   - o Prefer not to answer

3. How old are you?

   _____

4. Do you follow female fitness inspirational accounts on Instagram?
   - o Yes
   - o No

5. When you are on Instagram, how often do you view female fitness inspirational accounts and posts? (1 = *never*, 5 = *always)*

6. When you are on Instagram, how often do you read captions accompanying female fitness inspirational images? (1 = *never*, 5 = *always)*

7. When you are on Instagram, how often do you read comments accompanying female fitness inspirational images? (1 = *never*, 5 = *always*)?

8. What is/are your favorite female fitness inspirational account(s) on Instagram?

   _____

9. Please explain why the account(s) that you mentioned is/are your favorite.

   _____

10. What is your height in feet?

    _____

11. What is your weight in pounds?

    _____

APPENDIX C

Follow-up Questionnaire for Study 1

1. Instagram Use

1. How often do you use Instagram?
    - ○ Never
    - ○ A few times a year
    - ○ Once a month
    - ○ Two to three times a week
    - ○ Once a week
    - ○ Multiple times a week
    - ○ Once a day
    - ○ Multiple times a day

2. Overall, how long do you spend on Instagram on a typical day?
    - ○ 5 minutes or less
    - ○ 15 minutes
    - ○ 30 minutes
    - ○ 1 hour
    - ○ 2 hours
    - ○ 3 hours
    - ○ 4 hours
    - ○ 5 hours
    - ○ 6 hours
    - ○ 7 hours
    - ○ 8 hours
    - ○ 9 hours
    - ○ 10 hours or more

2. Current Exercise Behavior

We are interested in finding out about the kinds of physical activities that people do as part of their everyday lives. The questions will ask you about the time you spent being physically active in the **last 7 days**. Please answer each question even if you do not consider yourself to be an active person. Please think about the activities you do at work, as part of your house and yard work, to get from place to place, and in your spare time for recreation, exercise or sport.

Think about all the **vigorous** activities that you did in the **last 7 days**. **Vigorous** physical activities refer to activities that take hard physical effort and make you breathe much harder than normal. Think *only* about those physical activities that you did for at least 10 minutes at a time.

1. During the **last 7 days**, on how many days did you do **vigorous** physical activities like heavy lifting, digging, aerobics, or fast bicycling?

___ days per week
- No vigorous physical activities → ***Skip to question 3***

2. If you had to estimate, how much time did you usually spend doing vigorous physical activities on one of those days?

   ___minutes per day

Think about all the **moderate** activities that you did in the **last 7 days**. **Moderate** activities refer to activities that take moderate physical effort and make you breathe somewhat harder than normal. Think only about those physical activities that you did for at least 10 minutes at a time.

3. During **the last 7 days**, on how many days did you do **moderate** physical activities like carrying light loads, bicycling at a regular pace, or doubles tennis? Do not include walking.

   ___ days per week
   - No moderate physical activities → ***Skip to question 5***

4. If you had to estimate, how much time did you usually spend doing moderate physical activities on one of those days?

   ___minutes per day

Think about the time you spent **walking** in the **last 7 days**. This includes at work and at home, walking to travel from place to place, and any other walking that you have done solely for recreation, sport, exercise, or leisure.

5. During **the last 7 days**, on how many days did you **walk for at least 10 minutes** at a time?

   ___ days per week
   - No walking → ***Skip to question 7***

6. If you had to estimate, how much time did you usually spend **walking** on one of those days?

   ___minutes per day

3. Reasons to exercise

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? Use the scale below, ranging from 1 = *not at all important* to 7 = *extremely important*, in giving your answers.

Weight Control

1. To be slim
2. To lose weight
3. To maintain my current weight

Fitness

1. To improve my muscle tone
2. To improve my strength
3. To improve my endurance, stamina.
4. To improve my flexibility, coordination.

Mood

1. To cope with sadness, depression
2. To cope with stress, anxiety.
3. To increase my energy level.
4. To improve my mood.

Health

1. To improve my cardiovascular fitness.
2. To improve my overall health.
3. To increase my resistance to illness and disease.
4. To maintain my physical well-being.

Attractiveness

1. To improve my appearance.
2. To be attractive to members of the opposite sex.
3. To be sexually desirable.

Enjoyment

1. To meet new people.
2. To socialize with friends.
3. To have fun

Tone

1. To redistribute my weight.
2. To improve my overall body shape.
3. To alter a specific area of my body.

4. Trait Self-Objectification

The questions below identify 10 different body attributes. Please *rank order* these body attributes from that which has the *greatest impact* on your physical self-concept (rank this a "9"), to that which has the *least impact* on your physical self-concept (rank this a "0").

Note: It does not matter *how* you describe yourself in terms of each attribute. For example, fitness level can have a great impact on your physical self-concept regardless of whether you consider yourself to be physically fit, not physically fit, or any level in between.

Please first consider all attributes simultaneously and record your rank ordering by writing the ranks in the rightmost column.

IMPORTANT: *Do Not Assign the Same Rank to More Than One Attribute!*

9 = *greatest impact*
8 = *next greatest impact*
….
1 = *next to least impact*
0 = *least impact*

When considering *your physical self-concept …*

1. What rank do you assign to *physical coordination*?
2. What rank do you assign to *health?*
3. What rank do you assign to *weight?*
4. What rank do you assign to *strength?*
5. What rank do you assign to *sex appeal?*
6. What rank do you assign to *physical attractiveness?*
7. What rank do you assign to *energy level (e.g., stamina)?*
8. What rank do you assign to *firm/sculpted muscles?*
9. What rank do you assign to *physical fitness level?*
10. What rank do you assign to *measurements (e.g., chest, waist, hips)?*

5. Disordered Eating Attitudes and History

1. How often do the following situations happen to you? (1 = *never*, 6 = *always*)
   1) I am preoccupied with the desire to be thinner.
   2) I am preoccupied with the thoughts of having fat on my body.
   3) I am terrified about being overweight.
   4) I engage in dieting behavior.
   5) I feel extremely guilty after eating.
   6) I think about burning up calories when I exercise.
   7) I like my stomach to be empty.
   8) I feel uncomfortable after eating sweets.
   9) I particularly avoid foods with high carbohydrate content.
   10) I avoid foods with sugar in them.
   11) I eat diet foods.
   12) I am aware of the calorie content of foods that I eat.
   13) I find myself preoccupied with food.
   14) I feel that food controls my life.
   15) I give too much time and thought to food.
   16) I have gone on eating binges where I feel I am not able to stop.

2. Do you have a history of eating disorders (e.g., anorexia, bulimia)? (1 = *yes*, 2 = *no*)

6. Ethnicity: Are you Hispanic, Latino/a, or Spanish origin? (One or more categories may be selected).

- o No, not of Hispanic, Latino/a, or Spanish origin
- o Yes, Mexican, Mexican American, Chicano/a
- o Yes, Puerto Rican
- o Yes, Cuban
- o Yes, another Hispanic, Latino, or Spanish origin

7. Race: What is your race? (One or more categories may be selected)

- White
- Black or African American
- American Indian or Alaska Native
- Asian Indian
- Chinese
- Filipino
- Japanese
- Korean
- Vietnamese
- Other Asian
- Native Hawaiian
- Guamanian or Chamorro
- Samoan
- Other Pacific Islander
- Other, please specify: _____

8. Sexual Orientation: Which of the following best describes your sexual orientation?

- Heterosexual/straight
- Gay or lesbian
- Bisexual
- Not Sure

9. SES

1. What is the highest level of education you have completed?
   - Eighth grade or below
   - Ninth to 12th grade
   - High school diploma or equivalent (for example: GED)
   - Vocational or technological program
   - Some college but no degree
   - Associate degree
   - Bachelor's degree
   - Graduate or professional school but no degree
   - Master's degree
   - Professional degree
   - Doctorate degree

2. What is your income/household income?
   - below $20,000
   - $20,000-$39,999
   - $40,000 to $69,999
   - $70,000 or higher

APPENDIX D

Images for Starter Activity for Study 1

Note: Faces in the images were intentionally blurred in the Appendix to protect online users' privacy

