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Claremont McKenna College

Can Instagram Do #good?

The Effect of Instagram Advertising on Positive Body Image

submitted to
Professor Kathleen Brown

by
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for
Senior Thesis in Psychology

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Can Instagram Do #good?

The Effect of Instagram Advertising on Positive Body Image

Dhara Singh

Claremont McKenna College

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Abstract

Research on the effects of social media and advertising on body image has predominantly focused on the negative impacts, with limited studies exploring the effects on positive body image. This study investigated whether body positive Instagram advertising images, which aim to promote body acceptance, increase positive body image compared to ideal or neutral (landscape) images. One hundred and thirty participants (66.2% female) were randomly assigned to an image condition and shown a series of neutral, ideal, or body positive Instagram images. Participants' positive body image was then measured using the Body Appreciation Scale-2 (BAS-2) and Functional Appreciation Scale (FAS). A ceiling effect on the FAS resulted in no significant differences in body functionality appreciation between genders or image conditions. Results showed that body appreciation was higher among males than females, and that body appreciation was significantly higher in the neutral (landscape) image condition than the body positive image condition. Therefore, any image featuring a body may be harmful to positive body image, even ones that are considered body positive. Implications and directions for future research are discussed.

Keywords: body appreciation, body functionality appreciation, body positive, positive body image, thin/fit-ideal

The Effect of Instagram Advertising on Positive Body Image

Over the past two decades, social media usage has exponentially increased, providing individuals with constant access to visual stimuli and messaging. Much of the imagery presented online portrays societal beauty standards, which promote an airbrushed thin ideal for women, and a sculpted fit ideal for men. Social media did not create these beauty standards; advertisements and media have promoted unattainable ideals as long as they have existed, but the prevalence of these images in individuals' daily lives is unprecedented. The significant harm that these ideals can cause to body image in men and women has been well established (Blond, 2008; Grabe, Ward, & Hyde, 2008). Today, only 26% of women and 28% of men feel satisfied with their appearance (Frederick, Sandhu, Morse, & Swami, 2016), meaning that most Americans are dissatisfied with their appearance (Most Americans). Given that 94% of the leading models are underweight (Schlossberg, 2016), it is unsurprising that the majority of people feel this way when the idealized images they see do not represent their bodies.

The rise of social media platforms, such as Instagram, has created a need for research exploring the unique impact these platforms have on their users. Instagram, a photo and video-sharing social media service, was created in 2010. Just 10 years later it has over a billion users (Ortiz, 2019). The average Instagram user spends 53 minutes per day on the app, giving advertisers many opportunities to reach them (Molla & Wagner, 2018). Since the early 2000s, the internet has focused on custom advertising, where sites track individual's browsing history and then present them with products relevant to them (Pumphrey, 2012). Instagram and other social media platforms have taken this

individualized advertising further by presenting users with advertisement images that fit into their feed so seamlessly that it is not obvious they are selling a product (Chen, 2017). When people sign up for platforms like Instagram, they are unaware of the sheer number of advertising images they will be exposed to every day, and the impact that those images may have. It is estimated that the average American views somewhere between 4,000 and 10,000 ads each day (Simpson, 2017). Because the presence of social media in our society only seems to be increasing, it is important for researchers to investigate the range of impacts social media can have on individuals.

Instagram's visual medium can either promote the current unrealistic physical ideal, or work to change that ideal with the goal of promoting positive body image. In recent years, a body positivity movement has been taking place across social media. The goal of this movement is to encourage all people to love their body. Despite the movement's popularity, few studies have investigated its impact on body image and whether body positive messages can actually improve body image. So far, the majority of research remains focused on the negative impact that media (including social media) has on body image and the development of eating disorders in women.

Media has been shown to increase negative body image concerns in women and men. Print magazines, commercials, television, and social media have all been shown to increase body dissatisfaction (Harrison & Cantor, 1997; Holland & Tiggemann, 2016). An overview of the existing research through the lens of meta-analyses supports the pattern that media is correlated with decreased body image. A meta-analysis of 77 experimental and correlational studies on the relationship between media exposure and body dissatisfaction found that media presenting the thin-ideal was associated with body

dissatisfaction in women (Grabe et al., 2008). Although the prevailing images of men in media differ from women, their body image is affected in the same direction when exposed to media. An analysis of 15 experimental studies that exposed men to idealized bodies in advertisements found that exposure to these images led to a small, but significant, increase in body dissatisfaction (Blond, 2008).

Self-Objectification Theory

Self-objectification theory provides a potential explanation for the relationship between media and body image. According to self-objectification theory, individuals internalize the ideals presented by the media, causing them to adopt a third person perspective on their bodies instead of a first person perspective (Fredrickson & Roberts, 1997). This means that men and women value how they look to others over how their bodies feel internally or what they can do with their bodies. Social and cultural objectification (which happens most commonly through the media) leads to self-objectification, which can lead to an increase in body shame, anxiety, and a decrease in internal awareness. Self-objectification can lead to disordered eating and depression when taken to the extreme (Fredrickson & Roberts, 1997).

Individuals experience social and cultural objectification in many aspects of their lives, particularly through their social media usage. Hanna et al. (2017) explored the role that self-objectification played in the relationship between Facebook usage and self-esteem, mental health, and body shame. Through surveying over 1,000 undergraduate students, they found that Facebook use was associated with greater self-objectification and social comparison. Greater self-objectification was related to lower self-esteem, poorer mental health, and higher body shame. Hanna et al. concluded that self-

objectification can act as the mediator between social media and body image. The role of self-objectification in response to social media has been found to expand across many different platforms, and works differently between men and women.

Because the media portrays men and women in different ways, they internalize different societal ideals (Murnen & Don, 2012). Traditionally, male bodies have been valued for their functional qualities, whereas females are valued for their aesthetic qualities (Fredrickson & Roberts, 1997). In the media, females are typically held to a thin-ideal, and men are portrayed with a muscular male body ideal (Peixotolabre, 2002). Although females were historically objectified more in the media, there has been an increase in male bodies portrayed in advertisements and larger emphasis on the muscular-ideal (Grogan, 1997). Women also tend to experience higher levels of self-objectification (Murnen & Don, 2012).

