2020-03-02

Depictions of Female Body Types in Advertising: How Regional Visual Attention, Body Region Satisfaction, Media Influence, and Drive for Thinness Relate

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A thesis submitted to the faculty of
Brigham Young University
in partial fulfillment of the requirements for the degree of

Master of Arts

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ABSTRACT

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Through continuing technological advancement, increased media exposure occurs as consumers are able to obtain access more easily. Various media formats, including video, are a means whereby consumers gather information about the world around them, and continually make comparisons between that information and themselves. Among the information obtained from media channels is how bodies are portrayed in the media. Comparisons between media images of body and self-perceptions of body are particularly prevalent in women. The current study employs the use of eye-tracking to examine how women view other women's body types and areas of the body in video-based advertising. The study also employs self-report measures to further understand how individual body region satisfaction, drive for thinness, and media influence relate. Findings indicate that women, regardless of personal satisfaction, tend to look longer at thin women than plus-sized or average women. Furthermore, media pressures and internalization were found to play a strong role in women's drive for thinness and personal satisfaction, while media as a source of information played no such role.

Keywords: eye-tracking, regional visual attention, body region satisfaction, drive for thinness, MBSRQ-BASS, SATAQ-3, DT, social comparison theory

ACKNOWLEDGEMENTS

I would like to express my appreciation to the faculty at Brigham Young University, especially the graduate faculty of the School of Communications who mentored me through my undergraduate and graduate years. A huge thank you to my committee members Dr. John, Dr. Callister, and Dr. Zurcher, who pushed me not only on this thesis, but in other research endeavors as well. A very special thanks to Dr. John who has been my mentor from the beginning of my college experience. I am grateful for his help throughout this journey, for providing me with opportunities to learn, for introducing me to research that I enjoy, for his words of wisdom, but most of all for his friendship. I'd like to thank those who have worked in the BioComms Lab with me over the years, for allowing me to teach them and for all they have taught me in return.

I would like to thank my dad for helping me navigate my college experience, and giving advice when I needed it, even if I didn't realize I needed it. I am grateful to my wonderful wife who always encouraged me and never doubted my ability to achieve my goals. Her love and support has meant the world to me and she has gotten me through the most stressful moments of this journey. To my sweet daughter Raisa, who was kind enough to not be born on the same day as my thesis defense, thank you for providing the pressure to get this done. I love you.

Lastly, but most importantly, I want to thank my Heavenly Father for strengthening me throughout this process. Without Him, none of this would have been possible.

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Introduction

In the modern media environment, multiple sources of information often compete simultaneously for the attention of media consumers. Determining which media sources actually grab the attention of consumers in various situations is a question debated by advertisers and media scholars alike. While attention can be measured in a variety of indirect ways (e.g., self-report, memory, aided and unaided recall, etc.), eye-tracking technology has made it possible for visual attention to be measured directly—such as in application of Cummins, Tirumala, and Lellis (2011); John, Jensen, King, Ratcliff, and Grossman (2017); or in the various studies that have sought to examine with visual processing of female samples on advertising featuring female models (Gao et al., 2014; Glauert, Rhodes, Fink, & Grammer, 2010; Lykins, Ferris, & Graham, 2014). In the latter case of body image stimuli, these studies most often employ stimuli featuring still images or photographs, even while media consumption—and the source of body imagery—is shifting toward an increasing number of videos, animated visuals, and other moving stimuli. There is a lack of research examining the direct measurement of visual attention on moving stimuli when it comes to the study of *body image*.

Body image, as it is referred to in this research, is not simply the objective visual appearance of an individual, but rather one's subjective image of their own body, whether real or imagined. This personal perception of body image can be influenced by the *ideal body* image presented in media (Rodgers, McLean, & Paxton, 2015). For the purposes of this study, the term ideal body, or idealized bodies, for women refer to a body type that is portrayed as slim, slender, fuller breasts, and an hourglass-shaped body (Grogan, Gill, Brownbridge, Kilgariff, & Whalley, 2013). For men, the ideal body is focused mostly on muscularity, particularly a muscular v-shaped upper body (Blond, 2008).

A disconnect between an individual's self-evaluated body image, and their desired ideal body can lead to an increase in *body dissatisfaction*. This study uses the definition provided by Grogan (2017):

> A person's negative thoughts and feelings about his or her body. Body dissatisfaction relates to negative valuations of body size, shape, muscularity/muscle tone and weight, and it usually involves a perceived discrepancy between a person's evaluation of his or her body and his or her ideal body. (p. 4)

An increase in body dissatisfaction has been associated with eating disorders, obesity, low self-esteem, depression, and other body dysmorphic behaviors (Dittmar, 2009; Grabe, Hyde, & Lindberg, 2007; Groesz, Levin, & Murnen, 2002).

These types of unhealthy behaviors have been exhibited by both men and women with increased levels of body dissatisfaction (Blond, 2008). Women of all ages, including young girls and teenagers, have indicated dissatisfaction with their own bodies or regions of their bodies (Davison, Markey, & Birch, 2002; Grabe et al., 2007). Some research has suggested that media portrayals of ideal bodies may contribute to body dissatisfaction in women through comparison (Sohn, 2009; Tiggemann & McGill, 2004).

Through the lens of social comparison theory, this study seeks to examine the role of media (specifically television advertisements) that feature a variety of body types, including ideal bodies, on women's body dissatisfaction and visual behavior. A series of self-report measures will be employed to discern body dissatisfaction, drive for thinness, and media influence of participants. As an added measure, this study will use eye-tracking technology to determine whether participants pay more attention to or avoid looking at specified regions of the body. This study seeks to further the understanding of visual behavior of women and its

relationship to regional body dissatisfaction, drive for thinness, and media influence when exposed to video stimuli.

Literature Review

Body Image Disturbance

Female body dissatisfaction. Body image dissatisfaction has been found to be an issue for both men and women, and while these issues are experienced by men, they are more prominent among women (Forbes, Collinsworth, Jobe, Braun, & Wise, 2007; Grabe et al., 2007) regardless of age.

Young and adolescent girls. Researchers have found that body dissatisfaction can appear in girls as young as five-years-old (Davison, Markey & Birch, 2000). In a study of elementary school-aged girls, researchers found that body dissatisfaction and weight concerns amongst girls between the ages of five and seven were predictive of increased likelihood of dieting by the age of nine (Davison et al., 2002). The trend of body dissatisfaction does not stop in elementary school, but rather continues through adolescence (Grabe et al., 2007).

A longitudinal study of 496 adolescent girls (aged 11 to 15 years) found two main paths whereby young girls develop negative body image issues (Stice & Whitenton, 2002). The researchers found that young girls who reported feeling pressure to be thin were at greater risk of experiencing body dissatisfaction. The pressure for these young girls could come from family, peers, or media influences. The second path that led to body dissatisfaction was actual body mass. Girls with a higher body mass but lower levels of perceived pressure to be thin were found to be at high risk for body dissatisfaction. Although the perceived pressures were a greater indicator of body dissatisfaction risk, both groups were found to be at nearly equal risk for body dissatisfaction (Stice & Whitenton, 2002).

Young adult women. From adolescence the trend continues into adulthood (Grabe, Ward, & Hyde, 2008). One study notes that experiences throughout adolescence may have an impact on

body dissatisfaction in young adulthood (Akan & Grilo, 1995). The study found that participants who had been teased about their weight and size during their adolescent years were more likely to experience negative eating behaviors and body image issues (Akan & Grilo, 1995).

Furthermore, the study of college-aged women, by researchers Akan and Grilo (1995) found that "weight, eating behaviors and attitudes, and body dissatisfaction are influenced by cultural factors" (p. 186). The study investigated each of the aforementioned variables amongst Caucasian, African-American, and Asian-American women. Findings indicated that Caucasian women were more likely to exhibit disordered eating and dieting behaviors as well as greater levels of body dissatisfaction in comparison to African-American and Asian-American women. This finding is similar to that of Rodgers, Chabrol, and Paxton (2011), who also found differences in body dissatisfaction to be significantly linked to culture. A study of college-aged women from France and Australia found that Australian women reported greater pressures from media influences than French women. Not only were greater media pressures reported, but Australian women were found to have greater body dissatisfaction than French women (Rodgers et al. 2011).

As has been suggested, age may be an indicator in women's body dissatisfaction alongside culture. In a comparative sample between younger (aged 19 to 23) and older (aged 65 to 74) women, younger women were found to internalize the thin ideal found in the media more than the older women (Bedford & Johnson, 2006). As internalization of the thin ideal presented in the media increased, so did the negative perceptions of body image in younger women.

Older women. While Bedford and Johnson (2006) found that younger women did internalize body ideals in the media more than older women, it did not signify that older women do not experience body dissatisfaction. Rather, it was observed that three-quarters of all women

studied experienced negative body image, and levels of dissatisfaction did not significantly differ between age groups.

Further research into older women and body dissatisfaction seems to confirm the findings of Bedford and Johnson (2006). A study of middle-aged (50 to 65 years) and elderly (66 years or older) women found that body dissatisfaction continued to be an issue for women, even at an increased age (Lewis & Cachelin, 2010). However, while elderly women did report body dissatisfaction levels similar to those of middle-aged women, the older the women were the less likely they were to engage in restrictive eating or other weight-related behaviors (Lewis & Cachelin, 2010).

Media influence. Several researchers have reported that media consumption can be a factor leading to increased levels of body dissatisfaction (Dittmar, 2009; Groesz et al., 2002). This has been found across various types of media, including magazines (Tiggemann & McGill, 2004), television advertisements (Heinberg & Thompson, 1995), music videos (Tiggemann & Slater, 2004), and social media (McLean, Paxton, Wertheim, & Masters, 2015).

Magazines and still media. A common form of still-image media used in body image research is magazines (Grabe et al., 2008; Richins, 1991; Tiggemann & McGill, 2004; Yamamiya, Cash, Melnyk, Posavac, & Posavac, 2005). Repeatedly, studies of magazines and body satisfaction have found that women exposed to ideal bodies in this medium experience greater levels body dissatisfaction than women exposed to neutral images (Grabe et al., 2008). Young women who frequently make comparisons to models in magazines have been found to be less satisfied with their own level of attractiveness (Richins, 1991). Even a short exposure of five minutes to body ideal images has resulted in decreased personal body satisfaction (Yamamiya et al., 2005). Simply the exposure to images of parts of the body in advertisements, and not the

body as a whole, has been shown to predict an increase in a female viewer's body dissatisfaction (Tiggemann & McGill, 2004).

Video media. Much of the research surrounding female body dissatisfaction and body-ideal media has been conducted using still images, while studies including idealized depictions of women in video-based stimuli are fewer in number. While it might reasonably be assumed that still image and video-based stimuli would have similar reactions, Tiggemann (2003) suggests that the two forms of media may potentially yield different responses because the thin ideal is internalized differently in video-based versus still-image stimuli.

In one study, women were exposed to one of two sets of commercials; one condition contained thin-ideal commercials among other distractor advertisements, while the other condition contained only neutral-image commercials (Heinberg & Thompson, 1995). The women exposed to the condition with thin-ideal commercials experienced greater body dissatisfaction than those exposed to the neutral-image commercials (Heinberg & Thompson, 1995). According to a meta-analysis by Grabe et al. (2008) the finding that women experience greater body dissatisfaction when exposed to body-ideal commercials is supported by numerous studies of media and body image.