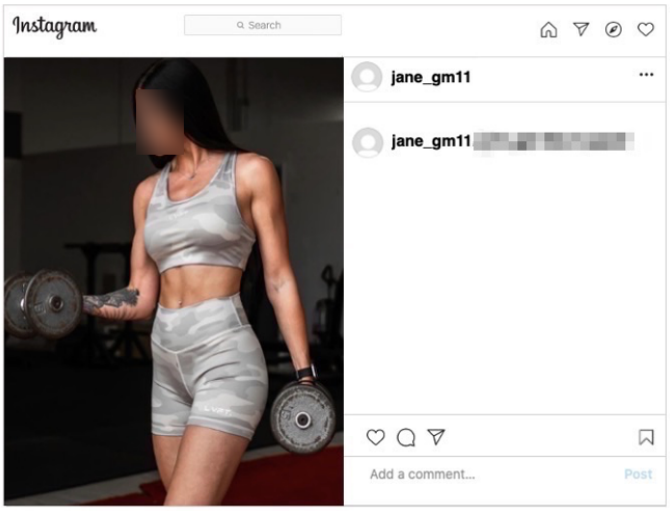


Figure D1. Fitspiration Example 1
Features: performing an exercise; high body exposure; highlighting arm muscles, presence of a verbal message in the caption

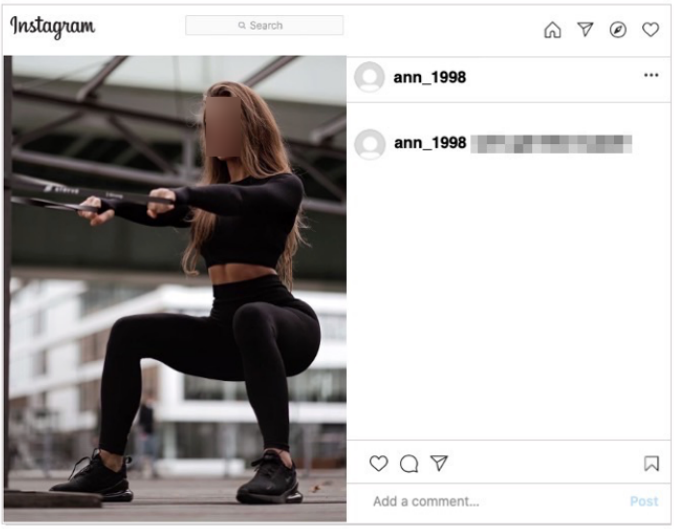


Figure D2. Fitspiration Example 2
Features: performing an exercise, low body exposure, no emphasis on body parts, presence of a verbal message in the caption

Figure D3. Fitspiration Example 3
Features: posing, high body exposure, emphasis on abdomen, presence of a verbal message in the caption, user-generated comments

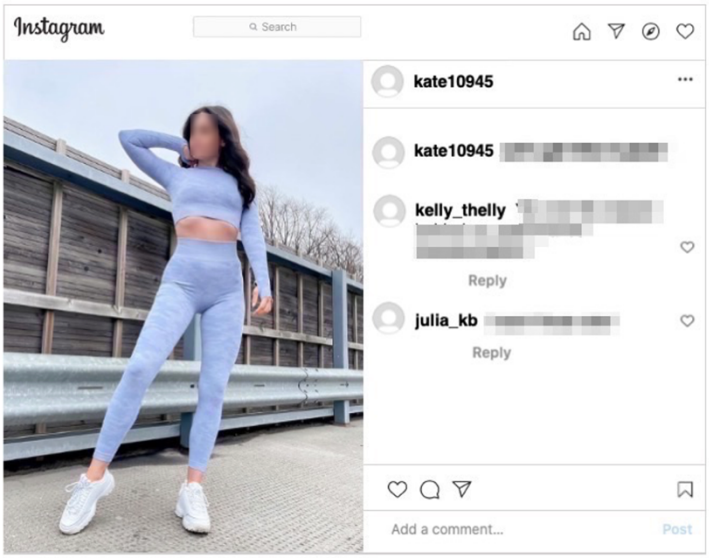


Figure D4. Fitspiration Example 4
Features: posing, low body exposure, no emphasis on body parts presence of a verbal message in the caption, user-generated comments

APPENDIX E

Focus Group Guide for Study 1

INTRODUCTION: My name is Volha. I will be the moderator of this focus group.

GOALS: This focus group is a part of the project on understanding how fitspiration content on Instagram affects viewers**.**

DESCRIPTION OF RULES: There will be a couple of rules for the focus group discussion, and I ask you to follow them to enable everyone to share information. Feel free to say whatever is on your mind, there are no right or wrong answers. Please be respectful and do not interrupt other participants: everyone will have enough time to share their experiences. If you have not shared information on a specific question, I may ask your thoughts, but you can always say that you refuse to answer the question. Finally, please do not share any information from this focus group discussion with others outside this group because this is private and confidential information. Do you have any questions?

ICEBREAKER: Before we begin the discussion of your experiences with fitspiration, I would like to ask you a question about your own Instagram profile. Some users show an ideal version of themselves on their Instagram accounts; they carefully choose images and videos that show their best lives. Other users prefer to show raw images that are not edited, less perfect, and may even include some embarrassing features. They would also show both highs and lows of their lives. What group of online users do you belong to and what can you say about the images in your Instagram account?

STARTER ACTIVITY: Since we are here to discuss fitspiration, I would like to provide a quick overview of fitspiration posts on Instagram. As you can see from these examples, fitspiration posts can include images as well as some verbal messages in captions and comments. Specifically, a verbal message in the caption is a written description of the image provided by the author of the post. User-generated comments are replies from other users to a specific post that appear next to the post (if a specific post is viewed from the laptop) or below the post (if a specific post is viewed from the phone).

KEY QUESTIONS:
BLOCK 1 – Fitspiration and Visual Features of Fitspiration Posts
The first part of our discussion will be focused explicitly on the image part of fitspiration posts, so I want you to focus on visual features when we discuss the questions.

1. What is it about fitspiration *images* that can increase your exercise intentions?
   a) What visual features of fitspiration posts are particularly important for your exercise intentions?

b) In what ways can the body shape of the depicted person in the image encourage your exercise intentions?
c) In what ways can it matter what activity an individual in the image is doing for your exercise intentions?
d) What other features in the images can be important for your exercise intentions?
e) What visual features are particularly discouraging for your exercise intentions?

2. What is it about fitspiration *images* that can affect your feelings and thoughts about your own appearance/body?
a) What image features of fitspiration posts can make you feel good or think positively about your body/appearance?
b) What visual features of fitspiration posts can make you feel bad or think negatively about your body or appearance?

BLOCK 2 – Fitspiration and Verbal Messages
Now I would like you to focus only on verbal messages in fitspiration posts (in captions or embedded in the images directly) when you answer the following questions.

3. What is it about *verbal* messages in fitspiration posts that can increase your exercise intentions?
a) How important are verbal messages in fitspiration posts for your exercise intentions?
b) What verbal messages are particularly important for your exercise intentions?
c) What verbal messages are particularly discouraging for your exercise intentions?

4. What is it about *verbal* messages in fitspiration posts that can affect your feelings and thoughts about your appearance/body?
a) How important are verbal messages in fitspiration posts for thoughts and feelings about your body/appearance?
b) What verbal messages in fitspiration posts can make you feel good/think positively about your body or appearance?
c) What verbal messages of fitspiration posts can make you feel bad/think negatively about your body or appearance?

Finally, I would like you to think only about the user-generated comments to fitspiration posts and answer the questions about comments to fitspiration posts.

5. What is it about *other users' comments* to fitspiration posts that can increase your exercise intentions?
a) How important are other users' comments to fitspiration posts for your exercise intentions?
b) What types of comments are particularly important for your exercise intentions?
c) What types of comments are particularly discouraging for your exercise intentions?

6. What is it about *other users' comments* to fitspiration posts that can affect your feelings and thoughts about your appearance/body?

a) How important are other users' comments to fitspiration posts for your thoughts and feelings about your body/appearance?
b) What type of comments to fitspiration posts can make you feel good/think positively about your body/appearance?
c) What type of comments to fitspiration posts can make you feel bad/think negatively about your body/appearance?

ENDING BLOCK:

As you can see, this focus group discussion was about your experiences with fitspiration posts. I was specifically interested in your perceptions of fitspiration visual and textual features and how these features affect your body image perceptions and exercise intentions. I chose this topic because it is important to understand how fitspiration content can be used to promote health-related behaviors and positive perceptions. I thank you for taking the time to share with me your thoughts and beliefs about this very important topic.

7. Before I conclude this focus group, do you have any final thoughts on your experiences with fitspiration posts on Instagram? Is there anything else that you want to share?

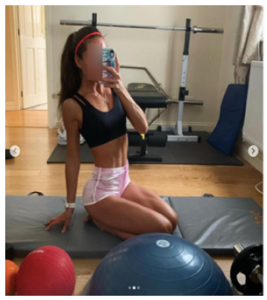
Thank you for taking the time to share your thoughts and experiences with me today.

APPENDIX F

List of Images for Visual Stimuli Selection

Note: Faces in the images were intentionally blurred in the Appendix to protect online users' privacy

1.