Using the Embodied Image Scale, Abbott and Barber (2010) found that male and female high school students report significantly different functional and aesthetic values. Females had significantly higher aesthetic values and lower aesthetic satisfaction, functional values, and functional satisfaction than male participants. Overall, they found that males' body dissatisfaction frequently results from their evaluations of their strength and muscle (functional qualities), whereas females' dissatisfaction is rooted in their appearance or weight (aesthetic qualities) (Abbott & Barber, 2010).

Some historians argue that the thin-ideal was the outcome of successful marketing by the fashion industry starting in the 1920s, and that these damaging images have prevailed over the last century (Grogan, 1997). These thin-ideal images have been found to causally influence eating disorders and body dissatisfaction. Using multiple different

experimental techniques, including randomized controlled experiments and the experimental manipulation of thin-ideal internalization, Thompson and Stice (2001) concluded that there is a causal relationship between females' internalization of attractiveness and eating disorders and body image disturbance. This relationship is termed "thin-ideal internalization," which is the extent that individuals are affected by socially defined ideals of attractiveness. This causal relationship has been upheld in subsequent research, and supports the theory that self-objectification explains the link between media ideals and body image concern. Time spent on the internet is significantly related to thin-ideal internalization for adolescent girls, and Facebook users have been found to report significantly higher scores on body image concerns (Tiggemann & Slater, 2013).

While the male muscular ideal has been present in art for most of history (e.g., Michelangelo's *David*), its presence in media was largely non-existent in the early 1900s (Grogan, 1997). Since the later 1900s, portrayal of the sculpted, athletic, male body in advertisements has gained popularity, leading to increased internalization of the ideal by men (Hargreaves & Tiggemann, 2009). Men who internalize media images more have been found to have higher levels of body dissatisfaction when exposed to both slender and muscular ideal conditions (Galioto & Growther, 2013). Additionally, media images of muscular men typically lead to greater dissatisfaction, because muscularity represents strength, which men are taught to value (Blond, 2008).

Positive Body Image

The relationship between negative body image and traditional media and advertising has been well studied, especially in the context of eating disorder

development. However, over the last decade a new field of research has emerged: positive body image. This development was partially derived from the societal shift taking place which critiques dieting and the promotion of the thin-ideal, and attempts to improve body confidence (Grogan, 2017). Additionally, in 2004 *Body Image: The International Journal of Research* was established. This journal encourages submissions on positive body image and asks for research on factors influencing positive body image development, adaptive body image processes, and potential interventions to promote positive body image (Tylka & Wood-Barcalow, 2015).

Positive body image is rooted in positive psychology, a field which is not only about helping people not feel bad, but also about assisting people to use their strengths to foster flourishing lives (Tylka, 2012). Extending positive psychology ideals to body image means emphasizing that the absence of negative body image does not mean the presence of positive body image, as positive body image is distinct from negative (Tylka, 2012). The core characteristics of positive body image are body appreciation, body functionality appreciation, body acceptance and love, the broad conceptualization of beauty, adaptive investment in appearance, inner positivity, and filtering information in a protective manner (Tylka & Wood-Barcalow, 2015). Body appreciation is multi-faceted and includes appreciation for the body's function, health, and features. Positive body image is also both stable and malleable, meaning that while it remains relatively consistent over time, it can be changed. It is shaped by social identities and experiences, so it is strongly influenced by media and socialization. It can also protect individuals against negative stimuli in their environment (Tylka & Wood-Barcalow, 2015). Body appreciation and body functionality appreciation encompass many of the aspects that are

affected by self-objectification, and were therefore investigated more in-depth in the present study.

It is important for individuals to have positive body image because it promotes many aspects of well-being, and protects against negative stimuli and mental illness. A study of over 1,000 British adults found that positive body image was associated with significantly higher levels of emotional, psychological, and social well-being (Swami, Weis, Barron & Furnham, 2017). Specifically, measures of body appreciation were found to be the strongest predictor in all domains of well-being. Body appreciation has also been linked to greater health-related behaviors for college-aged men and women (Tylka & Wood-Barcalow, 2015). Body Mass Index (BMI) is negatively associated with all body image measures, a relationship whose causal direction has not yet been identified (Swami et al., 2017). A qualitative study of adolescents with high levels of positive body image found that positive body image protected individuals against idealistic images, and allowed individuals to criticize media ideals instead of internalizing them (Holmqvist & Frisen, 2012). Positive body image also led to a greater conceptualization of what beauty is, and allowed individuals to define beauty outside of the typical media representation. Body satisfaction has been found to protect against the negative impact of ideal images in men and women (Blond, 2008). The protective aspect of positive body image can stop the process of self-objectification even when individuals are exposed to idealistic stimuli.

Because of gender socialization and socio-cultural ideals, men and women have different trends in positive body image. Women tend to have significantly lower levels of body appreciation and body pride than men (Swami et al., 2017). However, past research has found no significant difference between men's and women's levels of body

functionality appreciation (Alleva, Tylka & Diest, 2017). These trends are likely caused by men placing higher value on their functional qualities, which are related to functional appreciation, and females placing higher value on their aesthetic qualities, which are more related to body appreciation (Abbott & Barber, 2010).

Body Positive Media and Body Image

In conjunction with the development of the positive body image field, there has also been a cultural shift over the past few decades towards body positive media and messaging (Grogan, 2017). The goals of body positivity are to challenge the prevailing thin-ideal messages and images in the media, and foster the acceptance and appreciation of bodies of all sizes, shapes, and appearances (Cohen, Irwin, Newton-John & Slater, 2019). Movements such as Dove's Real Beauty campaign and Aerie's #Real campaign, which feature diverse models and eliminate the use of Photoshop, have influenced more brands to feature images that are considered body positive (Convertino, Rodgers, Franko, & Jodoin, 2016). Aerie's inclusive marketing campaign sparked a great deal of conversations on diversifying models, especially as their market share has been steadily increasing. Victoria's Secret, on the other hand, whose advertisements embody the thin-ideal, has been consistently losing market share (Garcia, 2019). This body positive movement has become especially popular on the Instagram application, where there are 11.9 million results for the hashtag #bodypositive. While this movement is taking place in some capacities for both genders, the majority of body positive advertising campaigns only feature women. Thus, research on the impact of body positive images has only focused on women up until this point.