Television commercials and other forms of video advertisements are not the only video stimuli that have been shown to have an impact on levels of body dissatisfaction among women. Tiggemann and Slater (2004) suggested that "viewers may be more aware of and resistant to the efforts of advertisers to influence them (as in television commercials or fashion magazine shots) than they are of actual television content" (p. 55). For this reason, the authors opted to use television content, specifically music television. The study found that women experienced an increase in body dissatisfaction when exposed to music videos containing thin and attractive

female models (Tiggemann & Slater, 2004). In a further study of the effects of music videos on body image, the findings of Tiggemann and Slater (2004) were confirmed; however, the study discovered that exposure to a body positive advertisement following the music video had a mitigating effect on body dissatisfaction amongst women (Quigg & Want, 2011).

Further studies have explored the impact of television shows on body image (Ferguson, Munoz, Contreras, & Velasquez, 2011; Sohn, 2009; Swami & Smith, 2012). When viewing depictions of women in television shows, female viewers engaging in social comparisons experienced lower body satisfaction (Sohn, 2009). Television programs that promote positive body image were found to be just as detrimental to body satisfaction as shows that explicitly focused on female models and the thin ideal (Swami & Smith, 2012). The authors posited that the increase in body dissatisfaction after being exposed to the program promoting positive body image may be due to the fact that the programs do not challenge the body ideal and place great importance on a woman's appearance (Swami & Smith, 2012).

In contrast, Ferguson et al., 2011, suggested that exposure to depictions of ideal bodies in television shows was not an accurate predictor of body dissatisfaction. In the Ferguson et al. (2011) study, all participants were exposed to television shows, randomized between shows with thin-ideal actresses and those without; exposed to the presence of female peers, either dressed attractively or averagely; and a sample of participants were exposed to the presence of an attractive male while viewing the stimuli. For young women in the study, video stimuli did not predict body dissatisfaction, while the presence of an attractive female peer or attractive male was predictive. For adolescent girls in the study, neither video stimuli nor peer influence predicted body dissatisfaction, though the participant's own Body Mass Index was predictive of body dissatisfaction (Ferguson et al., 2011).

Social media. As it is still a relatively newer form of media, the effects of social media on body dissatisfaction are still being debated. In a study regarding appearance comparisons and body dissatisfaction among Facebook users, it was found that participants that spent more time on Facebook initially reported higher body image dissatisfaction, were at a higher risk for eating disorders, and were more likely to engage in appearance comparisons after being exposed to thin-ideal stimuli (Cohen & Blaszczynski, 2015). Furthermore, Cohen and Blaszcyznski (2015) note that while online social forums do not cause eating disorders, they may maintain or even reinforce the behavior of over-evaluating one's own appearance.

A separate study of Facebook users' behavior found that mere exposure to the social media platform was not a significant predictor of higher levels of body dissatisfaction, but rather the level and type of involvement users had with the medium was more indicative (McLean et al., 2015). Participants who were more engaged in sharing images of their own self on Facebook were more likely to over-evaluate their appearance and experience greater body dissatisfaction; furthermore, the group that experienced greatest body dissatisfaction and eating concerns was a group that not only shared more self-images, but altered their own image by means of Photoshop or other photo manipulation software (McLean et al., 2015).

Interventions. There have been various attempts made to mitigate the negative effects of the body ideal portrayed in the media. Several countries have put forward public policies requiring a disclaimer on images of altered bodies. While some countries have yet to implement such policies, both France and Israel have already adopted them (MacCallum & Widdows, 2018). However, multiple studies indicate that disclaimers on altered images do not mitigate the negative effects and could potentially be more detrimental to consumers' body image (MacCallum & Widdows, 2018; Selimbegović & Chatard, 2015). The latter study found that

exposure to an altered image with a disclaimer just once produced lasting, undesirable effects even when the image was later viewed without the disclaimer. The authors suggested that inclusion of the disclaimer may draw the viewer's attention back to the image, causing the viewer to process the image longer and more deeply (Selimbegović & Chatard, 2015). The influence and effects of media in its various formats on individuals' body image satisfaction have been explored through the lens of communication theories.

Theoretical Framework

Cultivation theory has been suggested to explain how media consumption influences self-perception of body image (Van Vonderen & Kinnally, 2012). However, it does not account for the variety of media outlets that influence body image perception as cultivation theory revolves around television consumption. Though cultivation may not be the root of perceptual changes and influence, it may reinforce the thin ideal body image idea (Shrum, 2009). While cultivation theory may not the most applicable theoretical framework, social comparison theory (Festinger, 1954) provides a suitable framework for studying this phenomenon.

Social comparison theory. As originally proposed by Festinger (1954), the social comparison theory suggests first, that it is a part of human nature to evaluate one's individual opinions and abilities as a means of understanding oneself and the world in which they live. Second, if there are no objective, non-social means of evaluation, individuals will seek to evaluate their own opinions and abilities by comparing them to the opinions and abilities of others.

Directional comparisons. Beyond simply comparing oneself to others, social comparison theory explores the effects of upward (Swallow & Kuiper, 1988; Wood, 1989) and downward comparisons (Wills, 1981). Upward comparisons are made when an individual compares their

current state to that of a second individual and perceives that the second's state is superior or elevated from their own (Collins, 1996). In contrast, downward comparisons are made when an individual perceives a second individual's state is inferior, or worse than their own (Swallow & Kuiper, 1988).

Festinger (1954) posited that upward comparisons instilled in an individual the drive to pursue better things and to better themselves. Some scholars support Festinger's (1954) claims about upward comparisons as a driving force for self-improvement (Collins, 1996), while others have suggested that making upward comparisons may potentially produce negative effects (Swallow and Kuiper, 1988; Vogel, Rose, Roberts, & Eckles, 2014).

Not only can upward comparisons have a direct positive effect on self-perceptions, but they can be a driving force for an individual to enhance or improve themselves, which can lead to a more positive self-evaluation (Collins, 1996). A positive self-evaluation is more likely to occur when the individual making the comparisons has high self-esteem and finds themselves to be similar to the target individual. As stated by Collins (1996), "People might use upward comparison to self-enhance when they are not threatened… After all, using upward comparison to increase self-worth apparently depends on believing one is similar to the better-off target, and threat could undermine such beliefs" (p. 63).

Comparing oneself to a similar, better-off target may be inspiring, rather than threatening (Wood, 1989). The individual making the comparisons might be spared feelings of inadequacy or inferiority by virtue of the fact that the individual sees themselves as similar to the target.

Conversely, upward comparisons have also been shown to have a potentially negative effect of individuals. Comparing oneself to a perceived better may negatively impact self-esteem, replacing the drive for self-improvement with reduced motivation or removing motivation

altogether as the goal becomes seemingly unattainable (Swallow & Kuiper, 1988; Vogel et al., 2014).

Some research has suggested a link may exist between social comparison and depression (Swallow & Kuiper, 1988). Researchers posited that while social comparisons are an effective means of gathering information about oneself, the act of comparing oneself to another may open up some individuals to potentially negative self-evaluations. Furthermore, the researchers suggested that further social comparisons by those already depressed may lead them to maintain a negative sense of self. Similarly, such comparisons may lead individuals not yet depressed to develop a negative self-evaluation.

This type of information gathering leading to negative self-evaluations may be found in various places, including on social media. In one study, participants were exposed to one of two social media accounts, one designed to be superior (high activity) and one inferior (low activity) to participants, to create a situation where participants would make upward and downward comparisons, respectively (Vogel et al., 2014). It was found that participants who made upward comparisons reported poorer self-evaluations following exposure to the high-activity social media account. Not only did participants report poorer self-evaluations, but also lower levels of self-esteem.

Downward comparisons are yet another means of self-evaluation, first introduced by Thomas Wills (1981). The theory of downward comparison as described by Wills (1981) states that, “persons can increase their subjective well-being through comparison with a less fortunate other” (p. 245). Further exploration of downward comparisons suggests that while it is possible for downward comparisons to produce a more positive self-evaluation, this outcome is most

likely to be achieved by individuals who are experiencing setbacks or difficulties or by those with low self-esteem (Aspinwall & Taylor, 1993).

Body image comparisons. Individuals routinely make social comparisons to others in a variety of contexts, including issues of body image satisfaction. Some research suggests a disparity between an individual's perceived self and his or her idealized self may lead to an increase in body dissatisfaction (Richins, 1991; Sohn, 2009; Tiggemann & McGill, 2004; Tiggemann & Slater, 2004), while others suggest the recognition of the same disparity may facilitate inspiring upward comparisons (Knobloch-Westerwick & Romero, 2011; Veldhuis, Konijn, & Knobloch-Westerwick, 2017). The small amount of research regarding downward comparisons in the context of body image suggests that there is a trend for individuals making such comparisons to have a slight increase of self-esteem when viewing others perceived as less attractive (Thornton & Moore, 1993).

Much of the social comparison body image research suggests that comparisons with idealized bodies has a negative impact on view self-esteem (Richins, 1991; Sohn, 2009; Tiggemann & McGill, 2004; Tiggemann & Slater, 2004). A study exposed female students to magazine advertisements, in which half of the sample received ads containing idealized models and the other half had no models (Richins, 1991). The group exposed to ads featuring models reported less satisfaction with their own physical attractiveness and facial beauty than the group that viewed ads without models. Another study using idealized body images from magazine ads supported the idea that upward comparisons with the idealized images decreased body satisfaction (Tiggemann & McGill, 2004). Furthermore, the authors found that not only did the full body image elicit lower body satisfaction scores, but comparisons to images of specific body regions produced lower satisfactions scores as well (Tiggemann & McGill, 2004).

Upward comparisons with idealized body images have been made not only with magazine images, but with video-based stimuli as well. Sohn (2009) reported that females who engaged in social comparison of characters on television experienced lower levels of body satisfaction. Lower levels of body satisfaction were also reported by women who made social comparisons with attractive models in music videos (Tiggemann & Slater, 2004).

One study, in which participants were exposed to magazine advertisements with ideal body advertisements, explored the potentially positive effects of upward comparisons (Knobloch-Westerwick & Romero, 2011). The researchers found that body dissatisfied individuals, when confronted with ideal body images may experience a decrease in self-esteem; however, when the images were combined with body-improvement and attainability messages, viewers may be more likely to make inspiring upward comparisons. Veldhuis et al. (2017) had similar findings with upward comparisons and body satisfaction. Not only were body-improvement messages inspiring and motivating, but the researchers found that when ideal body images were paired with the message, body satisfaction actually increased in both men and women.

Body Image Self-Evaluation Measures

In reporting the effects of social comparison on body satisfaction, it is necessary for researchers to employ the use of self-report measures. Some of the common body satisfaction scales include the Multidimensional Body-Self Relations Questionnaire (MBSRQ; Brown, Cash, & Mikulka, 1990), Drive for Thinness (DT; Garner, 2004), and the Sociocultural Attitudes Towards Appearance Questionnaire-3 (SATAQ-3; Thompson, van den Berg, Roehrig, Guarda, & Heinberg, 2004). Each of these measures has been used in a variety of contexts to examine issues of body image, as reviewed below.