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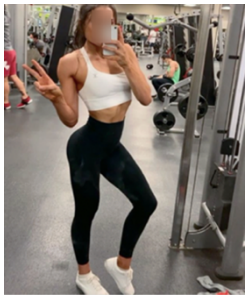
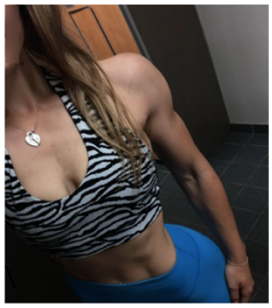
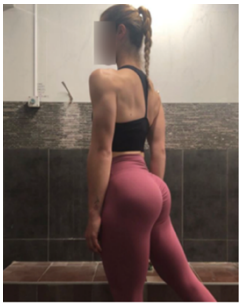


3.

4.

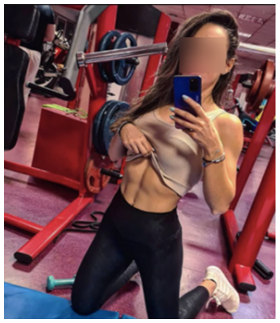


5.



6.

7.



8.

9.

10.

APPENDIX G

Verbal Messages for Stimuli Pretesting

Table G1.

List of Captions for Fitspiration Post Pretesting

Pair	Focus	Caption
1	Health	In this post, I want to remind you that exercising is about caring for your health. Health is mental and emotional as well as physical.
	Appearance	In this post, I want to remind you that exercising is about making your body perfect. A body with a flat stomach and sexy glutes as well as beautiful legs.
2	Health	It is amazing how exercising positively affects my sleep quality, stress control, and energy level. This is a reminder that exercising is so important to keep us healthy!
	Appearance	It is amazing how exercising positively affects my body shape, weight control, and muscle growth. This is a reminder that exercising is so important to make us look great!

Table G2.

List of Comments for Fitspiration Post Pretesting

Focus	Comment
Health	1. Exercising helps me to strengthen my immune system and avoid heart diseases that occur from inactivity. Because of working out, I feel healthy! 2. Exercise is work for the mind and general health. It helps me process a lot of mental problems. 3. With regular exercising, I am able to better manage my blood pressure! I have more energy, and it feels good! 4. Fitness has helped me reduce my anxiety and depression. Now I feel happier.
Appearance	1. Exercising helps me to build muscles and create a body shape that makes me popular. Because of working out, I look hot in my bikini! 2. Exercise is work for toned and muscular body. It helps me look more attractive. 3. With regular exercising, I am becoming more attractive! I have a sexy body, and it looks good! 4. Fitness has helped me tone my body and reduce cellulite. Not I look prettier.

APPENDIX H

Questionnaire for Stimuli Pretesting

Eligibility Questions

1. What gender do you see yourself as?
   - o Man
   - o Woman
   - o Other
   - o Prefer not to answer

2. What is your age?

   _____

3. Do you have an Instagram account?
   - o Yes
   - o No

4. How often do you use Instagram?
   - o Never
   - o A few times a year
   - o Once a month
   - o Two to three times a month
   - o Once a week
   - o Multiple times a week
   - o Once a day
   - o Multiple times a day

Stimuli Pretesting Questions

Next, eligible participants will see 10 images, one by one, and answer the following questions regarding each image.

5. The term "FITSPIRATION" is based on the words "fitness" and "inspiration," and it is usually applied to images that were created to motivate people to exercise. Images of this term usually depict women who wear work-out clothes and have very fit and toned bodies. Women in fitspiration images tend to either engage in exercising or passively pose in front of the camera.

Please rate the extent to which …

5a. The image meets this definition of fitspiration.
(1 = *definitely disagree*, 7 = *definitely agree*).

5b. The image is a typical of the images one would see on Instagram.
(1 = *definitely disagree*, 7 = *definitely agree*).

5c. This type of image can be commonly seen on Instagram.
(1 = *definitely disagree*, 7 = *definitely agree*).

6. The term "SEXUAL OBJECTIFICATION" refers to the experiences whenever a woman's 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. Based on the definition of sexual objectification, please rate the image on the scale from 0 (*not at all objectifying*) to 10 (*extremely objectifying*).

APPENDIX I

Final Stimuli for Study 2

Note: Faces in the images were intentionally blurred in the Appendix to protect online users' privacy