Following the creation of the Aerie Real campaign, researchers examined the impact of viewing Aerie Real images, that were not retouched, versus Aerie's previous campaigns which featured digitally modified images. Through surveying college women, Convertino et al. (2016) found that while viewing any image decreased body satisfaction, Aerie Real images had less of a negative impact than the retouched images. Importantly, this study confirmed that viewing advertisements that featured traditionally attractive models lowered individual's body satisfaction, even when they were not retouched. A study conducted by Cohen, Fardouly, et al. (2019) examined the impact of Instagram images that were either categorized as body positive, neutral, or thin-ideal on college-aged women's mood and body appreciation. Their stimuli featured images from public Instagram accounts and were not restricted to advertisements. The thin-ideal stimuli were comprised entirely of thin women in revealing clothes, whereas 25% of the body positive images were illustrated quotes encouraging individuals to love their bodies and accept it at all sizes (e.g., "Your body is not your masterpiece. Your body is the paintbrush you can use to create your masterpiece."). Cohen, Fardouly, et al. (2019) found that female exposure to body positive posts was associated with an increase in their mood and body appreciation relative to thin-ideal and neutral conditions. They also found that both the thin-ideal and body positive posts were associated with higher levels of self-objectification compared to the neutral condition (Cohen, Fardouly, et al., 2019).

The impact of more diverse body messages and body images remains unclear. People may react most positively to the messages that align closest with the body types with which they identify (Betz & Ramsey, 2017). Consistent with previous research, Betz and Ramsey (2017) found that when a sample of American women were shown thin,

athletic, curvy ideal, and body-acceptance messages and photos, they viewed body-acceptance and athletic messages most favorably. They also found that body-acceptance messages led to less self-objectification than any ideal messaging, but that these messages did not improve women's body image.

Hypotheses

The present study's goal was to examine the effect of body positive Instagram advertising on positive body image in men and women. By varying three image conditions, this study manipulated the type of Instagram advertising that individuals were exposed to. Participants viewed either neutral (landscape) photos, idealized images of men and women, or body positive images. Participants' positive body image was then measured using the Body Appreciation Scale-2 (BAS-2) and Functional Appreciation Scale (FAS).

Previous research has yet to determine what, if any, role social media can play in improving positive body image for either gender. There has been some evidence that body positive images can improve body appreciation in women (Cohen, Fardouly, et al., 2019), however no research to date has examined the effect of these images on men. Research has found that men tend to have higher levels of body appreciation than women (Swami et al., 2017), but that there are no significant differences between genders on body functionality appreciation (Alleva et al., 2017). Women experience higher levels of self-objectification (Murnen & Don, 2012), and self-objectification is thought to be the most common way media influences body image. Therefore, this study predicted that women's levels of positive body image would be more influenced by both body positive images and ideal images than men's. In other words, women were expected to always

have lower levels of body appreciation than men, but that gender difference would be greater in the ideal condition than the body positive condition.

Hypothesis 1 & 2. Body appreciation and functionality appreciation would be highest for participants in the body positive condition, then those in the neutral condition, and lowest for those in the ideal condition.

Hypothesis 3. Body appreciation would be higher among males than females in all image conditions.

Hypothesis 4 & 5. Females' levels of body appreciation and functionality appreciation would decrease more than males' when they were in the ideal condition, and increase more than males' when they were in the body positive condition compared to the neutral.

Hypothesis 6. There would be no main effect of gender for functionality appreciation, so females' functionality appreciation would be lower than males' in the ideal condition and higher than males in the body positive condition.

Method: Pilot Test

Overview

The purpose of the pilot study was to select images that met the definitions of ideal and body positive. This pilot test was modeled off the procedure of a similar study, with slight changes made to the body positive and thin/fit-ideal definitions to be gender-inclusive (Cohen, Fardouly, et al., 2019).

Participants

Participants for the pilot study were recruited from a small liberal arts college in Southern California in-person and through social media. A total of 22 participants were recruited, however two male participants were removed from the original sample because their average ratings were more than two standard deviations below the other participants. The final raters were 20 upperclassman college students (55% women). Of the raters, 90% had an Instagram, and the majority (83%) reported using it a few times a day.

Materials

Instagram Images. A total of 42 images were shown in the pilot test. All images were sourced from public Instagram accounts (e.g., Nike, Aerie, Calvin Klein) and each image was advertising a brand or product. The featured models were wearing either swimsuits, underwear or revealing athletic clothing. They were in a variety of positions including sitting, walking, and yoga poses. Figure 1 presents 4 of the images that were pilot tested. The images were either categorized as ideal (22 photos) or body positive (20 photos). Images were sorted into those categories based off definitions of ideal and body positive. For images in the ideal category, 10 of the images featured men, 10 featured

women and 2 featured both a man and a woman. For images in the body positive category, 9 images featured men, 9 featured women, and 2 featured both a man and a woman.

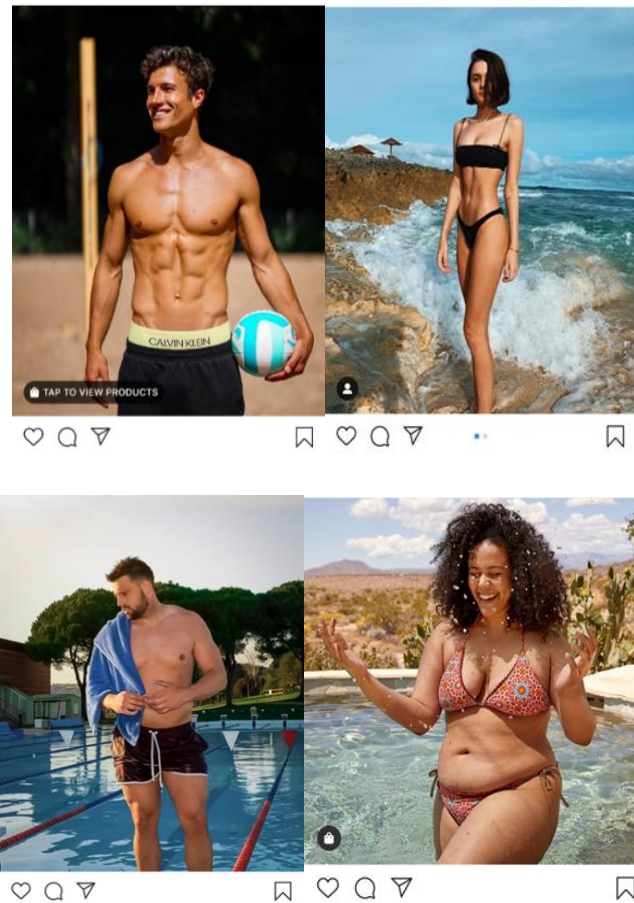


Figure 1. Starting at the top left, the images above were categorized as: 1. male ideal, 2. female ideal, 3. male body positive, 4. female body positive.