MBSRQ. When it was first created the MBSRQ consisted of three subscales: the body-self relations questionnaire (BSRQ), the body areas satisfaction scale (BASS), and the weight attitude scales (Brown et al., 1990). The MBSRQ has evolved since that time to include the BSRQ, the BASS, the overweight preoccupation scale (OWP), and the self-classified weight scale (SCW; Cash, 2015). Of the subscales that make up the MBSRQ, greater focus will be given to the BASS in this review of literature as its will be employed in the current study. The BASS evaluates the level of satisfaction that individuals have with certain regions and features of the body (face, hair, lower torso, middle torso, upper torso, muscle tone, weight, height, and overall appearance).

The BASS has been used as a measure to determine overall body dissatisfaction in multiple studies (Cash, Morrow, Hrabosky, & Perry, 2004; Kinsaul, Curtin, Bazzini, & Martz, 2014; Warren, 2014). It has also been used to look at satisfaction with specific body regions (Lykins et al., 2014). A meta-analytic study of body dissatisfaction assessments found that the BASS subscale of the MBSRQ was one of the three most frequently used scales in body dissatisfaction research (Grabe & Hyde, 2006).

The BASS has been implemented in a variety of ways, including a study that explored the relationship between body dissatisfaction (as reported by the BASS) and pressure to get cosmetic surgery (Menzel et al., 2011). The researchers found that as body dissatisfaction increased so did the pressures from media, peers, parents, and significant others. For males in this study body dissatisfaction predicted not only pressure from others to get cosmetic surgery but also predicted favorable attitudes toward cosmetic surgery. The authors suggested that personal body dissatisfaction (indicated by the BASS) was a greater predictor of favorable attitudes toward cosmetic surgery than societal influence; however, for women, favorable attitudes toward

cosmetic surgery was better predicted by internalization of body image presented by society (as measured by the SATAQ-3) rather than personal body dissatisfaction (Menzel et al., 2011).

Further use of the BASS found significant relationship between body dissatisfaction and weight training (Williams & Cash, 2001). Participants consisted of both men and women who enrolled in a 6-week weight training course. Pre and post-tests were conducted to analyze body satisfaction (using the BASS) as well as physical strength. At the end of the course, strength of participants increased while dissatisfaction decreased. Researchers also found that participants who enrolled in the weight training course had greater initial body dissatisfaction compared to the control group, indicating that body satisfaction may be a driving force for people to enroll in such a course (Williams & Cash, 2001).

DT. The DT is a subscale of the Eating Disorder Inventory-3 (EDI-3; Garner, 2004). Included in the original Eating Disorder Inventory (Garner, Olmstead, & Polivy, 1983), the DT was the first of eight subscales used to assess psychological factors and behavioral traits of individuals with eating disorders. The subscale evaluates an individuals' satisfaction with their own thinness, their desire to be thinner, and their fear of gaining weight. The DT has been used in a variety of studies to measure body satisfaction (Anderson & Bulik, 2004; Fernandez & Pritchard, 2012; Jones, Buckner, & Miller, 2014; Pruis & Janowsky, 2010).

Multiple studies have shown that women report a higher drive for thinness than men (Anderson & Bulik, 2004; Fernandez & Pritchard, 2012). Not only is the drive for thinness typically higher in women, but the weight and shape of a woman is an important factor in the way she feels about herself (Anderson & Bulik, 2004).

Age, as well as gender, shows significant differences in DT (Jones et al., 2014; Pruis & Janowsky, 2010). A study of adolescent girls aged 12 to 17 showed a significant increase of DT

as the girls got older (Jones et al., 2014). While DT may increase throughout adolescence, research on adult women suggested that older adult women reported lower levels of DT when compared to younger adult women (Pruis & Janowsky, 2010). While it is possible that this may be attributed to age, Pruis & Janowsky (2010) posited that the increased DT and body dissatisfaction in younger women could be attributed to greater media consumption and internalization of societal influence.

The scale is not without its criticisms as some scholars suggested that the DT is not indicative of eating disorders (Chernyak & Lowe, 2010; Clausen, Rosenvinge, Friborg, & Rokkedal, 2011). According to Clausen et al. (2011), "the drive for thinness subscale as a screening tool in epidemiological studies is clearly not warranted any more" (p. 109). Chernyak & Lowe (2010) suggested that the DT scale simply measured a drive to be relatively thinner and a desire to avoid weight gain, which were not pathological goals. Research also indicates that while the DT may accurately represent an individual's drive for thinness, body satisfaction is made of up many factors and not solely based on weight or thinness, therefore making the DT not suitable for measuring body satisfaction (Grabe & Hyde, 2006).

While these researchers may be accurate in their criticisms of the scale, it does not make the scale any less valuable to this study. Criticisms suggested that the scale may not be an accurate indicator of clinical samples, nor an accurate measure of overall body satisfaction. However, the current study does not seek to determine differences between clinical and non-clinical samples, nor does it rely on DT as a body satisfaction scale, but rather it seeks to determine if and how an individual's drive for thinness relates body satisfaction (as indicated by the BASS) and media influence (as indicated by the SATAQ-3).

SATAQ-3. The original SATAQ was created to discern the level of societal influence on body image (Heinberg, Thompson, & Stormer, 1995). The first questionnaire was comprised of two subscales, one for internalization and one for awareness, for a total of 14 questions. A more recent version of this questionnaire, the SATAQ-3, evaluates the level at which individuals have internalized body image ideals as presented in society with a greater emphasis on media than the original. In addition to a greater focus on media impact, the questionnaire is made up of 30 questions and 4 subscales: information, pressures, internalization – general, internalization – athlete (Thompson et al., 2004).

In studies of young and old women, the SATAQ-3 has been shown to predict body dissatisfaction (Bedford & Johnson, 2006) and DT (Pruis & Janowsky, 2010). While older women did report being impacted by societal and media influences, they were not as heavily impacted as the young women (Bedford & Johnson, 2006; Pruis & Janowsky, 2010). As well as body dissatisfaction and DT, the SATAQ-3 has also been a significant predictor of an individual's desire to undergo cosmetic surgery (Swami, 2009).

Calogero, Davis, & Thompson (2004) found that the SATAQ-3 was a reliable predictor of body dissatisfaction and eating disturbance and suggested the inclusion of the scale for any research intending to measure those factors. Internalization of body ideals may be a causal risk factor in body dysmorphic and eating disorders, and thus a scale to detect levels of internalization would be helpful in prevention and treatment of such illnesses (Thompson et al., 2004).

It should be noted that some of the questions in the SATAQ-3 focus on influences of music videos, the internet, and female athletes. Bedford & Johnson (2006) suggested that these questions may be a limitation when studying older people as they are hard to apply in a

retrospective study. However, participants in this study will be college-aged women and thus will not experience the same limitation.

Eye-Tracking Research

Another means by which to evaluate attitudes and perceptions is through the use of eye-tracking technology. This method has been used by various scholars to understand visual behavior as it relates to body image (Cho & Lee, 2013; Hewig et al., 2008; Pinhas et al., 2014; von Wietersheim et al., 2012). Eye-tracking will be used as one of the primary methods of data collection in the current study, as it supplements self-report measures by providing insights into how individuals visually process varying body types while viewing video-based stimuli.

The use of technology to track visual behavior extends back to the use of ophthalmographs (Kurtz) in 1936, and even further back with kinetoscopic photographs (Judd, McAllister, & Steele) in 1905. Recent advancements have made eye-tracking technology more available and have benefitted various disciplines with its capabilities (Duchowski, 2002).

Eye-tracking examines an individual's eye movements as they view a screen or page; this is also referred to as scan path analysis (John, 2009). Within eye-tracking research there exists a wide range of metrics to analyze visual behavior. For the purposes of this study, two measures, *fixations* and *saccades*, will be discussed.

A concise explanation of fixations is offered by King, Bol, Cummins, and John (2019). The researchers stated:

> During fixations, the eye is briefly stationary and situated such that objects of interest fall within the foveal region of the eye (the central point of one's field of vision) where visual acuity is greatest, with most intentional visual behavior being comprised of fixations. (p. 151)

The amount of time a fixation lasts is referred to as dwell time or gaze duration (John, 2009). It is believed that cognitive processing of stimuli occurs as the eye fixates on it through dwell time (John, 2009; Rayner, 2009).

The connecting movement between fixations are known as saccades. Saccadic movement is rapid and moves from one fixation point to the next. It has previously been posited that cognitive processing does not occur during saccades (Rayner, 1998), however more current research suggests that cognitive processes continue during saccades (Rayner, 2009), though vision is momentarily suppressed (King et al., 2019).

Frequently, studies that utilize eye-tracking are designed to discern the amount of attention given to certain areas or elements of a stimulus. The approach used by most scholars to analyze aggregated eye-tracking data is to isolate and define regions of the stimulus. These regions are referred to as *areas-of-interest* (AOIs; King et al., 2019).

While eye-tracking has been shown to be a valuable research tool, it is not without its limitations. The process of eye-tracking and calibration of individuals is one that does not go unnoticed by participants, as such, the artificial conditions may affect participants' visual behavior, even though they may suggest that it is normal (Leckner, 2012). Another limitation offered by Duchowski (2017) is that "in all eye tracking work, a tacit but very important assumption is usually accepted: we assume that attention is linked to foveal gaze direction, but we acknowledge that it may not always be so" (p. 13).

Eye-tracking and body image. Eye-tracking has been used as a means of identifying attention bias in body image research focusing on female body dissatisfaction and body region dissatisfaction.

Fixation tendencies. When shown images of others, individuals with high drive for thinness scores attended more frequently and longer to the waist, hips, legs, and arms (Hewig et al., 2008. It is important to note that this study does not include body types or shapes of the stimuli shown, but only the type of clothing worn by the models.

Attentional bias was also shown toward specific parts of the body when women were shown photos of themselves (Glashouwer, Jonker, Thomassen, & de Jong, 2016. Prior to testing visual attention, participants were asked to rate which parts of their body they considered ugly and what parts they considered beautiful. When shown images of their own body they fixated significantly longer at the parts of the body they considered to be ugly.

Various studies have shown body comparisons to both body dissatisfied and body satisfied individuals to discern differences in attentional bias (Cho & Lee, 2013; Glauert et al., 2010; Pinhas et al., 2014. In one study individuals were shown images of thin bodies, fat bodies, and social activities or neutral objects (Pinhas et al., 2014). Individuals with anorexia nervosa were more likely to fixate on body types—specifically thin bodies—than other images, whereas healthy participants tended to look at all images equally.

Further body comparative studies have suggested an attentional bias exists toward thin bodies. Cho and Lee (2013 observed that when presented with different body types women would dedicate more time looking at the thin body than other types. Similar findings were presented in Glauert et al. (2010. It was shown that all women, regardless of body dissatisfaction had a tendency to fixate on the thin body compared to the overweight body. However, while the body dissatisfied women fixated more on the thin body than the overweight body, they spent significantly less time viewing the thin body than did the women with higher levels of body satisfaction.

Avoidance tendencies. While comparison between body types tended to show an attentional bias toward thin bodies, body dissatisfied women tended to avoid regions of personal dissatisfaction (Lykins et al., 2014; von Wietersheim et al., 2012; Warschburger, Calvano, Richter, & Engbert, 2015). Using eye-tracking, Lykins et al. (2014) found that body dissatisfied women avoided looking at regions of the body they were personally dissatisfied with. Interestingly enough, this was true not only for idealized models, but the plus-sized models as well. The researchers suggested that rather than making upward or downward comparisons, perhaps body dissatisfied women avoid making any comparison as a defense mechanism to preserve self-esteem.