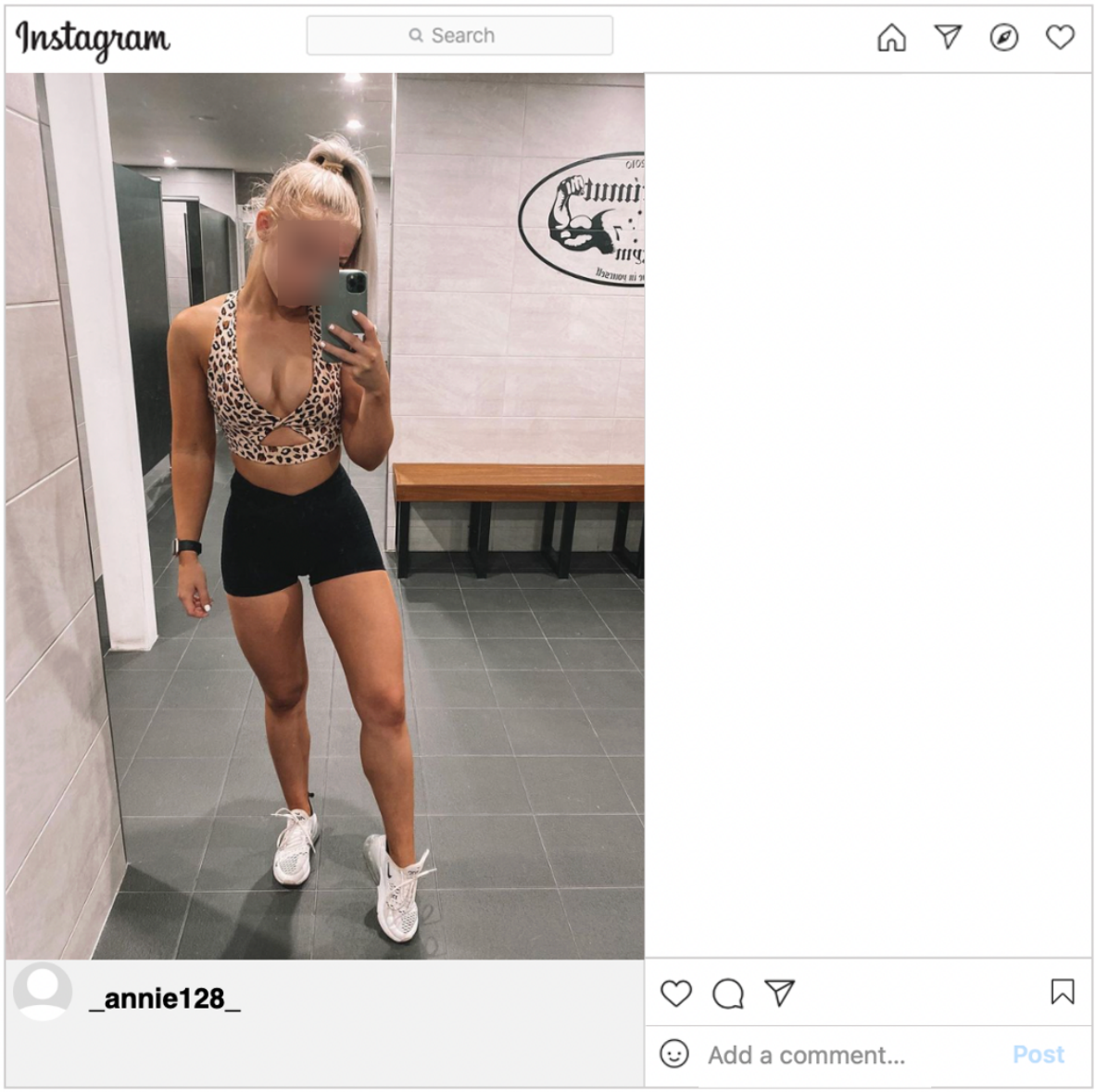


Figure I1 Image only condition

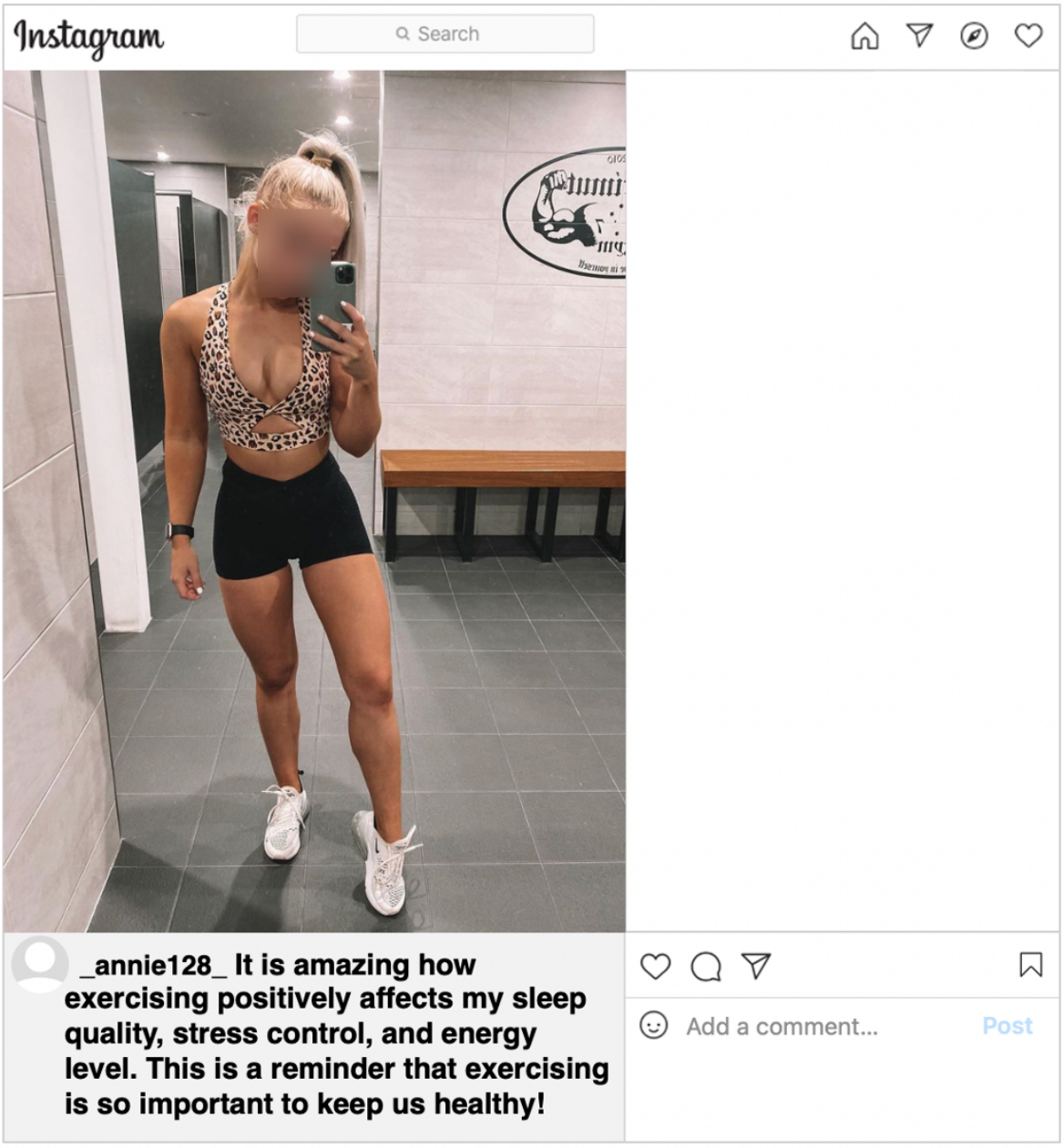


Figure I2 Health-focused caption

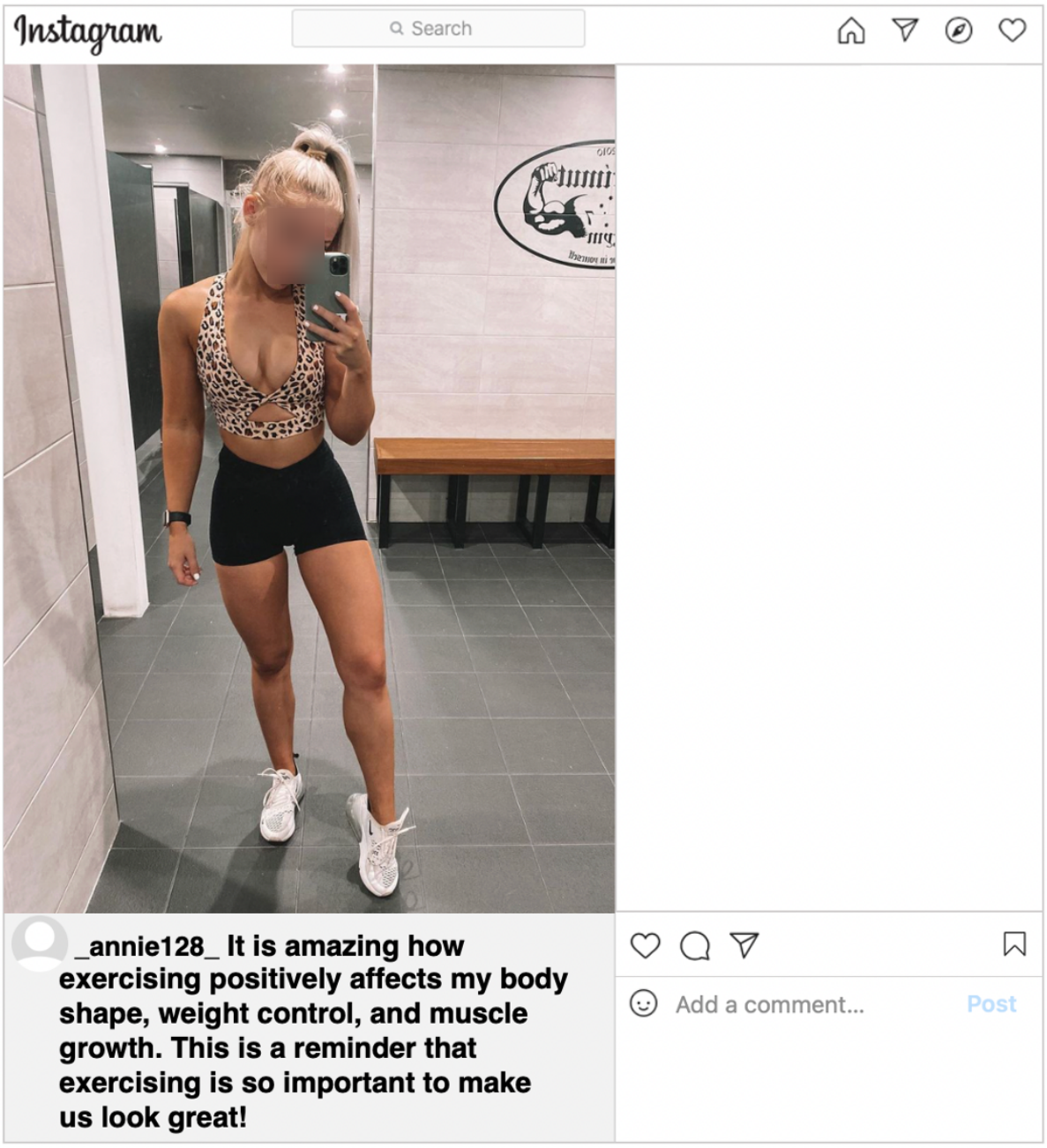


Figure I3 Appearance-focused caption

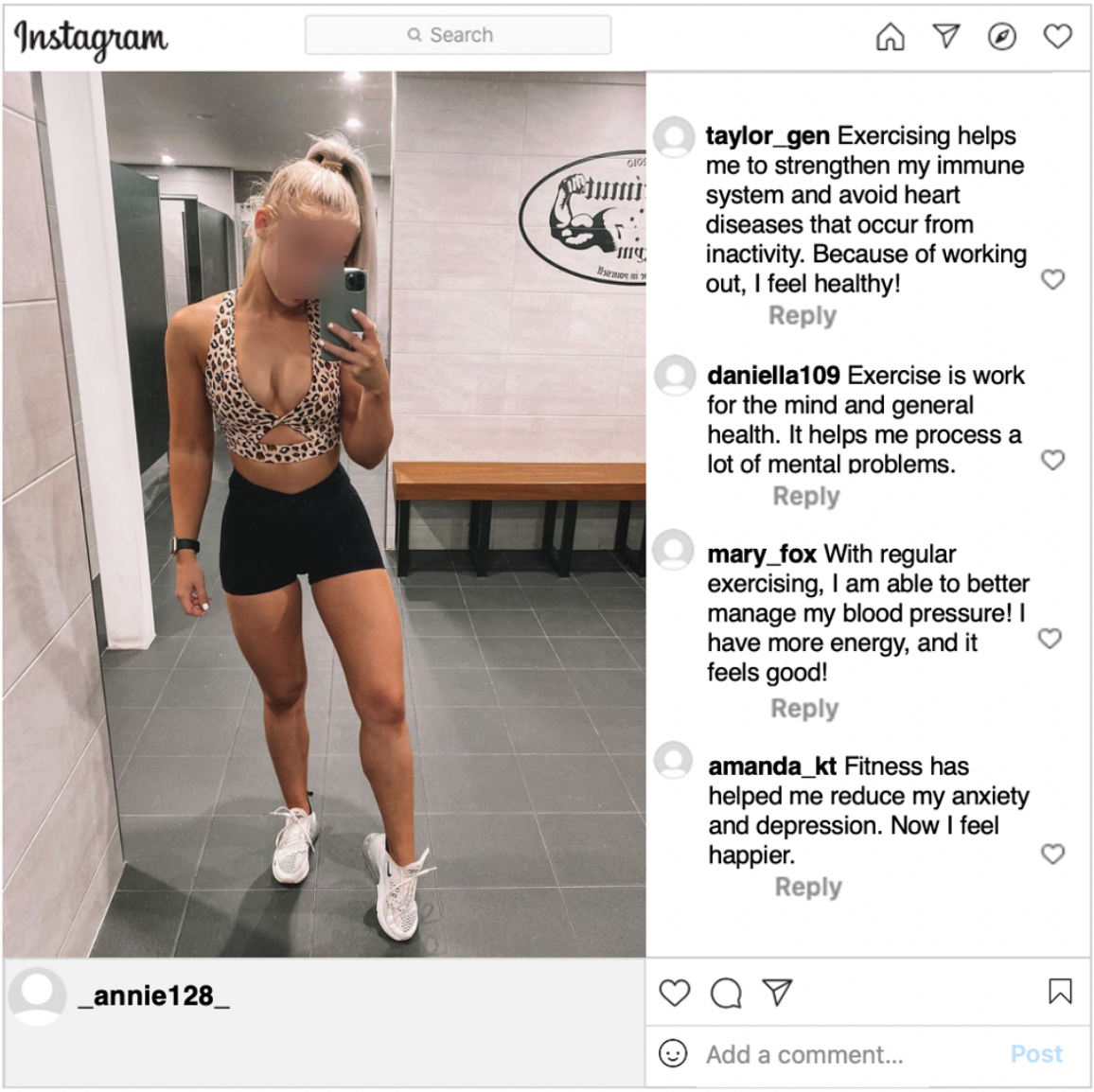


Figure I4 Health-focused comments

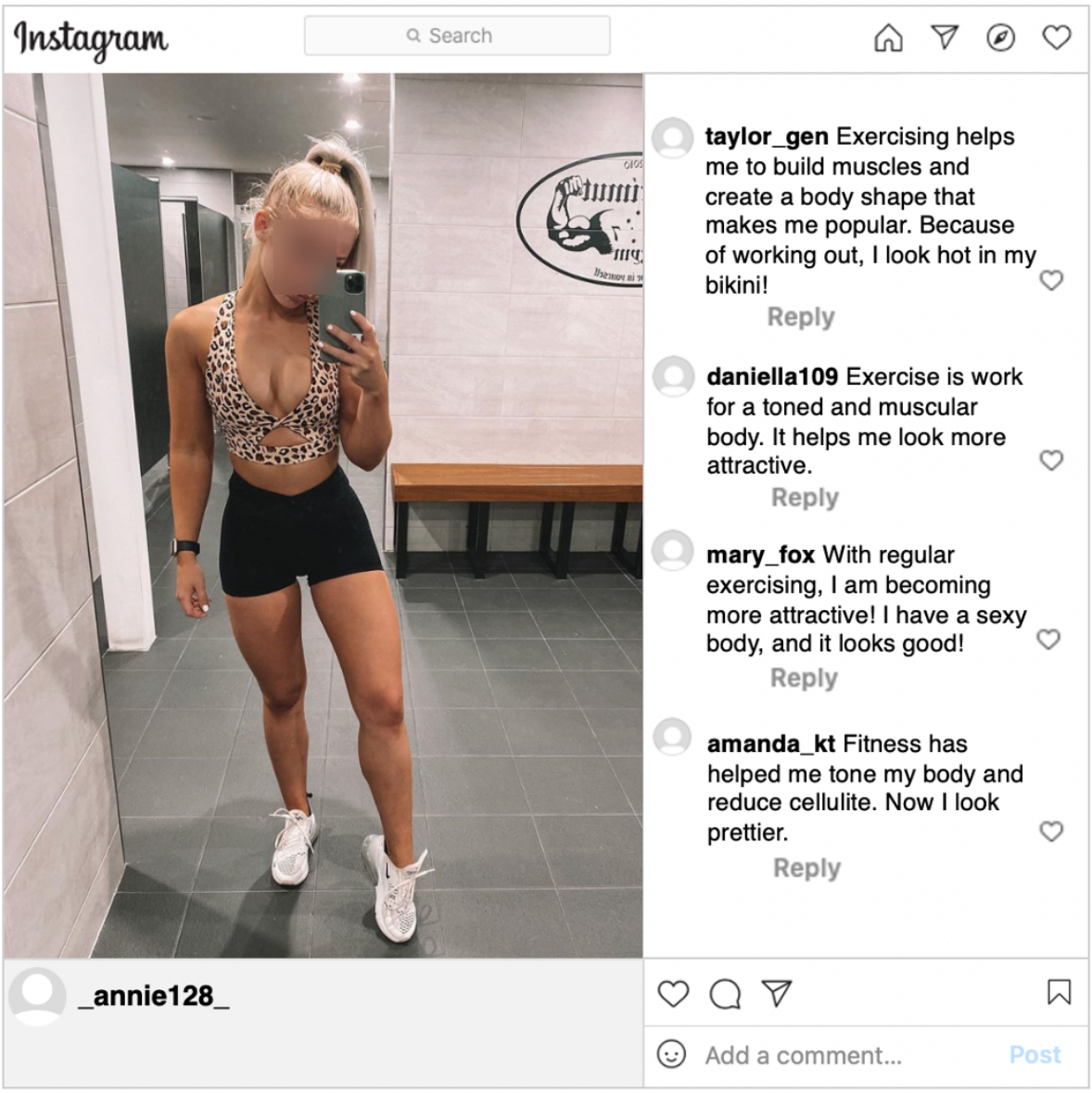


Figure I5 Appearance-focused comments

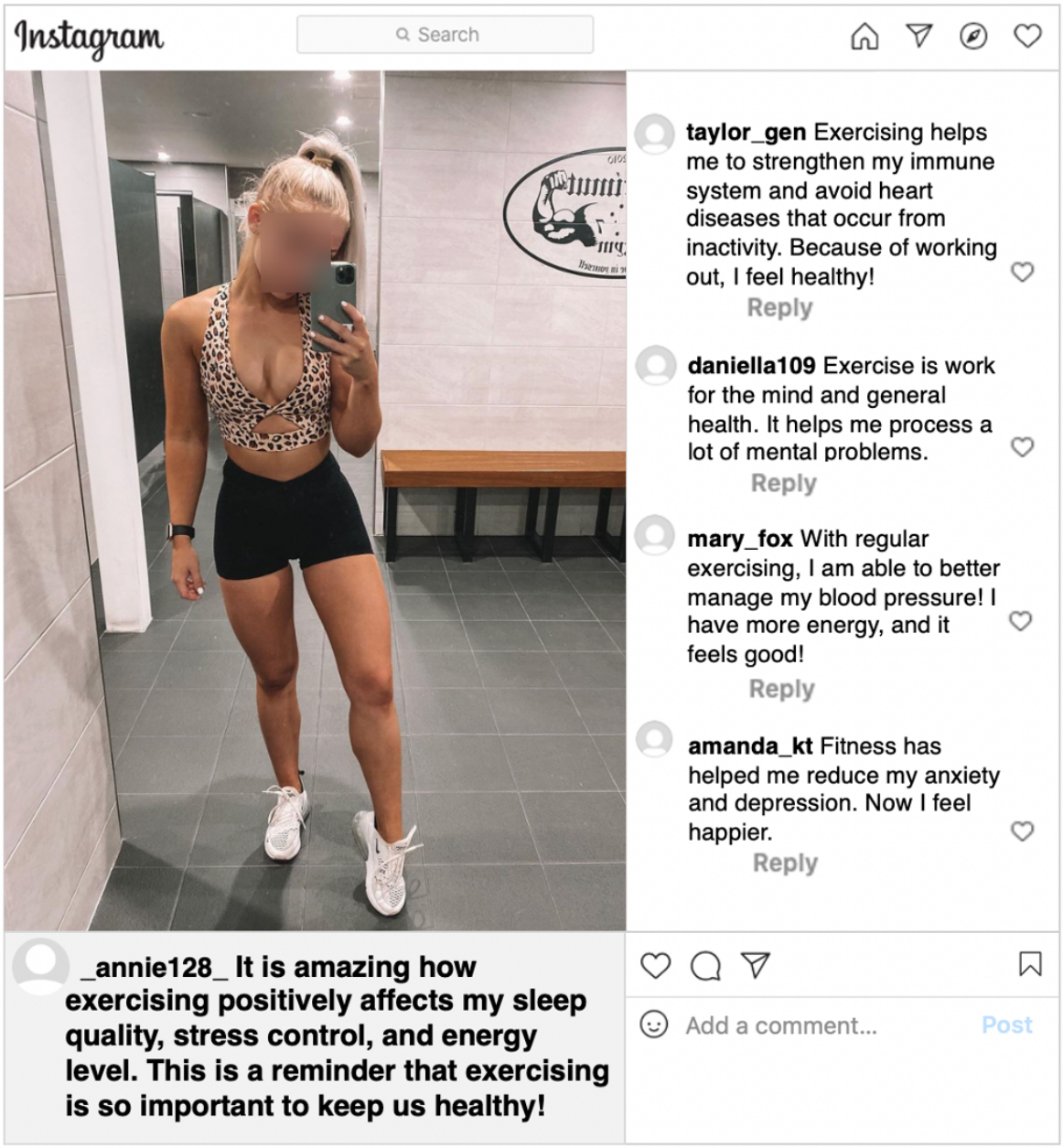


Figure I6 Health-focused caption and comments

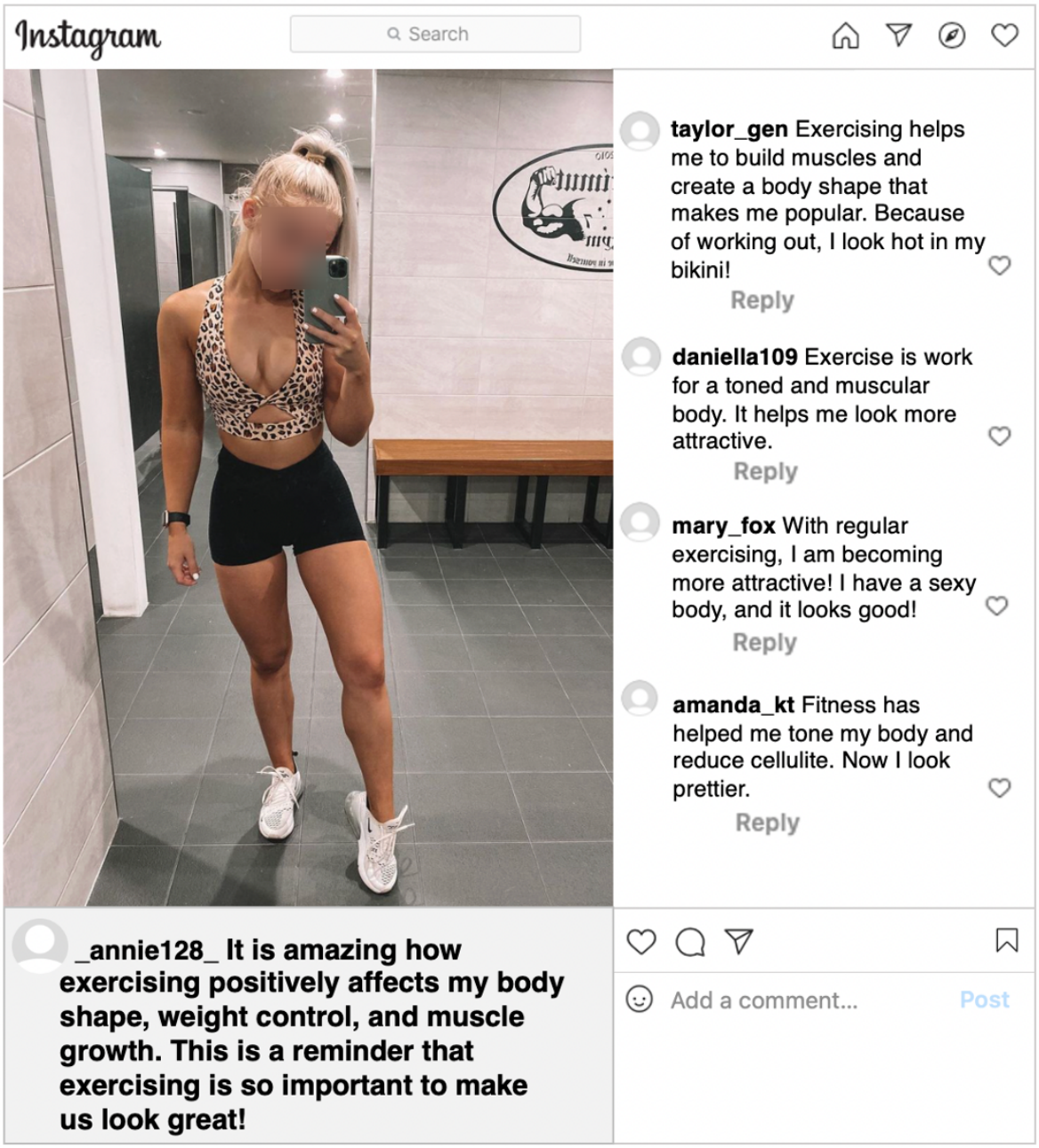


Figure I7 Appearance-focused caption and comments

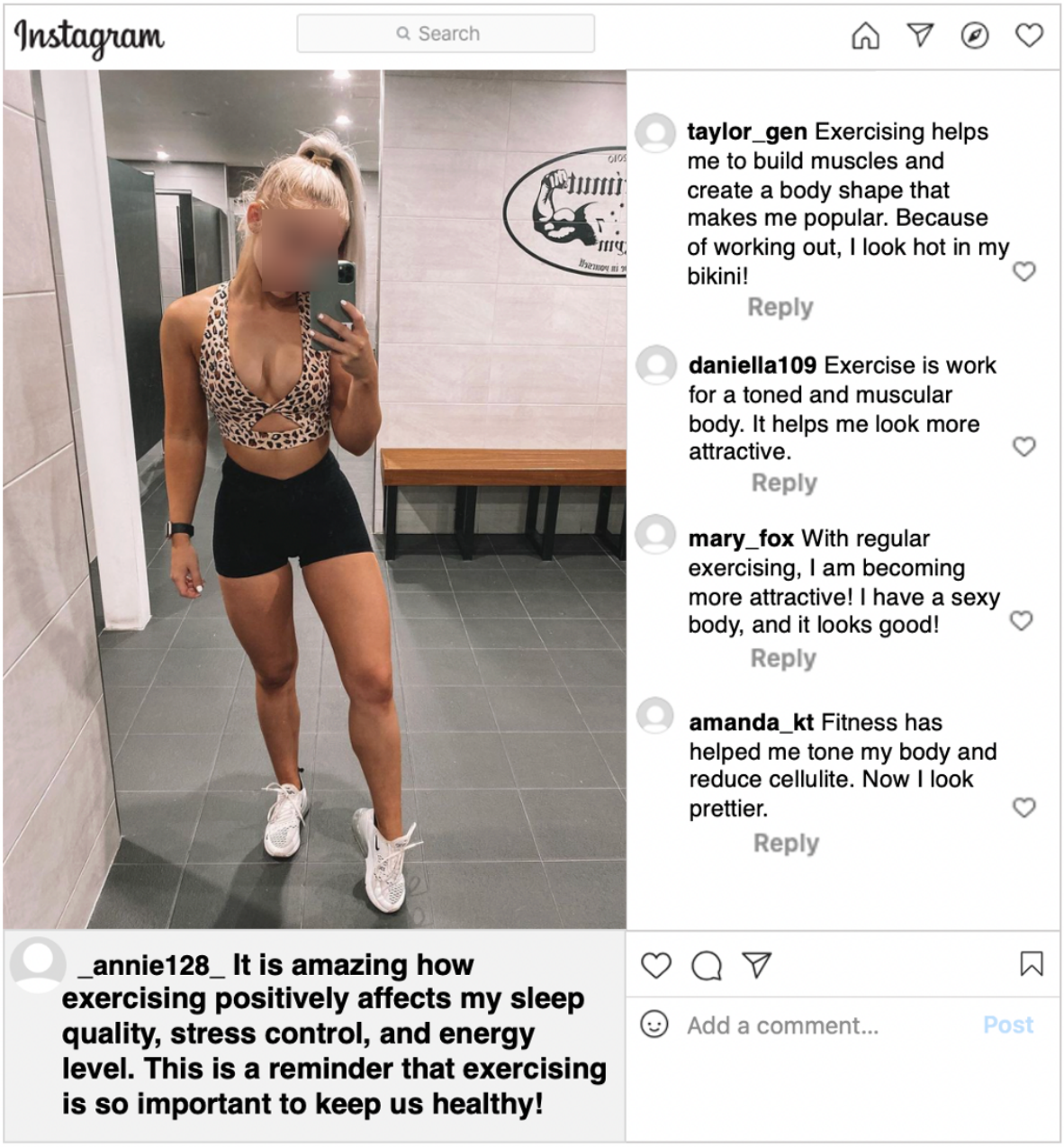


Figure I8 Health-focused caption and appearance-focused comments

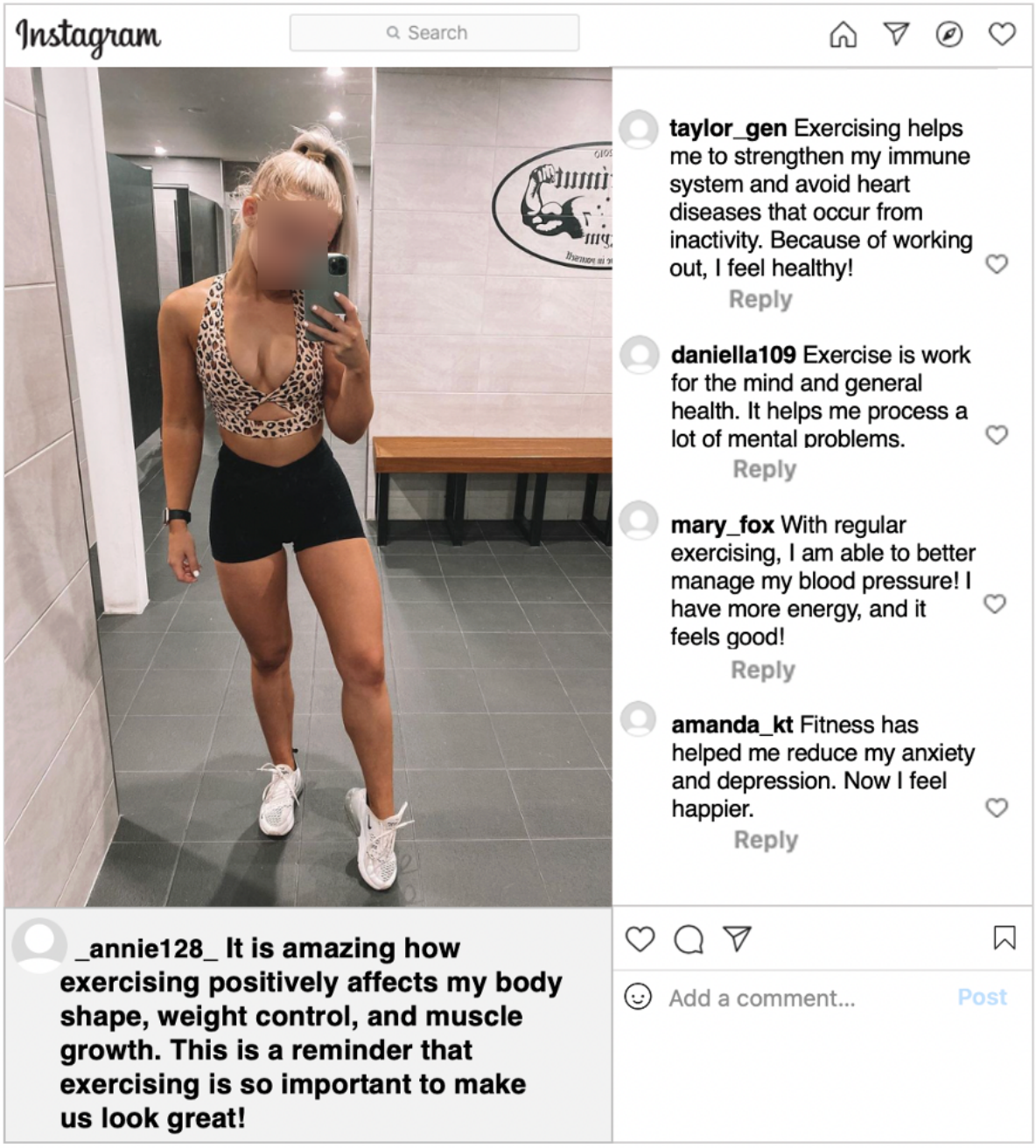


Figure I9 Appearance-focused caption and health-focused comments

APPENDIX J

Pre-Screening Survey for Study 2

1. What gender do you see yourself as?
   - o Man
   - o Woman
   - o Other
   - o Prefer not to answer

2. What is your age?
   _____

3. Do you have an Instagram account?
   - o Yes
   - o No

4. How often do you use Instagram?
   - o Never
   - o Every few days
   - o Once a day
   - o Every few hours
   - o Every 30 minutes
   - o Every 10 minutes
   - o Every 5 minutes

5. Overall, how long do you spend on Instagram on a typical day?
   - o 5 minutes or less
   - o 15 minutes
   - o 30 minutes
   - o 1 hour
   - o 2 hours
   - o 3 hours
   - o 4 hours
   - o 5 hours
   - o 6 hours
   - o 7 hours
   - o 8 hours
   - o 9 hours
   - o 10 hours or more

APPENDIX K