Procedure

The pilot test used an online Qualtrics survey. Raters were given the definition of ‘body positivity’ (“*Body positivity promotes the acceptance of all bodies no matter the form, size or appearance, and is rooted in the belief that all people deserve to have a positive body image*”) which was based off of multiple definitions given by leaders in the

body positivity movement (Schreiber, 2016). They were then shown the images categorized as body positive and asked to rate the extent to which each image met the definition of body positivity on a scale of 0 (*not at all*) to 100 (*extremely*). Raters were also given the thin/fit-ideal definition (“*This ideal refers to images of traditionally attractive and thin or fit men and women. The thin ideal is the presentation of the unattainable, thin, female body that is typically underweight and overrepresented in the media. The fit ideal presents males as chiseled, strong and often shirtless*”) which was worded to encompass the accepted definitions of the male and female ideals (Grogan, 1997; Thompson & Stice, 2001). They were then shown the images categorized as ideal and asked to rate the extent to which each image met the definition of the thin/fit-ideal on a scale of 0 (*not at all*) to 100 (*extremely*).

Image Selection

The 15 images rated most representative of each definition were selected (Body Positive: $M = 76.8$, $SD = 21.3$, Range = 71.6; Ideal: $M = 88.9$, $SD = 14.9$, Range = 55.2) for a total of 30 images. On average, it took participants a little over 9 minutes to complete the pilot study. For the ideal condition, the top seven rated male photos ($M = 89.3$, $SD = 15.86$) and top seven rated female photos ($M = 88.24$, $SD = 14.4$) were selected. For the body positive condition, the seven highest rated male photos ($M = 74.3$, $SD = 22.3$) and female photos ($M = 78.7$, $SD = 20.4$) were also selected. Additionally, the highest rated mixed gender photo for each condition (Body Positive: $M = 81.6$, $SD = 20.7$, Range = 65; Ideal: $M = 90.9$, $SD = 11.1$, Range = 39) was selected. On average, the photos selected as stimuli for the ideal condition were rated significantly higher than the body positive condition, $t(19) = 2.08$, $p = .045$.

Method: Main Study

Participants

The final sample consisted of 130 college students aged 18-24 ($M = 19.7$, $SD = 1.3$). Females comprised 66.2% of the sample. Participants were recruited from a small liberal arts college in Southern California through an online experiment management system (Sona Systems) in exchange for psychology course credit. In total, 133 participants were recruited, however 3 females failed the attention checks or did not complete the survey, and were removed from the analyses. Table 1 summarizes the demographic characteristics of the sample. The majority identified as Caucasian/White (43.1%), with 33.1% Asian, and 6.9% Black. International students comprised 20% of the sample. Mean self-reported body mass index (BMI) was 23.2 ($SD = 4.24$).

Participants were randomly assigned into one of the three experimental conditions, resulting in approximately 43 participants in each condition. When broken down by gender and condition, there were fewer men per condition ($n = 15$), than women ($n = 29$). The intended sample size was 198 participants, which was based on a medium effect size with a power of $\beta = .80$, however resource constraints limited data collection.

Design

A 2 (gender: male, female) x 3 (condition: neutral, ideal, body positive) between-subjects design was used. The dependent variables were body appreciation and body functionality appreciation.

Table 1
Demographic Information

Demographic Variable	Participants (<i>N</i> =130)
Gender	
Male	33.8% (44)
Female	66.2%(86)
Race/Ethnicity	
White	43.1% (56)
African-American	6.9% (9)
Asian	33.1% (43)
2 or More Races	8.5% (11)
Other	8.5% (11)
Sexuality	
Heterosexual	85.4% (111)
Gay/Lesbian	3.1% (4)
Bisexual	10.0% (13)
International	
Yes	20.0% (26)
No	80.0% (104)
In a relationship	
Yes	41.5% (54)
No	58.5% (76)
Religious	
Yes	29.2% (38)
No	70.8% (92)
Athlete	
Yes	25.4% (33)
No	74.6% (97)
BMI	(<i>M</i> = 23.2, <i>SD</i> = 4.24)
Age	(<i>M</i> = 19.7, <i>SD</i> = 1.3)

Materials and Measures

Instagram Images. Three different stimuli conditions were used (neutral, ideal, body positive), each consisting of 15 different Instagram images. The ideal and body positive images were determined by the pilot test. Both conditions' images featured an equal number of males and females, and the order of the images was randomized. The neutral condition featured 15 landscape Instagram images that were advertising locations and products. They were taken from public Instagram accounts such as Waldorf Astoria and Carnival Cruise Line. No people were featured in any of neutral condition's images.

Body Appreciation. Body appreciation was measured using the Body Appreciation Scale-2 (BAS-2). The BAS-2 has been well studied and has high internal consistency ($a = .98$) and stability for men and women, and high construct validity (Tylka & Barcalow, 2015). The BAS-2 (see Appendix A) consists of 10 questions on body appreciation (e.g., “I feel love for my body”) which participants rated on a scale from 1 (*never*) to 5 (*always*). The internal consistency of the responses in this experiment were also highly correlated, as is typical for this scale ($a = .93$). Because of this, a composite score was calculated by averaging all 10 scores.

Body Functionality Appreciation. Body functionality appreciation was measured using the Functionality Appreciation Scale (FAS). Researchers have found that the FAS is internally consistent ($a = .91$), reliable, and shown to have high construct validity (Tylka & Diest, 2017). The FAS (see Appendix B) consists of 7 questions measuring individuals’ appreciation of the functional aspects of their bodies (e.g., “I am grateful that my body enables me to engage in activities that I enjoy or find important”) which participants rated on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*). The internal consistency of the responses in this experiment were also highly correlated, as is typical for this scale ($a = .88$). Because of this, a composite score was calculated by averaging all 7 scores.

Demographic Questionnaire. Participants reported their gender, age, ethnicity, athlete status, religiosity, sexuality, and relationship status (see Appendix C). Additionally, participants’ height and weight was recorded to compute their BMI. BMI was calculated by dividing participant’s weight (lbs) by their height (in.) squared, and

multiplying by 703 (CDC). Participants were also asked whether they had an Instagram account and their time spent on Instagram if they had one.