Individuals with anorexia nervosa have shown similar avoidance behavior (von Wietersheim et al., 2012). Similar to the study by Glashouwer et al. (2016), individuals were asked to rate the attractiveness of parts of their own body. Although participants with anorexia nervosa rated nearly all parts of their body as unattractive, they rated their breasts and thighs as particularly unattractive regions. When viewing images of their own body, the participants avoided attending to the regions they saw most negatively.

Research Questions

Considering the literature on visual attention in regard to female body image and body region satisfaction, the following research questions are proposed:

RQ1: Does regional visual attention vary significantly between advertisements depicting thin, average, and plus-sized women?

RQ2: Do regional visual attention, satisfaction (both overall and regional), media influence (SATAQ-3), and DT relate?

RQ3: Does media influence (SATAQ-3) mediate the relationship between overall body satisfaction and DT?

RQ4: Do the individual SATAQ-3 measures of Information (RQ4a), Pressures (RQ4b), Internalization-General (RQ4c), and Internalization-Athlete (RQ4d) mediate the relationship between overall body satisfaction and DT?

RQ5: Do media influence (SATAQ-3), and its related subscales, mediate the relationship between regional body satisfaction and DT?

Method

Participants

Female students were recruited via visits to undergraduate general education and first-year communications courses at a university in the Western United States. During these visits, students were briefed on the opportunity to participate and requested to provide contact information on a sign-up sheet if they were interested. Of the 145 women recruited, 19 were removed due to insufficient eye-tracking data, resulting in a final sample size of 126 women. The achieved sample was representative of the demographics of the university, and a full demographic breakdown of the sample can be found in Table 1.

The mean age of the sample was 20.35 (*SD* = 1.95). Participants were predominantly Caucasian (92.0%, *n* = 115). The marital status indicated by participants was primarily never married (84.9%, *n* = 107). All participants reported heterosexual orientation. The study was introduced to participants as an advertising study, in which they would view a number of video advertisements. Extra credit was offered to those who were enrolled in an Introduction to Mass Communication course at the time of participation; other participants were offered a monetary sum as compensation. All procedures were reviewed and approved by the university Institutional Review Board.

Table 1
Demographic Information

		n	*%*
Age:	18–19	49	38.9%
	20–21	34	27.0%
	22–23	37	29.3%
	24–25	6	4.8%
Marital Status:	Married	19	15.1
	Never married	107	84.9
Race:	White	115	92.0%
	Black or African American	2	1.6%
	American Indian or Alaska Native	1	0.8%
	Asian	3	2.4%
	Native Hawaiian or Pacific Islander	2	1.6%
	Other	7	5.6%
Ethnicity:	Non-Hispanic	116	92.1%
	Hispanic	10	7.9%
Employment:	Employed full-time	5	4.0%
	Employed part-time	93	73.8%
	Unemployed looking for work	3	2.4%
	Unemployed not looking for work	25	19.8%

Note. "Race" allowed for multiple answers, therefore, reported percentages will exceed 100. $N = 126$.

Measures

Visual stimuli. Three sets of advertisements were compiled for this study. Each condition consisted of seven video advertisements—one ad of interest, which was varied by condition, and six distractor ads. The ad of interest changed with each condition (condition 1 – thin model, condition 2 – average body, condition 3 – plus-size) while the distractor ads remained the same. Participants were not informed of the study's purpose until after their participation in order to avoid biasing their visual attention data.

Demographic questionnaire. Participants completed a demographics questionnaire containing questions about their age, race and ethnicity, marital status, sexual orientation, and employment.

MBSRQ-BASS. While the BASS does include a wide area of regions and features of the body, for the purposes of this study the primary foci were the head (face and hair aggregate), arms, upper torso (including bust), lower torso (including hips), and legs. Participants were instructed to rate their individual satisfaction with those regions of their body. A 5-point Likert scale anchored with "Very Unsatisfied" and "Very Satisfied" was employed for this scale. The list of questions included in this section of the survey can be found in Table 2 (M = 17.46, SD = 3.439, α = .781).

Table 2
Adjusted Multidimensional Body-Self Relations Questionnaire-Body Area Satisfaction Scale (*Adjusted* MBSRQ-BASS)

Please rate your level of agreement with the following statements					
	Very unsatisfied	Unsatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
Hair	1	2	3	4	5
Face	1	2	3	4	5
Arms	1	2	3	4	5
Upper torso (including bust)	1	2	3	4	5
Lower torso (including hips)	1	2	3	4	5
Legs	1	2	3	4	5

DT. Participants were instructed to indicate the frequency of which the statements on the scale occurred in their life. All questions were 6-level Likerts: "Never," "Rarely," "Sometimes," "Often," "Very Often," "Always." The list of questions included in this section of the survey can be found in Table 3. Question 1 was reverse coded prior to analysis (M = 19.75, SD = 7.045, α = .896).

Table 3
Drive for Thinness Scale (DT)

Please indicate how frequently the following statements occur in your life.	Never	Rarely	Sometimes	Often	Very often	Always
1. I eat sweets and carbohydrates without feeling nervous.	1	2	3	4	5	6
2. I think about dieting.	1	2	3	4	5	6
3. I feel extremely guilty after overeating.	1	2	3	4	5	6
4. I am terrified of gaining weight.	1	2	3	4	5	6
5. I exaggerate or magnify the importance of weight.	1	2	3	4	5	6
6. I am preoccupied with the desire to be thinner.	1	2	3	4	5	6
7. If I gain a pound, I worry that I will keep gaining.	1	2	3	4	5	6

SATAQ-3. Participants were instructed to rate their level of agreement with the statements on a 5-point Likert scale anchored with "Strongly Disagree" and "Strongly Agree." Originally, the items in this scale did not account for the internet as a media source, so television was added to be more inclusive of the media sources consumed by participants. The mean, standard deviation, and alpha for the SATAQ-3 were $M = 98.18$, $SD = 23.382$, $\alpha = .957$. The mean, standard deviation, and alpha for each of the subscales are as follows: Information ($M = 25.96$, $SD = 9.129$, $\alpha = .945$) , Pressures ($M = 24.19$, $SD = 6.176$, $\alpha = .880$) , Internalization – General ($M = 29.29$, $SD = 8.584$, $\alpha = .939$), Internalization – Athlete ($M = 18.75$, $SD = 4.422$, $\alpha = .871$). The list of questions used can be found in Table 4.

Table 4

Adjusted Sociocultural Attitudes Towards Appearance Questionnaire-3 (*Adjusted* SATAQ-3)

Please rate your level of agreement with the following statements		Subscale
1.	TV or internet programs are an important source of information about fashion and ‘‘being attractive.’’	I
2.	I’ve felt pressure from TV, the internet, or magazines to lose weight.	P
3.	I would like my body to look like the people who are on TV or the internet.	IG
4.	I compare my body to the bodies of TV, internet, and movie stars.	IG
5.	TV commercials are an important source of information about fashion and ‘‘being attractive.’’	I
6.	I’ve felt pressure from TV, the internet, or magazines to look pretty.	P
7.	I would like my body to look like the models who appear in magazines.	IG
8.	I compare my appearance to the appearance of TV, internet, and movie stars.	IG
9.	Music videos on TV or the internet are an important source of information about fashion and ‘‘being attractive.’’	I
10.	I’ve felt pressure from TV, the internet, and magazines to be thin.	P
11.	I would like my body to look like the people who are in the movies.	IG
12.	I compare my body to the bodies of people who appear in magazines.	IG
13.	Magazine articles are an important source of information about fashion and ‘‘being attractive.’’	I
14.	I’ve felt pressure from TV, the internet, or magazines to have a perfect body.	P
15.	I wish I looked like the models in music videos.	IG
16.	I compare my appearance to the appearance of people in magazines.	IG
17.	Magazine advertisements are an important source of information about fashion and ‘‘being attractive.’’	I
18.	I’ve felt pressure from TV, the internet, or magazines to diet.	P
19.	I wish I looked as athletic as the people in magazines.	IA
20.	I compare my body to that of people in ‘‘good shape.’’	IA
21.	Pictures in magazines are an important source of information about fashion and ‘‘being attractive.’’	I
22.	I’ve felt pressure from TV, the internet, or magazines to exercise.	P
23.	I wish I looked as athletic as sports stars.	IA
24.	I compare my body to that of people who are athletic.	IA
25.	Movies are an important source of information about fashion and ‘‘being attractive.’’	I
26.	I’ve felt pressure from TV, the internet, or magazines to change my appearance.	P
27.	I try to look like the people on TV or the internet.	IG
28.	Movies stars an important source of information about fashion and ‘‘being attractive.’’	I
29.	Famous people are an important source of information about fashion and ‘‘being attractive.’’	I
30.	I try to look like sports athletes.	IA

Note. I=Information, P=Pressures, IG=Internalization-General, IA=Internalization-Athlete

Apparatus

Eye fixations and movements were recorded using an Applied Science Laboratories (ASL) D6HS eye-tracking camera, configured for sampling at 120Hz. The eye-tracker uses an infrared light to obtain two points of reflection, a corneal reflection and pupillary reflection. Using two points of reference on the eye allows for greater accuracy of collected eye-tracking data. The program used to present the stimuli to the participant and gather eye movement data was iMotions. Stimuli were presented on a 24-inch Dell UltraSharp monitor with a screen resolution of 1920x1200.

Procedure

At the specified lab location, a research assistant explained the rights to each participant as well as the risks involved with the study. The participant then signed an informed consent form, following which they were sat down at the computer connected to the ASL eye-tracking system. Research assistants ensured that participants were sitting 24–26 inches away from the camera for optimal results. Following the positioning of the participant, the camera was then calibrated to their eye by a research assistant. Each participant was randomly assigned, using a random number generator, to one of the three conditions. The assistant added the participant's number, gender, and age into the iMotions software and began the series of videos. After viewing the stimuli, participants were moved into an adjacent room to complete a survey. Once the participants completed the survey they were debriefed by the research assistant and informed of the purpose of the study. Participants were then compensated for their time and dismissed.

Analysis

AOIs were set up for analysis in iMotions to facilitate analysis of participant gaze on specific body regions. Research assistants created borders around the specific areas indicated by

the adjusted BASS: head, upper torso, lower torso, arms, and legs. Once the AOIs had been created, the data were exported and analyzed. Regional visual attention was treated as a percentage and was calculated by dividing the time spent fixating on the AOI (in milliseconds) by total time the AOI was present on screen.

Various statistical analyses were performed using the statistical analysis software SPSS (version 25), including one-way ANOVA, bivariate correlations, and mediation. A new variable, "overall satisfaction," was created by taking the average score of the items reported in the BASS. In conjunction with SPSS, the conditional process modeling macro PROCESS (Hayes, 2008, 2012) was used. Specifically, PROCESS Model 4 (simple mediation) was used to test 30 separate models of mediation (Hayes, 2013).

Results

One-Way ANOVA

Initially, a one-way ANOVA was performed to determine whether any significant differences existed between condition and DT. Results indicated that no significant differences existed in DT between conditions (see Table 5).

Once more, a one-way ANOVA was performed, this time to establish whether any significant differences existed between condition and media influence as reported via the SATAQ-3. Results indicated that no significant differences existed in media influence (SATAQ-3) between conditions (see Table 6).