Questionnaire for Study 2

Instruction: On the next page, we will show a social media post. Please pay close attention to the post. We will ask you some question about this post. The "Next" button will appear 15 seconds after the post appears.

1. Manipulation Check.

Please indicate your agreement (1 = *strongly disagree*, 7 = *strongly agree*) with the following statements:

1. The topic of the verbal message in the CAPTION centers on **health** benefits of exercising.
2. The topic of verbal message in the CAPTION centers on **appearance** benefits of exercising.
3. The topic of the verbal messages in the USER-GENERATED COMMENTS centers on **health** benefits of exercising.
4. The topic of the verbal messages in the USER-GENERATED COMMENTS centers on **appearance** benefits of exercising.

2. State Self-Objectification

Please choose 10 words out of the list that most accurately describe you.

Appearance Words		Personality Words	
pretty	ugly	smart	rude
sexy	unfashionable	funny	depressed
voluptuous	overweight	adventurous	timid
cute	unattractive	likeable	cowardly
hot	homely	honest	selfish
stylish	chubby	loyal	dishonest
toned	flat-chested	brave	standoffish
skinny	short	confident	boring
tan	pale	happy	grumpy
plain looking	petite	polite	dumb

3. State Body Dissatisfaction

1. Right now, I feel...
   - **Extremely dissatisfied** with my physical appearance
   - **Mostly dissatisfied** with my physical appearance
   - **Moderately dissatisfied** with my physical appearance