Procedure

The online survey platform Qualtrics randomly assigned participants into one of three image conditions: neutral (landscape), ideal, or body positive. Participants were first shown an informed consent form which stated they would be shown a series of Instagram images, and then asked to answer a few questions about their perception of the images and themselves.

Participants in each condition were then shown 15 different images, each projected individually for 10 seconds before switching to the next image. These images were representative of their image condition, and featured an equal number of male and female models in a randomized order. The total presentation time was 2.5 minutes. Following the image projection, participants were asked a series of general questions about the images (e.g., “How visually appealing did you find the images”). The goal of these questions was to encourage the participant to reflect on the images. Two attention check questions (See Appendix D) were included to verify that the participants were paying attention during the image projection (e.g., “What was featured in the images you just saw?”). Participants then completed the BAS-2 and FAS questionnaires, and their demographic information. Upon completion of the survey, participants read a debriefing statement.

Results

Data Preparation

Preliminary analyses were conducted to ensure that participants passed the attention checks and fully completed the survey. Out of the total sample of 133 participants, two female participants were excluded from the analyses because they failed the attention checks. One additional participant was excluded because they did not complete the entire survey. This led to a final sample of 130 participants.

To confirm that participant demographics did not differ between the three image conditions, participant characteristics (gender, ethnicity, athlete status, sexuality, religion, relationship status, international status, and BMI) were compared across conditions. A one-way ANOVA of BMI by condition revealed that BMI did not differ significantly between image conditions, $F(2,121) = 1.77, p = .175$. Chi-Squared Tests for Independence found that for the remaining, categorical, demographic characteristics all p values were $> .49$. This confirmed that conditions were assigned independently of participants' demographics.

Assumptions of normality were checked for both dependent variables because analyses of variances and independent samples tests were conducted on the BAS-2 and FAS. Skewness and kurtosis values for the BAS-2 dependent variable indicated that there was no deviation from normality, thus no assumptions were violated. Scores on the FAS were slightly negatively skewed and the kurtosis value indicated that there was a high concentration of scores at the top end of the scale. Because the normality assumption was violated for the FAS, a stricter threshold for significance ($p < .01$) was implemented and results were analyzed with caution.

Demographic Variables

Body appreciation and functional appreciation scores were compared across participant demographic characteristics to assess their impact on positive body image. Given the kurtotic nature of the FAS scores, non-parametric independent samples tests were used to analyze demographic differences in functionality appreciation. Table 2 presents the results of the independent samples tests of demographics on the BAS-2 and FAS. An independent samples t-test on sexuality found that individuals who identified as heterosexual ($M = 3.57, SD = .76$) reported significantly higher body appreciation compared to individuals who identified as bisexual ($M = 2.88, SD = .73$), $t(122) = 3.13, p = .002$. Because the sample size of individuals who identified as gay/lesbian ($n = 4$) was small, they were excluded from the sexuality analysis. There was no significant difference between heterosexual and bisexual identifying individuals on functional appreciation, $t(122) = .50, p = .618$. Athletes also reported significantly higher body appreciation ($M = 3.85, SD = .82$) than non-athletes ($M = 3.36, SD = .72$), $t(128) = 3.28, p = .001$, but there was no significant difference between the two groups in their functionality rating ($t(128) = 1.59, p = .237$). A one-way ANOVA revealed that there was no significant effect of ethnicity on body appreciation ($F(4, 125) = 0.76, p = .555$) or on functionality appreciation ($F(4, 125) = 0.43, p = .785$).

A median split was conducted on BMI ($Mdn = 22.4$) to create a categorical variable for BMI (high, low). An independent samples t-test revealed that whether a participant's BMI was above average or below average did not have a significant effect on their body appreciation ($t(128) = 0.07, p = .945$) or functionality appreciation ($t(128) =$

0.15, $p = .882$). A regression of BMI on BAS-2 scores also found no significant effect, $b = -.118$, $t(123) = -1.31$, $p = .191$.

Table 2

Results of Independent Samples Tests of Demographics on Body Appreciation and Functionality Appreciation

Demographic Variable	BAS-2			FAS		
	Mean	SD	t	Mean	SD	t
Sexuality			3.13***			0.50
Heterosexual ($n = 13$)	3.57	.76		4.51	.58	
Bisexual ($n = 111$)	2.88	.73		4.42	.46	
International			-0.58			-0.24
Yes ($n = 26$)	3.41	.61		4.51	.46	
No ($n = 104$)	3.51	.81		4.50	.58	
In a relationship			0.45			-0.43
Yes ($n = 54$)	3.52	.75		4.49	.52	
No ($n = 76$)	3.45	.79		4.5	.59	
Religious			-0.63			-0.97
Yes ($n = 38$)	3.42	.73		4.57	.47	
No ($n = 92$)	3.51	.79		4.47	.59	
Athlete			3.28***			1.59
Yes ($n = 33$)	3.85	.82		4.60	.53	
No ($n = 97$)	3.36	.72		4.46	.57	

*** $p < .005$

Body Appreciation

A two-way 2 (gender: male, female) x 3 (condition: neutral, ideal, body positive) ANOVA was conducted to determine the effects of participant gender and image condition on body appreciation. Consistent with the hypothesis, there was a significant main effect of gender on the BAS-2 composite score, $F(1,124) = 5.66$, $p = .019$, $\eta_p^2 = .044$, such that males reported significantly higher scores on the BAS-2 ($M = 3.72$, $SD = .82$) than females ($M = 3.37$, $SD = .72$). The ANOVA also revealed a significant main effect of the image condition on the BAS-2, $F(2,124) = 3.44$, $p = .035$, $\eta_p^2 = .053$. Post

hoc comparisons using the Tukey HSD test indicated that the significant difference was between the neutral condition and the body positive condition, *Mean Difference* = 0.44, $p = .017$. Contrary to the hypothesis, participants in the neutral condition scored significantly higher on the BAS-2 ($M = 3.71$, $SD = .70$) than participants in the body positive condition ($M = 3.26$, $SD = .90$). Participants' BAS-2 scores in the ideal image condition ($M = 3.50$, $SD = .65$) were not significantly different from those in the neutral or body positive image condition. While not statistically significant, females' levels of body appreciation were higher in the ideal condition ($M = 3.46$, $SD = .58$) than in the body positive condition ($M = 3.15$, $SD = .85$), $t(4, 59) = 1.65$, $p = .105$. Although it was hypothesized that there would be an interaction between condition and gender, the interaction was not significant ($F(2, 124) = 0.81$, $p = .45$, $\eta_p^2 = .013$).