A one-way ANOVA was performed a third, and final, time to determine whether any significant differences existed between condition and participant regional satisfaction as reported via the BASS subscale. Results indicated that no significant differences existed in regional satisfaction between conditions (see Table 7), although the comparison between condition 2 (average model; $M = 3.07$) and condition 3 (plus size model; $M = 3.59$) leg satisfaction approached significance ($p = .063$).

Table 5
One-Way ANOVA – Bonferroni (Condition and DT)

Dependent Variable	(I) Condition	(J) Condition	Mean Difference (I-J)	Std. Error	Sig.	95% CI Lower Bound	95% CI Upper Bound
DT	Thin	Average	0.31	1.54	1.000	-3.43	4.05
		Plus Size	0.18	1.55	1.000	-3.59	3.94
	Average	Thin	-0.31	1.54	1.000	-4.05	3.43
		Plus Size	-0.14	1.56	1.000	-3.92	3.65
	Plus Size	Thin	-0.18	1.55	1.000	-3.94	3.59
		Average	0.14	1.56	1.000	-3.65	3.92

Note. Multiple comparisons among variables. $N = 126$.
*$p < .05$, **$p < .01$

Table 6

One-Way ANOVA - Bonferroni (Condition and SATAQ-3)

Dependent Variable	(I) Condition	(J) Condition	Mean Difference (I-J)	Std. Error	Sig.	95% CI Lower Bound	95% CI Upper Bound
SATAQ-3	Thin	Average	-5.39	5.09	0.875	-17.75	6.97
		Plus Size	-3.12	5.12	1.000	-15.55	9.32
	Average	Thin	5.39	5.09	0.875	-6.97	17.75
		Plus Size	2.27	5.15	1.000	-10.23	14.78
	Plus Size	Thin	3.12	5.12	1.000	-9.32	15.55
		Average	-2.27	5.15	1.000	-14.78	10.23
Information	Thin	Average	-3.26	1.97	0.302	-8.05	1.53
		Plus Size	-2.40	1.99	0.690	-7.21	2.42
	Average	Thin	3.26	1.97	0.302	-1.53	8.05
		Plus Size	0.87	2.00	1.000	-3.98	5.72
	Plus Size	Thin	2.40	1.99	0.690	-2.42	7.21
		Average	-0.87	2.00	1.000	-5.72	3.98
Pressures	Thin	Average	-1.28	1.34	1.000	-4.54	1.97
		Plus Size	0.44	1.35	1.000	-2.83	3.72
	Average	Thin	1.28	1.34	1.000	-1.97	4.54
		Plus Size	1.73	1.36	0.617	-1.57	5.02
	Plus Size	Thin	-0.44	1.35	1.000	-3.72	2.83
		Average	-1.73	1.36	0.617	-5.02	1.57
Internalization - General	Thin	Average	-0.68	1.87	1.000	-5.23	3.87
		Plus Size	-1.40	1.89	1.000	-5.97	3.18
	Average	Thin	0.68	1.87	1.000	-3.87	5.23
		Plus Size	-0.71	1.90	1.000	-5.32	3.89
	Plus Size	Thin	1.40	1.89	1.000	-3.18	5.97
		Average	0.71	1.90	1.000	-3.89	5.32
Internalization - Athlete	Thin	Average	-0.16	0.97	1.000	-2.51	2.19
		Plus Size	0.23	0.97	1.000	-2.13	2.59
	Average	Thin	0.16	0.97	1.000	-2.19	2.51
		Plus Size	0.39	0.98	1.000	-1.98	2.77
	Plus Size	Thin	-0.23	0.97	1.000	-2.59	2.13
		Average	-0.39	0.98	1.000	-2.77	1.98

Note. Multiple comparisons among variables. N =126.

*p < .05, **p < .01

Table 7

One-Way ANOVA - Bonferroni (Condition and BASS)

Dependent Variable	(I) Condition	(J) Condition	Mean Difference (I-J)	Std. Error	Sig.	95% CI Lower Bound	95% CI Upper Bound
Head satisfaction	Thin	Average	-0.07	0.15	1.000	-0.43	0.29
		Plus Size	-0.01	0.15	1.000	-0.37	0.35
	Average	Thin	0.07	0.15	1.000	-0.29	0.43
		Plus Size	0.06	0.15	1.000	-0.30	0.42
	Plus Size	Thin	0.01	0.15	1.000	-0.35	0.37
		Average	-0.06	0.15	1.000	-0.42	0.30
Arms satisfaction	Thin	Average	-0.41	0.21	0.163	-0.93	0.10
		Plus Size	-0.16	0.21	1.000	-0.68	0.36
	Average	Thin	0.41	0.21	0.163	-0.10	0.93
		Plus Size	0.25	0.22	0.739	-0.27	0.77
	Plus Size	Thin	0.16	0.21	1.000	-0.36	0.68
		Average	-0.25	0.22	0.739	-0.77	0.27
Upper torso satisfaction	Thin	Average	0.20	0.20	0.982	-0.29	0.69
		Plus Size	0.19	0.20	1.000	-0.31	0.68
	Average	Thin	-0.20	0.20	0.982	-0.69	0.29
		Plus Size	-0.01	0.20	1.000	-0.51	0.48
	Plus Size	Thin	-0.19	0.20	1.000	-0.68	0.31
		Average	0.01	0.20	1.000	-0.48	0.51
Lower torso satisfaction	Thin	Average	0.19	0.23	1.000	-0.37	0.74
		Plus Size	0.01	0.23	1.000	-0.55	0.58
	Average	Thin	-0.19	0.23	1.000	-0.74	0.37
		Plus Size	-0.17	0.23	1.000	-0.74	0.39
	Plus Size	Thin	-0.01	0.23	1.000	-0.58	0.55
		Average	0.17	0.23	1.000	-0.39	0.74
Legs satisfaction	Thin	Average	0.12	0.22	1.000	-0.41	0.64
		Plus Size	-0.40	0.22	0.210	-0.93	0.13
	Average	Thin	-0.12	0.22	1.000	-0.64	0.41
		Plus Size	-0.51	0.22	0.063	-1.05	0.02
	Plus Size	Thin	0.40	0.22	0.210	-0.13	0.93
		Average	0.51	0.22	0.063	-0.02	1.05

Note. Multiple comparisons among variables. N =126.

*$p < .05$, **$p < .01$

Bivariate Correlation Matrices

A bivariate correlation matrix was then performed comparing condition to regional visual attention (see Table 8). RQ1 asked if there were significant differences in regional visual attention by condition. In this case, significant inverse relationships were found for the head (r = -.50, $p < .001$), lower torso (r = -.78, $p < .001$), and leg regions (r = -.84, $p < .001$), such that individuals in the conditions with larger models tended to look at these regions less than those viewing thinner models. It appears that the use of larger models may be associated with shorter fixation times on some regions by participants, though further research is needed to explore these claims.

Table 8

Bivariate Correlation Matrix (Condition and Fixation Percentage)

	Condition	Head fixation percentage	Arm fixation percentage	Upper torso fixation percentage	Lower torso fixation percentage	Legs fixation percentage
Condition		-0.50**	-0.01	0.11	-0.78**	-0.84**
Head fixation percentage			0.14	0.20*	0.49**	0.47**
Arm fixation percentage				0.13	0.02	0.10
Upper torso fixation percentage					0.26**	0.12
Lower torso fixation percentage						0.80**
Legs fixation percentage						

Note. Bivariate correlations among variables. N =126.

*$p < .05$, **$p < .01$

Another bivariate correlation matrix was then created comparing regional visual attention, regional satisfaction, media influence (SATAQ-3), and DT across all conditions. Results indicated that no significant relationships existed between regional visual attention and the other variables; however, there were significant correlations between satisfaction (BASS), media influence (SATAQ-3), and DT (see Table 9a). To further explore this, separate correlation matrices were created for each condition, again comparing regional visual attention, regional satisfaction, media influence, and DT. Results for these matrices can be found in Tables 9b (condition 1 – thin), 9c (condition 2 – average), and 9d (condition 3 – plus-size). Among each of these, while a handful of significant correlations did occur, no clear pattern manifested between regional satisfaction and regional visual attention. In this case, regardless of the physique of the models shown, no clear relationship manifested between participant regional satisfaction and their visual attention while viewing the ads.

RQ2 asked about the relationship between regional visual attention, satisfaction (overall and regional), media influence (SATAQ-3), and DT. Results indicated that there was no clear significant relationship between regional visual attention and satisfaction, media influence, and DT, either as a whole or by condition. However, while regional visual attention did not have any significant relationship with the other variables, there were strong correlations amongst satisfaction, media influence, and DT.

Table 9a

Bivariate Correlation Matrix – All conditions

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
1.		.14	.20*	.49**	.47**	-.10	-.08	-.06	-.07	.00	-.16	.06	-.10	-.11	-.05	-.06	-.09
2.			.13	.02	.10	.02	-.06	-.06	-.02	.08	.08	-.15	-.19*	-.23**	-.17	-.10	-.11
3.				.26**	.12	.01	-.04	-.08	-.02	.10	.05	-.06	-.00	-.06	-.03	.07	.02
4.					.80**	-.07	.01	-.14	.03	-.03	-.12	.04	-.01	-.07	.04	-.01	.08
5.						-.11	-.09	-.17	.05	-.03	-.16	.05	-.06	-.12	-.02	-.04	.01
6.							.56**	.75**	.74**	.79**	.80**	-.41**	-.31**	-.12	-.26**	-.38**	-.32**
7.								.31**	.34**	.24**	.36**	-.03	-.20*	-.08	-.15	-.26**	-.20*
8.									.48**	.47**	.43**	-.32**	-.23*	-.06	-.17	-.31**	-.23*
9.										.44**	.42**	-.27**	-.19*	-.06	-.14	-.23**	-.22*
10.											.63**	-.38**	-.25**	-.08	-.23**	-.31**	-.26**
11.												-.43**	-.27**	-.14	-.24**	-.27**	-.27**
12.													.42**	.24**	.37**	.43**	.35**
13.														.81**	.86**	.88**	.71**
14.															.57**	.56**	.34**
15.																.69**	.65**
16.																	.60**
17.																	

Note. Bivariate correlations among variables. *N*=126.

*$p < .05$, **$p < .01$

Table 9b

Bivariate Correlation Matrix – Cond 1 Thin

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
1.		.16	.27	.42**	.41**	-.33*	-.18	-.24	-.29	-.31*	-.21	.17	.09	.12	.06	.06	.03
2.			.01	-.11	.10	.22	-.02	.14	.14	.25	.27	-.25	-.11	-.11	-.15	-.02	-.09
3.				.43**	.30	.02	-.01	.09	-.17	.12	.00	-.11	-.04	-.07	.00	-.06	.02
4.					.14	-.21	-.01	-.17	-.25	-.19	-.13	.12	.23	.13	.25	.17	.28
5.						-.36*	-.34*	-.27	-.31*	-.19	-.27	.08	.04	.01	.02	.10	-.07
6.							.59**	.77**	.61**	.89**	.84**	-.40**	-.49**	-.33*	-.40**	-.51**	-.30*
7.								.29	.19	.37*	.48**	-.17	-.36*	-.19	-.33*	-.40**	-.24
8.									.37*	.55**	.54**	-.31*	-.34*	-.24	-.23	-.36*	-.24
9.										.45**	.30*	-.12	-.35*	-.38*	-.16	-.31*	-.23
10.											.76**	-.43**	-.37*	-.15	-.41**	-.44**	-.23
11.												-.39*	-.41**	-.31*	-.36*	-.41**	-.20
12.													.44**	.33*	.41**	.35*	.38*
13.														.77**	.82**	.91**	.77**
14.															.36*	.59**	.34*
15.																.69**	.84**
16.																	.61**
17.																	