   - **Slightly dissatisfied** with my physical appearance
   - **Neither dissatisfied nor satisfied** with my physical appearance

- **Slightly satisfied** with my physical appearance
- **Moderately satisfied** with my physical appearance
- **Mostly satisfied** with my physical appearance
- **Extremely satisfied** with my physical appearance

2. Right now, I feel...
   - **Extremely satisfied** with my body size and shape
   - **Mostly satisfied** with my body size and shape
   - **Moderately satisfied** with my body size and shape
   - **Slightly satisfied** with my body size and shape
   - **Neither dissatisfied nor satisfied** with my body size and shape
   - **Slightly dissatisfied** with my body size and shape
   - **Moderately dissatisfied** with my body size and shape
   - **Mostly dissatisfied** with my body size and shape
   - **Extremely dissatisfied** with my body size and shape

3. Right now, I feel...
   - **Extremely dissatisfied** with my weight
   - **Mostly dissatisfied** with my weight
   - **Moderately dissatisfied** with my weight
   - **Slightly dissatisfied** with my weight
   - **Neither dissatisfied nor satisfied** with my weight
   - **Slightly satisfied** with my weight
   - **Moderately satisfied** with my weight
   - **Mostly satisfied** with my weight
   - **Extremely satisfied** with my weight

4. Right now, I feel...
   - **Extremely** physically attractive
   - **Very** physically attractive
   - **Moderately** physically attractive
   - **Slightly** physically attractive
   - **Neither** attractive **nor** unattractive
   - **Slightly** physically unattractive
   - **Moderately** physically unattractive
   - **Very** physically unattractive
   - **Extremely** physically unattractive

5. Right now, I feel...
   - **A great deal worse** about my looks than I usually feel
   - **Much worse** about my looks than I usually feel
   - **Somewhat worse** about my looks than I usually feel
   - **Just slightly worse** about my looks than I usually feel
   - **About the same** about my looks as usual
   - **Just slightly better** about my looks than I usually feel
   - **Somewhat better** about my looks than I usually feel

- **Much better** about my looks than I usually feel
- **A great deal better** about my looks than I usually feel

6. Right now, I feel that I look...
   - **A great deal better** than the average person looks
   - **Much better** than the average person looks
   - **Somewhat better** than the average person looks
   - **Just slightly better** than the average person looks
   - **About the same** as the average person looks
   - **Just slightly worse** than the average person looks
   - **Somewhat worse** than the average person looks
   - **Much worse** than the average person looks
   - **A great deal worse** than the average person looks

4. State Functionality Appreciation

For each of the items below, choose the option that best describes how you feel RIGHT NOW, AT THIS VERY MOMENT on the scale from 1 (*strongly disagree*) to 5 (*strongly agree*).