Body Functionality Appreciation

To test the effect of gender and image condition on functional body appreciation, a two-way 2 (gender: male, female) x 3 (image condition: neutral, ideal, body positive) ANOVA was conducted on the FAS. The analysis of variance indicated that, contrary to the hypothesis, there was no main effect of condition, $F(2,124) = 0.51$, $p = .604$, $\eta_p^2 = .008$. However, as expected, there was also no main effect of gender on functional appreciation, $F(1,124) = 0.01$, $p = .918$, $\eta_p^2 = .000$. Although it was also hypothesized that there would be an interaction between condition and gender on FAS, the interaction effect was not significant ($F(2,124) = 0.42$, $p = .655$, $\eta_p^2 = .007$). Overall, on a rating scale of 1-5, functionality appreciation scores were very high across all participants ($M = 4.5$, $SD = .56$). Participants' scores were not normally distributed, with the majority of scores clustered at the top end of the scale.

Discussion

The present study investigated the impact of exposure to different Instagram advertising styles on positive body image in men and women. Participants either viewed neutral, ideal, or body positive Instagram images and then rated their levels of body appreciation and functionality appreciation. Consistent with the hypotheses, men reported higher levels of body appreciation than women, and there was no gender difference on functionality appreciation. Contrary to the hypothesis, participants who were shown neutral images reported significantly higher levels of body appreciation compared to those who viewed body positive images. Participants in the ideal image conditions' levels of body appreciation were not statistically different than either other image condition. Unexpectedly, there was no effect of image condition on functionality appreciation, however, the functionality appreciation scale experienced a ceiling effect. Finally, there were no interaction effects between gender and image condition on body appreciation and functionality appreciation. Overall, this study contributes unique findings to the growing body of literature on social media's effect on positive body image.

Across all image conditions, men had significantly higher levels of body appreciation than females, and there was no gender difference in functionality appreciation. These findings are consistent with past research, and support the literature that men have higher body image in some, but not all, dimensions of positive body image (Allewaert et al., 2017). Because body appreciation focuses on general love for the body and its appearance, and women are more likely to objectify their bodies based on society's ideals, they are more likely to have lower levels of body appreciation (Murnen et al., 2012). On average, women reported feeling body appreciation a little over half the time,

whereas men reported feeling body appreciation most of the time. For both genders, but more so for females, there remains room for improvements in overall levels of body appreciation.

The present study found that men and women rated themselves very high on functionality appreciation, and that participants tended to agree or strongly agree with questions on their functionality appreciation. There is likely no gender difference in functionality appreciation because compared to men, women are less likely to judge themselves on their functional capabilities (Abbott & Barber, 2010). Women's high levels of functionality appreciation could potentially protect them against exposure to thin-ideal images, and should continue to be promoted. A study of 70 undergraduate females found that when participants were randomly assigned to focus on their functional qualities, they experienced higher levels of functionality satisfaction and body appreciation than the control group following exposure to thin-ideal images (Alleva, Vlduis & Martijn, 2016). Increased emphasis on women's body functionality, an area they appear to be fairly confident in, could help to increase overall positive body image. Advertisements and messaging that focus on women's functional capabilities could be more beneficial to overall body image than body positive images, because they focus less on physical appearance and more on what women can do with their bodies.

Demographic analyses revealed that athletes had significantly higher levels of body appreciation than non-athletes. These findings show that confidence in functional and athletic capabilities can translate to higher body appreciation. Past research has found that athletes tend to have higher body image than non-athletes (Hausenblas & Downs, 2001). When analyzing positive body image between athletes and non-athletes, Soulliard

et al. (2019) found that Division I athletes had significantly higher levels of body appreciation and functionality appreciation. The present study expands the positive impact of athletic status to individuals competing at the Division III level. While no significant difference in functionality appreciation between athletes and non-athletes was found in this study, both groups reported higher functionality appreciation on average than the previous study. These findings also support the theory that a focus on functional abilities can protect individuals against self-objectification and increase body appreciation (Alleva et al., 2016). Because athletes of both genders are valued for what their bodies can do, they may be less likely to scrutinize their body's physical appearance based off societal ideals, and more likely to value its' abilities.

It was hypothesized that participants who viewed body positive images would report higher levels of positive body image (on the BAS-2 and FAS) than those who viewed the neutral and ideal photos respectively. However, analyses revealed that body appreciation scores were significantly higher in the neutral condition than the body positive. No significant difference between image conditions was found on functionality appreciation. One potential explanation for the participants' lower body appreciation scores in the body positive condition (compared to the neutral) is that viewing any image featuring bodies may decrease positive body image. While some research has found that viewing body positive images leads to higher positive body image than viewing neutral images (Cohen, Fardouly, et al., 2019), other research has found that social media and advertisements featuring any type of body can lead to increased social comparison. Conwertino et al. (2016) found that viewing swimwear/underwear advertisements, even when the images were not retouched, decreased body satisfaction. Additionally, a study

on Australian women aged 18-29 found that following appearance-focused Instagram accounts (i.e., celebrity or health/fitness accounts) was associated with increased thin-ideal internalization and body surveillance among young women. However, following appearance-neutral accounts (travel accounts) was not associated with body image outcomes (Cohen, Newton-John & Slater, 2017). These studies are relevant to the present findings, as both the body positive and ideal image condition featured Instagram photos that were appearance-focused, whereas the neutral image condition's landscape photos were appearance-neutral. Although it was hypothesized that social comparison would be limited to the ideal condition, participants may have engaged in increased social comparison, body surveillance, and thin-ideal internalization in both image conditions, causing their body appreciation to decrease. These findings indicate that any Instagram advertisement featuring people can be harmful to individuals' body image, and that the body positive movement on social media may not be accomplishing its' goal of promoting positive body image.