Note. Bivariate correlations among variables. *N*=43.

*$p < .05$, **$p < .01$

Table 9c

Bivariate Correlation Matrix – Cond 2 Average

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
1.		.33*	.07	.07	.07	-.05	-.02	.05	-.13	-.06	-.03	-.03	-.19	-.22	-.13	-.14	-.09
2.			.07	-.29	-.03	-.23	-.21	-.18	-.23	-.20	-.12	-.11	-.11	-.24	.02	-.07	.04
3.				.24	-.14	.05	-.07	.07	.16	-.01	.00	-.36*	.07	.09	.06	.03	.04
4.					.25	.17	.32*	.27	.16	.03	-.01	-.01	-.12	.03	-.13	-.19	-.13
5.						.03	-.01	.01	.19	-.01	-.08	.07	-.16	-.07	-.27	-.16	-.03
6.							.56**	.74**	.83**	.87**	.84**	-.52**	-.28	-.03	-.24	-.38*	-.34*
7.								.30	.33*	.33*	.42**	-.03	-.21	-.03	-.12	-.33*	-.23
8.									.55**	.54**	.44**	-.38*	-.19	-.02	-.12	-.30	-.16
9.										.67**	.59**	-.44**	-.10	.17	-.11	-.22	-.26
10.											.73**	-.49**	-.25	-.05	-.25	-.28	-.30
11.												-.54**	-.35*	-.16	-.30	-.36*	-.37*
12.													.40**	.21	.30	.50**	.30
13.														.83**	.89**	.87**	.60**
14.															.76**	.54**	.22
15.																.67**	.42**
16.																	.54**
17.																	

Note. Bivariate correlations among variables. *N*=42.

*$p < .05$, **$p < .01$

Table 9d

Bivariate Correlation Matrix – Cond 3 Plus-size

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
1.	.06	.42**	.02	-.40*	.06	-.07	.12	-.04	.25	-.10	.06	-.14	-.09	-.12	-.07	-.24
2.		-.07	-.15	-.07	.04	.12	-.05	-.01	.13	-.03	-.11	-.38*	-.33*	-.33*	-.32*	-.30
3.			.46**	.09	-.09	-.01	-.18	-.06	.08	-.14	.16	.10	-.04	.06	.25	.06
4.				.36*	-.17	-.05	-.11	-.11	-.15	-.13	-.03	.12	.09	.08	.10	.16
5.					-.07	.17	-.01	.08	-.26	-.14	.19	.16	.09	.21	.08	.24
6.						.53**	.79**	.77**	.59**	.72**	-.24	-.14	.03	-.09	-.20	-.32*
7.							.33*	.54**	-.03	.19	.17	-.02	-.02	.04	.01	-.11
8.								.59**	.34*	.41**	-.23	-.20	.04	-.22	-.29	-.32*
9.									.16	.39*	-.17	-.10	.05	-.15	-.15	-.17
10.										.38*	-.15	-.09	.01	.03	-.16	-.25
11.											-.33*	-.06	.02	.00	-.06	-.22
12.												.46**	.24	.46**	.49**	.41**
13.													.83**	.89**	.87**	.79**
14.														.63**	.54**	.47**
15.															.75**	.71**
16.																.67**
17.																

Note. Bivariate correlations among variables. *N*=41.

*$p < .05$, **$p < .01$

Table 9e

Variable Key for Tables 9a-d

1. Head fixation percentage
2. Arms fixation percentage
3. Upper torso fixation percentage
4. Lower torso fixation percentage
5. Legs fixation percentage
6. Overall satisfaction
7. Head satisfaction
8. Arms satisfaction
9. Upper torso satisfaction
10. Lower torso satisfaction
11. Legs satisfaction
12. DT
13. SATAQ-3
14. Information
15. Pressures
16. Internalization - General
17. Internalization - Athlete

PROCESS Mediation

Further exploration of the relationship between satisfaction, media influence (SATAQ-3), and DT was required. RQ3 proposed that media influence, via the overall SATAQ-3 score, could function as a mediator between the variables of satisfaction and DT. Using SPSS statistical software, PROCESS Model 4–simple mediation–was run (Hayes, 2013). A mediation model was created to map the relationship between the independent variable (overall satisfaction), the mediating variable (SATAQ-3), and the dependent variable (DT).

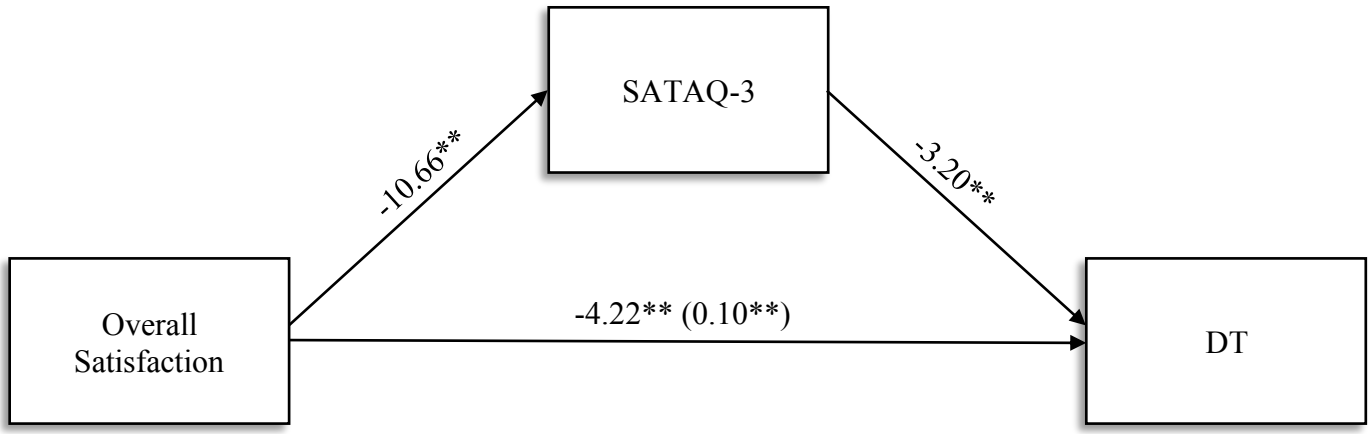

Figure 1. Simple Mediation Model – Overall satisfaction to DT through SATAQ-3.
*p < .05, **p < .01.

Figure 1 depicts the resulting model, which was significant ($F[1,124] = 13.54$, $p < 0.001$). The regression (*c* path) of overall satisfaction on DT, ignoring the mediator, was significant, $b = -4.22$, $t(124) = -5.04$, $p < 0.001$. The regression (*a* path) of overall satisfaction on the mediator, SATAQ-3, was also significant, $b = -10.66$, $t(124) = -3.68$, $p < 0.001$. The next step of the mediation process (*b* path) showed that the mediator, (SATAQ-3), controlling for DT, was significant, $b = -3.20$, $t(123) = -3.82$, $p < 0.001$. The final step of the analysis (path *c'*) revealed that, controlling for the mediator (SATAQ-3), overall satisfaction was a significant predictor of DT, $b = 0.10$, $t(123) = 3.91$, $p < 0.001$.

The findings of these analyses depicted in Figure 1 confirm the query posed in RQ3—media influence, as measured by the SATAQ-3, does mediate the relationship between overall body satisfaction and DT, such that overall satisfaction inversely relates to media influence, which then inversely relates to DT. This inverse relationship between media influence (SATAQ-3) and DT is unexpected, and it is possible that, because the SATAQ-3 is comprised of four separate subscales (information, pressures, internalization – general, and internalization – athlete), one of more of these subscales may be impacting this relationship. As such, mediation analyses were performed with overall satisfaction as the predictor, DT as the outcome, and each of the separate SATAQ-3 subscales as the mediator in four separate models. Further mediation processes were run to determine how each of the subscales functioned within the model (RQ4).

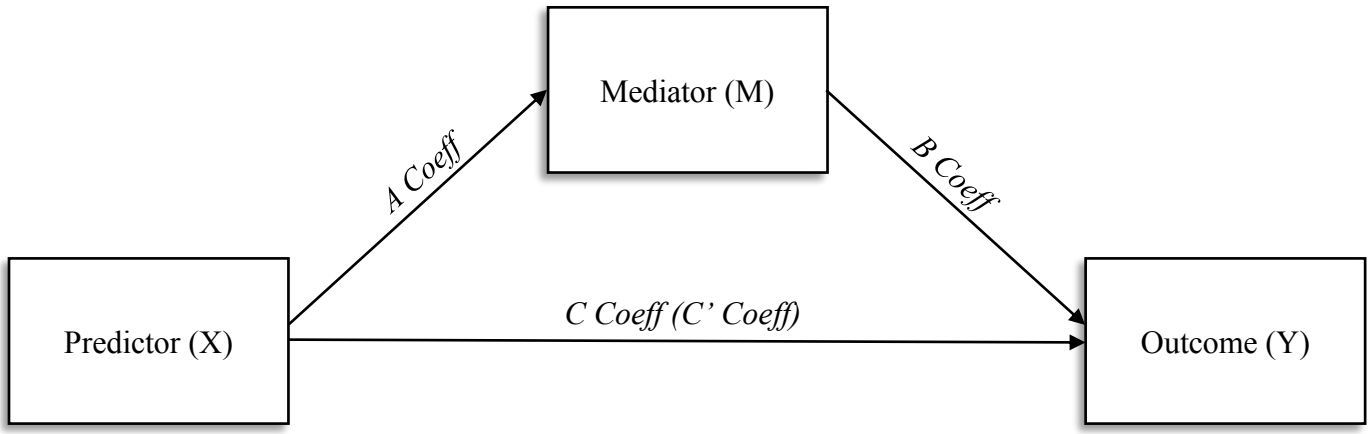

Figure 2. Simple Mediation Model. Values for each variable can be found in Tables 10 and 11.

Table 10
Overall Satisfaction Through SATAQ-3 Subscales

PROCESS Mediation	DT is used as the outcome variable (Y) for each model					
Mediators (M)					Bootstrap Indirect Effects	
	A Coeff	*B Coeff*	*C' Coeff*	*C Coeff*	Lower	Upper
Overall Satisfaction (X)						
Information	-1.53	-3.99**	0.15*	-4.22**	-0.81	0.13
Pressures	-2.32**	-3.48**	0.32**	-4.22**	-1.57	-0.17
Int. - General	-4.73**	-2.98**	0.26**	-4.22**	-2.21	-0.49
Int. - Athlete	-2.08**	-3.41**	0.39**	-4.22**	-1.61	-0.20

Note. Mediation among variables. N =126. Use Figure 2 for modeling of variables.
*$p < .05$, **$p < .01$

Results with the information subscale of the SATAQ-3 as a mediator resulted in a non-significant model (F[1,124] = 1.68, p = 0.198). The regression (*c* path) of overall satisfaction on DT, ignoring the mediator, was significant, b = -4.22, t(124) = -5.04, p = < 0.001. The regression (*a* path) of overall satisfaction on the mediator, information, was not significant, b = -1.53, t(124) = -1.29, p = 0.198. The next step of the mediation process (*b* path) showed that the mediator (information), controlling for overall satisfaction, was significant, b = -3.99, t(123) = -4.82, p < 0.001. The final step of the analysis (path *c′*) revealed that, controlling for the mediator (information), overall satisfaction was a significant predictor of DT, b = 0.15, t(123) = 2.47, p < 0.05. The finding indicates that, contrary to the proposal in RQ4a, information did not significantly mediate the effects of overall satisfaction on DT.