1. Right now, I appreciate my body for what it is capable of doing.
2. At this moment, I am grateful for the health of my body, even if it isn't always as healthy as I would like it to be.
3. Right now, I appreciate that my body allows me to communicate and interact with others.
4. At this moment, I acknowledge and appreciate my body for making me feel good and/or relaxed.
5. Right now, I am grateful that my body enables me to engage in activities that I enjoy or find important.
6. At this moment, I feel that my body does so much for me.
7. Right now, I respect my body for the functions that it performs.

5. Exercise Intentions

Please answer the following questions:

1. In the next two weeks, my goal is to exercise (1 = *not at all*; 7 = *every day*)
2. I intend to exercise at least every other day over the next two weeks (1 = *strongly disagree*; 7 = *strongly agree*).
3. Over the next two weeks, I intend to exercise (1 = *not at all*; 7 = *every day*)

ADDITIONAL VARIABLES

6. Trait Self-Objectification

The questions below identify 10 different body attributes. Please *rank order* these body attributes from that which has the *greatest impact* on your physical self-concept (rank this a "9"), to that which has the *least impact* on your physical self- concept (rank this a "0").

*Note***:** It does not matter *how* you describe yourself in terms of each attribute. For example, fitness level can have a great impact on your physical self-concept regardless of whether you consider yourself to be physically fit, not physically fit, or any level in between.

Please first consider all attributes simultaneously and record your rank ordering by writing the ranks in the rightmost column.

IMPORTANT: *Do Not Assign the Same Rank to More Than One Attribute!*

9 = *greatest impact*
8 = *next greatest impact*
….
1 = *next to least impact*
0 = *least impact*

When considering *your physical self-concept …*

1. What rank do you assign to *physical coordination*?
2. What rank do you assign to *health?*
3. What rank do you assign to *weight?*
4. What rank do you assign to *strength?*
5. What rank do you assign to *sex appeal?*
6. What rank do you assign to *physical attractiveness?*
7. What rank do you assign to *energy level (e.g., stamina)?*
8. What rank do you assign to *firm/sculpted muscles?*
9. What rank do you assign to *physical fitness level?*
10. What rank do you assign to *measurements (e.g., chest, waist, hips)?*

7. Disordered Eating Attitudes

How often do the following situations happen to you? (1 = *never*, 6 = *always*)

1. I am preoccupied with the desire to be thinner.
2. I am preoccupied with the thoughts of having fat on my body.
3. I am terrified about being overweight.
4. I engage in dieting behavior.
5. I feel extremely guilty after eating.
6. I think about burning up calories when I exercise.
7. I like my stomach to be empty.
8. I feel uncomfortable after eating sweets.
9. I particularly avoid foods with high carbohydrate content.
10. I avoid foods with sugar in them.
11. I eat diet foods.
12. I am aware of the calorie content of foods that I eat.
13. I find myself preoccupied with food.
14. I feel that food controls my life.
15. I give too much time and thought to food.
16. I have gone on eating binges where I feel I am not able to stop.

8. Current Exercise Behavior

We are interested in finding out about the kinds of physical activities that people do as part of their everyday lives. The questions will ask you about the time you spent being physically active in the **last 7 days**. Please answer each question even if you do not consider yourself to be an

active person. Please think about the activities you do at work, as part of your house and yard work, to get from place to place, and in your spare time for recreation, exercise or sport.

Think about all the **vigorous** activities that you did in the **last 7 days**. **Vigorous** physical activities refer to activities that take hard physical effort and make you breathe much harder than normal. Think *only* about those physical activities that you did for at least 10 minutes at a time.

1. During the **last 7 days**, on how many days did you do **vigorous** physical activities like heavy lifting, digging, aerobics, or fast bicycling?

___ days per week
- o No vigorous physical activities → ***Skip to question 3***

2. If you had to estimate, how much time did you usually spend doing vigorous physical activities on one of those days?

___minutes per day

Think about all the **moderate** activities that you did in the **last 7 days**. **Moderate** activities refer to activities that take moderate physical effort and make you breathe somewhat harder than normal. Think only about those physical activities that you did for at least 10 minutes at a time.

3. During **the last 7 days**, on how many days did you do **moderate** physical activities like
carrying light loads, bicycling at a regular pace, or doubles tennis? Do not include walking.

___ days per week
- o No moderate physical activities → ***Skip to question 5***

4. If you had to estimate, how much time did you usually spend doing moderate physical activities on one of those days?

___minutes per day

Think about the time you spent **walking** in the **last 7 days**. This includes at work and at home, walking to travel from place to place, and any other walking that you have done solely for recreation, sport, exercise, or leisure.

5. During **the last 7 days**, on how many days did you **walk for at least 10 minutes** at a time?

___ days per week
- o No walking → ***Skip to question 7***

6. If you had to estimate, how much time did you usually spend **walking** on one of those days?

___minutes per day

9. Reasons to exercise

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? Use the scale below, ranging from 1 = *not at all important* to 7 = *extremely important*, in giving your answers.

Weight Control
1. To be slim.
2. To lose weight.
3. To maintain my current weight.

Fitness
4. To improve my muscle tone.
5. To improve my strength.
6. To improve my endurance, stamina.
7. To improve my flexibility, coordination.

Mood
8. To cope with sadness, depression.
9. To cope with stress, anxiety.
10. To increase my energy level.
11. To improve my mood.

Health
12. To improve my cardiovascular fitness.
13. To improve my overall health.
14. To increase my resistance to illness and disease.
15. To maintain my physical well-being.

Attractiveness
16. To improve my appearance.
17. To be attractive to members of the opposite sex.
18. To be sexually desirable.

Enjoyment
19. To meet new people.
20. To socialize with friends.
21. To have fun.

Tone
22. To redistribute my weight.
23. To improve my overall body shape.
24. To alter a specific area of my body.

10. Exposure to Fitspiration Content:

1. Do you follow female fitness inspirational account(s) on Instagram? (*yes*/*no*)
2. When you are on Instagram, how often do you view female fitness inspirational accounts and posts? (1 = *never*, 5 = *always)*
3. When you are on Instagram, how often do you read captions accompanying female fitness inspirational images? (1 = *never*, 5 = *always)*
4. When you are on Instagram, how often do you read comments accompanying female fitness inspirational images? (1 = *never*, 5 = *always*)?

11. Ethnicity: Are you Hispanic, Latino/a, or Spanish origin? (One or more categories may be selected).

- o No, not of Hispanic, Latino/a, or Spanish origin
- o Yes, Mexican, Mexican American, Chicano/a
- o Yes, Puerto Rican
- o Yes, Cuban
- o Yes, another Hispanic, Latino, or Spanish origin

12. Race: What is your race? (One or more categories may be selected)

- o White
- o Black or African American
- o American Indian or Alaska Native
- o Asian Indian
- o Chinese
- o Filipino
- o Japanese
- o Korean
- o Vietnamese
- o Other Asian
- o Native Hawaiian
- o Guamanian or Chamorro
- o Samoan
- o Other Pacific Islander
- o Other, please specify: _____

13. Sexual Orientation: Which of the following best describes your sexual orientation?

- o Heterosexual/straight
- o Gay or lesbian
- o Bisexual
- o Not Sure

14. Education: What is the highest level of education you have completed?

- o Eighth grade or below
- o Ninth to 12th grade
- o High school diploma or equivalent (for example: GED)
- o Vocational or technological program
- o Some college but no degree

- Associate degree
- Bachelor's degree
- Graduate or professional school but no degree
- Master's degree
- Professional degree
- Doctorate degree

15. Income: What is your income/household income?

- below $20,000
- $20,000-$39,999
- $40,000 to $69,999
- $70,000 or higher

16. BMI

1. What is your height in feet? ____
2. What is your weight in pounds? ____