Another potential mechanism behind participants' increased body appreciation in the neutral (landscape) image condition is that the neutral condition was not viewed by the participants as neutral, and may have actually caused their body image to increase. The landscape images were intended to act as a control condition compared to the ideal and body positive images, and to evoke neutral feelings in the participant in relation to their body image. To make the control condition as similar to the two treatment conditions as possible, landscape images were selected using similar criteria to the ideal and body positive images. All landscape images were taken off of public Instagram accounts, and were advertising something (mainly hotels or travel destinations). Unlike

the other two image conditions, the landscape images were not pilot tested, so it is possible that they were not viewed as neutral and therefore did not accurately measure participants baseline BAS-2 and FAS scores. Following the image projection, participants in all conditions answered a series of questions about the images to encourage them to reflect on the images, with the intention of increasing internalization of the ideal and body positive images. One of the questions participants were asked was how visually appealing they found the image stimuli, and given that the neutral condition's results contradicted expectations, additional analyses were conducted on this question to gain more insight into participants' perception. A one-way ANOVA of image condition on visual appeal analyzed how participants viewed the landscape images (compared to the images featuring bodies). Participants in the neutral condition rated their images as significantly more appealing than either body condition, $p < .001$. The visual appeal of these landscape images may have increased participants' mood overall, and a more positive mood could have led to more positive feelings about the body. Research has found a positive relationship between nature and mood. A study on around 350 adults across 4 European cities found that just 10 minutes of natural environment exposure significantly improved their participants' mood (Konda et al., 2020). They found that the relationship between nature exposure and mood was stronger when their exposure lasted a shorter period of time (10 minutes) than a longer amount of time (30 minutes). This positive effect on mood was also found when undergraduate students were exposed to virtual images of nature for 10 minutes (Valtchanov, Barton & Ellard, 2010). Thus, the 2.5 minutes of nature image exposure in the present study could have improved participants' mood. While limited research has been done on the effect of nature images

on body image, it is possible that these positive effects to mood translate to body image. Given the higher levels of body appreciation that participants reported following nature image exposure, researchers should study the potential benefit of nature on positive body image. Because many individuals experience low levels of body image, finding accessible mechanisms to improve body image remains very important for future research.

Analyses revealed no interaction effect between condition and gender on the BAS-2 or FAS, meaning individuals' reactions to the image stimuli were not dependent on their gender. Women's BAS-2 scores did react slightly differently to the image conditions than men. Men's scores on the BAS-2 were statistically similar between the ideal condition and the body positive condition. While not statistically significant, females' body appreciation in the ideal condition was slightly higher on average than those in the body positive condition. The finding that, on average, participants in the ideal condition scored identically or higher than those in the body positive condition contradicts previous research, as thin ideal images have been found to increase self-objectification and decrease positive body image (Cohen, Fardouly, et al., 2019). There are a few potential reasons for why the ideal images did not have the negative effect on body image that was expected. As previously discussed, the participants in this sample reported high levels of functionality appreciation, which may have protected them against the internalization of ideal images (Alleva et al., 2016).

Another potential explanation for why participants in the ideal image conditions' scores were not lower than the body positive condition is that individuals may react most positively to images that represent their own body types. Researchers found that adult

women had the most positive response to body image messages that aligned closest to the body types they identified with (Betz et al., 2017). The mean BMI of the present sample was 23.2, which was higher than the individuals featured in the ideal condition, but on average, lower than the individuals in the body positive condition. Participants could have identified more with individuals in the ideal condition, or the body positive, or neither. Overall, the body positive images may not have had their intended impact of promoting body acceptance because the individuals featured in the photos did not align with the participants' body type. To further understand why participants in the ideal condition reacted more positively than hypothesized, additional exploratory analyses were conducted on the questionnaire that followed the image projection. In the questionnaire, participants were asked how much exposure they had to images like the ones that were projected. A one-way ANOVA of image condition on image exposure found that individuals had less exposure to body positive images than ideal, $p = .004$. Participants may have engaged in more social comparison and body surveillance in the body positive condition than the ideal because the body positive images were less familiar, and therefore prompted individuals to reflect more. Further research should be done to investigate whether familiarity with a certain type of advertising style affects the impact that viewing those images has on body image. Specifically, researchers should look at whether participants are less reactive to advertisements featuring ideal models because they are constantly exposed to those kind of images on Instagram and other social media platforms.

As with the neutral (landscape) condition, the appeal of the image condition may have impacted the results. To understand how image appeal varied across body

conditions, another one-way ANOVA was conducted which revealed that participants rated the ideal images significantly more appealing than the body positive images, $p = .001$. The image appeal may have affected participants' body appreciation, especially if viewing images they liked more affected their mood. The difference in perceived image appeal between the ideal and body positive conditions is a limitation in the present study, as participants may be reacting to the appeal of the image and not the content of the image itself. Future research should pilot test the appeal of the images, along with how well they meet their given definition, to ensure that appeal does not differ between stimuli conditions.

Limitations

A limitation of this study was the ceiling effect on the functional appreciation scale. Overall, analyses revealed no effect of gender, image condition, or demographics on the FAS scores. No definitive conclusions can be made on the effect of these variables on functional appreciation, because of the ceiling for the FAS. The distribution of the scores was negatively skewed and kurtotic, making it difficult to detect significant differences in the scores. A potential explanation for this ceiling effect, which previous experimenters did not experience, is that the present sample has higher functionality appreciation overall. This sample was, on average, young, healthy, and athletic. Questions of the FAS asked how participants felt about their own functional capabilities, and the majority of participants may have felt very confident in their bodies' abilities. Additionally, the scale was only scored on a 5-point Likert scale, which may have been too limited to capture individual differences. Future research may want to implement a scale with a wider range of values when using this questionnaire on more athletic

populations, so that there are more options for participants to rate themselves on. Inclusion of multiple different measures of functional appreciation could also help provide more information on different aspects of functional body image.

Another limitation of the present study was that the majority of the participants were women, leaving fewer men in each of the image conditions ($N = 14$). The small number of male participants led to a low statistical power for the male image condition cells, making it more difficult to find significant differences and increasing the likelihood of a false negative. The sample's demographics were also not representative of the population as a whole, and so findings may not be generalizable. This study's participants were undergraduate students at a liberal arts college, so as is common with research conducted on college students, the sample was not diverse. The utilization of WEIRD (white, educated, industrialized, rich, and democratic) samples, such as the one in the present experiment, can lead to findings that cannot be applied cross-culturally (Jones, 2010). A more diverse sample may experience different reactions to the stimuli than 20-year-old, highly educated, white, college students. For example, Caucasian individuals tend to experience higher levels of body dissatisfaction and different body image trends than African Americans, and the present study had a very small sample of African Americans (Dye, 2015).