Analysis of the pressures subscale as a mediator resulted in a significant model (F[1,124] = 8.87, p < 0.01). The regression (*c* path) of overall satisfaction on DT, ignoring the mediator, was significant, b = -4.22, t(124) = -5.04, p = < 0.001. The regression (*a* path) of overall satisfaction on the mediator, pressures, was significant, b = -2.32, t(124) = -2.98, p < 0.01. The next step (*b* path) of the mediation process showed that the mediator (pressures), controlling for

overall satisfaction, was significant, $b = -3.48$, $t(123) = -4.18$, $p < 0.001$. The final step of the analysis (path *c′*) revealed that, controlling for the mediator (pressures), overall satisfaction was a significant predictor of DT, $b = 0.32$, $t(123) = 3.45$, $p < 0.001$. The finding indicates that, as proposed in RQ4b, pressures did significantly mediate the effects of overall satisfaction on DT.

Analysis of the internalization – general subscale as a mediator resulted in a significant model ($F[1,124] = 20.80$, $p < 0.001$). The regression (*c* path) of overall satisfaction on DT, ignoring the mediator, was significant, $b = -4.22$, $t(124) = -5.04$, $p = < 0.001$. The regression (*a* path) of overall satisfaction on the mediator, internalization – general, was significant, $b = -4.73$, $t(124) = -4.56$, $p < 0.001$. The next step (*b* path) of the mediation process showed that the mediator (internalization – general), controlling for overall satisfaction, was significant, $b = -2.98$, $t(123) = -3.46$, $p < 0.001$. The final step of the analysis (path *c′*) revealed that, controlling for the mediator (internalization – general), overall satisfaction was a significant predictor of DT, $b = 0.26$, $t(123) = 3.82$, $p < 0.001$. The finding indicates that, as proposed in RQ4c, internalization – general did significantly mediate the effects of overall satisfaction on DT.

Analysis of the internalization – athlete subscale as a mediator resulted in a significant model ($F[1,124] = 14.53$, $p < 0.001$). The regression (*c* path) of overall satisfaction on DT, ignoring the mediator, was significant, $b = -4.22$, $t(124) = -5.04$, $p = < 0.001$. The regression (*a* path) of overall satisfaction on the mediator, internalization – athlete, was significant, $b = -2.08$, $t(124) = -3.81$, $p < 0.001$. The next step (*b* path) of the mediation process showed that the mediator (internalization – athlete), controlling for overall satisfaction, was significant, $b = -3.41$, $t(123) = -3.98$, $p < 0.001$. The final step of the analysis (path *c′*) revealed that, controlling for the mediator (internalization – athlete), overall satisfaction was a significant predictor of DT, $b =$

0.39, $t(123) = 2.89$, $p < 0.01$. The finding indicates that, as proposed in RQ4d, internalization – athlete did significantly mediate the effects of overall satisfaction on DT.

The findings depicted in Table 10 address the relationship between variables noted in RQ4. The pressures, internalization – general, and internalization – athlete subscales mediate the relationship between overall body satisfaction and DT, while the information subscale showed no such relationship. To further understand these findings, mediation analyses were run with regional body satisfaction (head, arms, upper torso, lower torso, and legs) as the predictors, DT as the outcome, and the overall and subscale measures of the SATAQ-3 as mediators (RQ5), to determine how satisfaction with specific regions may be impacted by various media influences, in their relationship to DT.

Table 11a
Regional Satisfaction Through the SATAQ-3

PROCESS Mediation	DT is used as the outcome variable (Y) for each model					
Mediators (M)					Bootstrap Indirect Effects	
	A Coeff	*B Coeff*	*C' Coeff*	*C Coeff*	Lower	Upper
Head Satisfaction (X)						
SATAQ-3	-7.01*	0.60	0.13**	-0.31	-1.66	-0.23
Information	-1.08	-0.10	0.19**	-0.31	-0.72	0.21
Pressures	-1.33	0.26	0.42**	-0.31	-1.35	0.09
Int. – General	-3.33**	0.94	0.37**	-0.31	-2.09	-0.52
Int. – Athlete	-1.27*	0.42	0.57**	-0.31	-1.58	-0.06
Arms Satisfaction (X)						
SATAQ-3	-5.40*	-1.67**	0.11**	-2.26**	-1.21	-0.11
Information	-0.56	-2.16**	0.17**	-2.26**	-0.51	0.19
Pressures	-1.08	-1.86**	0.37**	-2.26**	-0.97	0.04
Int. – General	-2.73**	-1.44*	0.30**	-2.26**	-1.51	-0.30
Int. – Athlete	-1.02*	-1.78**	0.47**	-2.26**	-1.01	-0.08
Upper Torso Satisfaction (X)						
SATAQ-3	-4.73*	-1.49*	0.11**	-2.03**	-1.19	-0.04
Information	-0.61	-1.92**	0.18**	-2.03**	-0.55	0.23
Pressures	-0.92	-1.67**	0.39**	-2.03**	-1.05	0.11
Int. – General	-2.14**	-1.34*	0.32**	-2.03**	-1.33	-0.21
Int. – Athlete	-1.06*	-1.51*	0.49**	-2.03**	-1.16	-0.09
Lower Torso Satisfaction (X)						
SATAQ-3	-5.59**	-1.96**	0.10**	-2.54**	-1.11	-0.17
Information	-0.65	-2.43**	0.17**	-2.54**	-0.45	0.14
Pressures	-1.37**	-2.08**	0.34**	-2.54**	-0.95	-0.10
Int. – General	-2.48**	-1.84**	0.28**	-2.54**	-1.29	-0.25
Int. – Athlete	-1.09**	-2.07**	0.43**	-2.54**	-0.94	-0.13
Legs Satisfaction (X)						
SATAQ-3	-6.24**	-2.36**	0.10**	-2.97**	-1.20	-0.18
Information	-1.28	-2.79**	0.14*	-2.97**	-0.54	0.05
Pressures	-1.46**	-2.50**	0.32**	-2.97**	-0.97	-0.11
Int. – General	-2.31**	-2.33**	0.28**	-2.97**	-1.24	-0.21
Int. – Athlete	-1.18**	-2.49**	0.40**	-2.97**	-0.95	-0.13

Note. Mediation among variables. N =126. Use Figure 2 for modeling of variables.
*$p < .05$, **$p < .01$

The results reported in Table 11a address the question posed in RQ5, which suggests that the SATAQ-3 and its related subscales, could be mediators in the relationship between regional satisfaction and DT. The results showed that for each of the reported body regions, the overall SATAQ-3 score, as well as the subscales of internalization – general and internalization – athlete, successfully mediated the relationship between overall body satisfaction and DT. Conversely, the information subscale showed no such relationship for any of the regions of satisfaction. The subscale pressures functioned as a mediator in the cases of lower torso and legs, but not for the other regions. Further details on the variables in Table 11a can be found in Tables 11b-f in the Appendix.

Discussion

The current study had significant findings regarding the way women view video advertisements. Although participants' regional visual attention was not found to relate to any of the tested self-report measures, the visual data on its own is valuable as it contributes to the growing body of eye-tracking research, especially as it relates video-based stimuli in a body image context. Furthermore, the current study found significant relationships between individual body region satisfaction (BASS), drive for thinness (DT), and susceptibility to media influences (SATAQ-3). The relationships between the three commonly used body image measures had not be previously assessed. While the significant relationships between the measures and associated subscales are worthy of note, what appears potentially more interesting is the lack of significant relationships with one of the subscales of the SATAQ-3: information. Each of these findings calls for further discussion and future research.

Regional Visual Attention

The design for this study was based on prior research performed by Lykins et al. (2014), which sought to examine the impact of regional body satisfaction on regional visual attention using still-image stimuli. Their findings suggested that female samples exhibited avoidance tendencies when looking at key areas of lower satisfaction, including the mid and lower torso regions of the body. The current study, which used video-based stimuli, found no such avoidance behaviors and, in whole, a complete lack of substantive relationships between regional satisfaction and regional visual attention across all conditions. Why this was the case is not entirely clear, though it bears mentioning that there is a notable lack of consensus when it comes to explicating the link between regional satisfaction and regional visual attention. For example, while Lykins et al. (2014) report avoidance of lower satisfaction regions, Glashouwer et al.

(2016) reported greater fixation tendencies on areas of lower satisfaction. Lykins et al. (2014) noted in their report that their findings ran counter to similar studies on body dissatisfaction, and ultimately called for more research in this area. The current study calls even more questions to the nature of this potential relationship, and the need for additional research on the topic remains—perhaps with larger samples to increase power, in case the relationship relies on small effects.

While there were no significant findings linking body region satisfaction to regional visual attention, there was a significant difference in regional visual attention by condition. Those who saw plus-sized models spent significantly less time looking at the face, lower torso, and legs than those exposed to thin models. This finding is consistent with findings by Cho and Lee (2013) and Glauert et al. (2010). Both studies found, as did this one, that when presented with different body types, women spent more time fixating on thin bodies regardless of their own body satisfaction.

While the results of this study may appear to conflict with the study of Lykins et al. (2014), the difference between the results of these two studies could be attributed to the difference in stimuli. In this study the participants were shown videos depicting various types of bodies, whereas participants in the study conducted by Lykins et al. (2014) were shown still images. Some research has suggested that the thin ideal is internalized differently in video-based stimuli than in still-image stimuli (Tiggemann, 2003). The way in which the thin ideal is internalized across various forms of media could produce different visual behaviors. Future research should consider exposing a participant sample to both video and still-image stimuli and assessing the differences in regional visual attention and regional satisfaction between media formats.

One potential limitation of this study lies in the advertisements that participants were exposed to. Each condition's advertisement was one that had already been created for different clothing companies. As such, it is possible that participants had already seen the ads and their prior exposure could have affected their visual behavior. It is also a possibility that participants could have been familiar with the models portrayed in the videos. One last limitation related to the advertisements is that the women in these conditions wore different brands of clothing from one another and their movements in the video were different as well. To adjust for this limitation future researchers should create advertisements specifically for the study for two purposes. First, by creating their own stimuli, researchers can ensure that participants would not have prior engagement with the stimulus. Second, when creating stimuli, the researchers can control for unforeseen variables; making the advertisements identical with the exception of model body type would benefit this research.

Lastly, in regard to eye-tracking, there exist some limitations. This study attempted to make the experience as natural as possible for the user, but there remains an element of artificiality. Participants were informed that the study was an advertising study in order to encourage normal advertising viewing behavior, rather than have participants alerted to the body image aspect of the study and have their visual attention skewed by that knowledge. However, simply the knowledge of the fact that their vision was being tracked across the screen could affect behavior.