Additionally, the body type of this sample was not representative of the national population; the mean BMI was 23.2, however the average American's BMI is 29.3 (Fryar, Kruszon-Moran, Gu & Ogden, 2018). The sample generally fell into a healthy weight range, and had a higher percentage of athletes than the general population. BMI is negatively correlated with all positive body image measures, so this sample is more likely

to experience higher levels of positive body image overall (Swami et al., 2017). Future research should expand this experiment to different populations, and study whether diverse populations react differently to body positive styles of Instagram advertising.

The ecological validity of this study provides another limitation, as the images were presented in a survey format. On Instagram, users are constantly exposed to these types of advertisements without even realizing it because these photos are intended to blend into their feeds (Chen, 2017). In the present experiment, these photos were shown one after another and participants may have had certain expectancies about what the experiment was attempting to measure. Because the images were presented on a Qualtrics survey instead of an Instagram feed, individuals were likely more cognizant of their exposure to the images, leading them to filter their reactions to them. If the participants created their own ideas of what the study was investigating, then they may have responded to the questionnaires the way they thought researchers expected them to. The body and functionality appreciation scores would have higher ecological validity if they were administered following individuals' natural exposure to different advertisements on Instagram. Future research should attempt to increase ecological validity by measuring how individuals' body image reacts to different Instagram image types in their daily life.

Implications

In conclusion, these results present a complex answer to the titular question of whether or not Instagram can do any good. In line with previous research, men continue to experience higher levels of body appreciation than women regardless of the stimuli they are exposed to. The present study also expands previous research by investigating the impact of different styles of Instagram advertising across men and women. Viewing

nature images (featuring no people) led to the highest levels of body appreciation compared to either ideal or body positive advertisement images. Additionally, this study found no support for the idea that body positive advertisements can help increase positive body image. There were also no significant differences between men and women's reactions to these advertisements, which provides insight into the understudied area of male body image and advertisements. The implications of this study are important to the relatively new field of positive body image.

This study finds evidence that any advertisement featuring a body may lead to lower body appreciation. The solution to the harms of thin-ideal media may not be body positive advertising, but rather body neutrality. The body neutrality movement focuses on the acknowledgement of the bodies' capabilities, not its appearance (Wingus, 2018), and its' popularity has increased over the past few years. Any focus on the body can decrease positive body image, so minimizing the emphasis on a body's aesthetic, and focusing instead on the body's strength and functionality capabilities may provide the most benefit to body image. Future studies should continue to research ways, on an individual and societal level, to increase positive body image.

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Appendix A
Body Appreciation Scale-2

	Never	Sometimes	About Half of the Time	Most of the Time	Always
1. I respect my body.	1	2	3	4	5
2. I feel good about my body.	1	2	3	4	5
3. I feel that my body has at least some good qualities.	1	2	3	4	5
4. I take a positive attitude towards my body.	1	2	3	4	5
5. I am attentive to my body's needs.	1	2	3	4	5
6. I feel love for my body.	1	2	3	4	5
7. I appreciate the different and unique characteristics of my body.	1	2	3	4	5
8. My behavior reveals my positive attitude toward my body; for example, I walk holding my head high and smiling.	1	2	3	4	5
9. I am comfortable in my body.	1	2	3	4	5
10. I feel like I am beautiful even if I am different from media images of attractive people (e.g., models, actresses/actors).	1	2	3	4	5

Appendix B
Body Functionality Appreciation

	Strongly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Strongly Agree
1. I appreciate my body for what it is capable of doing.	1	2	3	4	5
2. I am grateful for the health of my body, even if it isn't always as healthy as I would like it to be.	1	2	3	4	5
3. I appreciate that my body allows me to communicate and interact with others.	1	2	3	4	5
4. I acknowledge and appreciate when my body feels good and/or relaxed.	1	2	3	4	5
5. I am grateful that my body enables me to engage in activities that I enjoy or find important.	1	2	3	4	5
6. I feel that my body does so much for me.	1	2	3	4	5
7. I respect my body for the functions that it performs.	1	2	3	4	5

Appendix C
Demographics Questionnaire

Please respond to the following questions regarding your demographic information.
Remember that all data are anonymous and confidential.

1. What is your gender identity?
 male
 female
 other

2. What is your age?

3. What is your ethnicity?
 American Indian or Alaska Native
 Asian
 Black or African American
 Native Hawaiian or Other Pacific Islander
 White (Including Middle Eastern)
 Other _____

4. Do you consider yourself to be:
 Heterosexual or straight
 Gay/Lesbian
 Bisexual
 Not listed above (please specify)
 I prefer not to answer

5. Are you an international student?
 Yes
 No

6. Are you a student athlete?
 Yes
 No

7. Are you religious?
 Yes
 No

8. Are you currently in a relationship?
 Yes
 No

9. What is your height (Ft)?
_____ ft ___ in
10. What is your weight (lbs)?

11. Do you have an Instagram?
_____ Yes
_____ No
12. If you have an Instagram, approximately how often do use it?
_____ Multiple times in an hour
_____ Every hour
_____ A few times a day
_____ Once a day
_____ A few times a week
_____ Once a week

Appendix D
Main Story Questionnaire (+ Attention Checks*)

1. What was featured in the images you just saw?*

 - a. Just landscapes
 - b. Just people
 - c. Animals
 - d. Electronic appliances

2. If they featured people, what were the majority of the models wearing?*

 - a. Swimsuits and workout clothes
 - b. Business suits
 - c. Day-to-day outfits
 - d. Dresses

3. How many of the images do you remember?

 - a. 0
 - b. 1-3
 - c. 3-5
 - d. 5-8
 - e. 8-11
 - f. 11-14
 - g. 15

4. How visually appealing did you find the images?

 - Not at all appealing
 - Slightly appealing
 - Moderately appealing
 - Very appealing
 - Extremely appealing

5. Was it obvious that the images were advertisements?

 - a. Yes
 - b. No
 - c. Sometimes

6. Did you recognize any of the people or locations that were shown in the images?

 - a. Yes
 - b. No

7. How often are you exposed to images like the ones you were just shown?

 - a. Every hour
 - b. Every day
 - c. A few times a week
 - d. Weekly
 - e. Monthly