Eye-tracking research is also limited by virtue of its relatively recent emergence as a research tool. Some eye-tracking equipment may not be well-equipped for movements of participants as they view stimuli, causing a loss of visual attention data, or data slightly off-point. As technological advancements are made, these issues are rapidly disappearing as faster and

more accurate eye-tracking cameras are being made available for research. Future researchers may benefit from faster, more accurate eye-tracking data.

Relationships Between the BASS, SATAQ-3, and DT

As expected, a strong relationship was found between body satisfaction and DT. The less satisfied individuals were with their own body, the greater their drive for thinness. This was found to be true of overall satisfaction and regional satisfaction at every level except for head satisfaction; there was no significant relationship was found between head satisfaction and DT. It is likely that when individuals are dissatisfied with their weight and are concerned with being thin, the head is not an area they target for losing weight.

The SATAQ-3 and its associated subscales were all positively correlated with DT, which is to be expected as well. The greater the media influence on an individual the more likely they are to put importance on being thin and experience that drive to become thinner. However, this study is limited in its scope. Pruis & Janowsky (2010) studied the relationship between media influence and DT between younger and older women and noted an increased societal pressure on the body image of young women. This study consisted primarily of young, single, Caucasian females. Future research should expand its scope to include a variety of ages, races, and backgrounds.

This study found significant inverse relationships between an individual's body satisfaction (overall and regional) and their reported SATAQ-3 scores, indicating that as media influence increased, body region satisfaction decreased. This finding is consistent with the findings of Bedford and Johnson (2006), which found that overall satisfaction was linked to media influence. This study adds to the existing literature as it looked not only at the overall satisfaction of individuals, but also at their specific regional satisfaction. While regional and

overall satisfaction did relate to the overall SATAQ-3 scores, that did not hold true for each of the subscales of the questionnaire.

While the overall SATAQ-3, and its subscales of pressures, internalization – general, and internalization – athlete were all significantly correlated with at least one of the satisfaction items and functioned as a mediating variable between regional satisfaction and drive for thinness, there was one subscale that did not correlate at any level of satisfaction: information. Why does information not relate to any of the satisfaction items? The items in the information subscale ask about a variety of media formats and whether or not they are good sources of information for fashion and attractiveness. It is possible that participants who are satisfied with their body recognize media outlets as good sources of information just as much as participants who are dissatisfied. Body dissatisfaction has more to do with thoughts, beliefs, and attitudes, something deeper than recognizing a source of information as good or bad. Dissatisfaction lies in how one internalizes those messages, which is indicated by the results of this study.

Both internalization – general and internalization – athlete were significantly correlated with body satisfaction on every level. The subscale of pressures was significantly correlated with satisfaction at the levels of overall, lower torso, and legs. It is not certain as to why pressures is correlated with some levels of satisfaction and not others. Further research should be done to test the relationship between the SATAQ-3 and body satisfaction scales such as the BASS to determine if the information subscale remains an important part of the SATAQ. Furthermore, future research should include various measures to determine actual body weight and composition alongside the BASS and similar body satisfaction measures.

The questions of the SATAQ-3 that assess media pressures, internalization – general, and internalization – athlete are simply questions about whether or not the individual makes

comparisons with those portrayed in various forms of media. Using social comparison theory as a lens, some assumptions may be made in regard to the participants' responses. As comparisons made to media portrayals of body image increased, drive for thinness increased as well, while overall and body region satisfaction decreased. It can be reasoned that the types of comparisons being made in these cases were upward comparisons. It cannot be determined, however, if the upward comparisons in this instance are positive or negative. It is possible that the comparisons to media images are detrimental to individuals' perceptions of body image. On the other hand, it may be just as likely that the comparisons are inspiring and as individuals' body image improves over time, fewer comparisons are made to media portrayals.

While parts of the SATAQ-3 do indicate comparisons being made by individuals, it does not account for direction of comparisons and requires the researchers to make assumptions based on responses, rather than having straightforward responses. The items regarding comparison in the SATAQ-3 are also related to media in general and questions are not directed toward the stimuli presented. It would be beneficial for future researchers to include a scale or question asking participants to indicate their directional comparisons as they relate to the stimuli presented. Questions about the potentially negative or motivating nature of the comparisons would also benefit future research.

Conclusion

Portrayals of body image are in the media we consume daily. Many of these images, while not inherently destructive, may have unforeseen detrimental consequences for the body satisfaction and self-image of various individuals. As the media environment is rapidly expanding, we are engulfed by media portrayals of the body and what the female body "should" look like. Body ideals portrayed through still-image stimuli have been explored, and yet video becomes more prominent and accessible with little understanding as to how it may affect those who consume it.

The primary goal of the current study was to determine what the relationships were, if any, between visual attention, body satisfaction, media influence, and drive for thinness using video-based stimuli. Findings indicated that in video stimuli women, regardless of satisfaction, media influence, or drive for thinness, tended to give more attention to the head, lower torso, and legs of thin models compared to plus-sized models. Results also suggested that individuals with higher body dissatisfaction also indicated a higher drive for thinness as well as have experienced higher levels of media influence. Furthermore, media influence generally mediated the effects of body satisfaction and drive for thinness.

Future research should examine the difference between video and still-image stimuli amongst the same sample. Understanding the effects of various media formats on visual behavior, body satisfaction, media influence, and drive for thinness would be beneficial to addressing issues of mental health as they relate to body image.

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Appendix

Table 11b

Detailed Output – Head Satisfaction Through the SATAQ-3

Head Satisfaction (X)					DT is used as the outcome variable (Y) for each model			
Mediators								
	(df1,df2)	*F*	*p¹*	*R²*	*b*	*t*	*p²*	*SE*
SATAQ-3								
a path	(1,124)	5.37	0.022	0.04	-7.01	-2.32	0.022	3.03
b path	(2,123)	13.24	0.000	0.18	0.60	0.69	0.490	0.87
path c'	(2,123)	13.24	0.000	0.18	0.13	5.13	0.000	0.03
c path	(1,124)	0.11	0.743	0.00	-0.31	-0.33	0.743	0.93
Information								
a path	(1,124)	0.81	0.369	0.01	-1.08	-0.90	0.369	1.20
b path	(2,123)	3.91	0.023	0.06	-0.10	-0.11	0.911	0.91
path c'	(2,123)	3.91	0.023	0.06	0.19	2.78	0.006	0.07
c path	(1,124)	0.11	0.743	0.00	-0.31	-0.33	0.743	0.93
Pressures								
a path	(1,124)	2.70	0.103	0.02	-1.33	-1.64	0.103	0.81
b path	(2,123)	9.68	0.000	0.14	0.26	0.29	0.771	0.88
path c'	(2,123)	9.68	0.000	0.14	0.42	4.39	0.000	0.10
c path	(1,124)	0.10	0.743	0.00	-0.31	-0.33	0.743	0.93
Internalization – General								
a path	(1,124)	9.27	0.003	0.07	-3.33	-3.05	0.003	1.09
b path	(2,123)	14.72	0.000	0.19	0.94	1.08	0.284	0.87
path c'	(2,123)	14.72	0.000	0.19	0.37	5.41	0.000	0.07
c path	(1,124)	0.11	0.743	0.00	-0.31	-0.33	0.743	0.93
Internalization – Athlete								
a path	(1,124)	4.89	0.029	0.04	-1.27	-2.21	0.029	0.57
b path	(2,123)	8.77	0.000	0.12	0.42	0.47	0.639	0.89
path c'	(2,123)	8.77	0.000	0.12	0.57	4.17	0.000	0.14
c path	(1,124)	0.11	0.743	0.00	-0.31	-0.33	0.743	0.93

Note. p^1 = model summary significance, p^2 = path significance

Table 11c

Detailed Output – Arms Satisfaction Through the SATAQ-3

Arms Satisfaction (X)					DT is used as the outcome variable (Y) for each model			
Mediators								
	(df1,df2)	*F*	*p¹*	*R²*	*b*	*t*	*p²*	*SE*
SATAQ-3								
a path	(1,124)	6.78	0.010	0.05	-5.40	-2.60	0.010	2.07
b path	(2,123)	17.92	0.000	0.23	-1.67	-2.86	0.005	0.58
path c'	(2,123)	17.92	0.000	0.23	0.11	4.47	0.000	0.02
c path	(1,124)	13.78	0.000	0.10	-2.26	-3.71	0.000	0.61
Information								
a path	(1,124)	0.46	0.499	0.00	-0.56	-0.68	0.499	0.83
b path	(2,123)	10.92	0.000	0.15	-2.16	-3.63	0.000	0.59
path c'	(2,123)	10.92	0.000	0.15	0.17	2.71	0.008	0.06
c path	(1,124)	13.78	0.000	0.10	-2.26	-3.71	0.000	0.61
Pressures								
a path	(1,124)	3.81	0.053	0.03	-1.08	-1.95	0.053	0.55
b path	(2,123)	15.49	0.000	0.20	-1.86	-3.18	0.002	0.58
path c'	(2,123)	15.49	0.000	0.20	0.37	3.95	0.000	0.09
c path	(1,124)	13.78	0.000	0.10	-2.26	-3.71	0.000	0.61
Internalization – General								
a path	(1,124)	13.51	0.000	0.10	-2.73	-3.68	0.000	0.74
b path	(2,123)	17.55	0.000	0.22	-1.44	-2.40	0.018	0.60
path c'	(2,123)	17.55	0.000	0.22	0.30	4.39	0.000	0.07
c path	(1,124)	13.78	0.000	0.10	-2.26	-3.71	0.000	0.61
Internalization – Athlete								
a path	(1,124)	6.83	0.010	0.05	-1.02	-2.61	0.010	0.39
b path	(2,123)	13.68	0.000	0.18	-1.78	-2.97	0.004	0.60
path c'	(2,123)	13.68	0.000	0.18	0.47	3.51	0.0001	0.13
c path	(1,124)	13.78	0.000	0.10	-2.26	-3.71	0.000	0.61

Note. p^1 = model summary significance, p^2 = path significance

Table 11d

Detailed Output – Upper Torso Satisfaction Through the SATAQ-3

Upper Torso Satisfaction (X)					DT is used as the outcome variable (Y) for each model			
Mediators								
	(df1,df2)	*F*	*p¹*	*R²*	*b*	*t*	*p²*	*SE*
SATAQ-3								
a path	(1,124)	4.52	0.036	0.04	-4.73	-2.13	0.036	2.23
b path	(2,123)	16.42	0.000	0.21	-1.49	-2.40	0.018	0.62
path c'	(2,123)	16.42	0.000	0.21	0.11	4.67	0.000	0.02
c path	(1,124)	9.49	0.003	0.07	-2.02	-3.08	0.003	0.66
Information								
a path	(1,124)	0.47	0.492	0.00	-0.61	-0.69	0.492	0.88
b path	(2,123)	8.64	0.000	0.12	-1.92	-2.99	0.003	0.64
path c'	(2,123)	8.64	0.000	0.12	0.18	2.70	0.008	0.07
c path	(1,124)	9.49	0.003	0.07	-2.03	-3.08	0.003	0.66
Pressures								
a path	(1,124)	2.43	0.122	0.02	-0.92	-1.56	0.122	0.59
b path	(2,123)	13.76	0.000	0.18	-1.67	-2.67	0.009	0.63
path c'	(2,123)	13.76	0.000	0.18	0.39	4.10	0.000	0.09
c path	(1,124)	9.49	0.003	0.07	-2.03	-3.08	0.003	0.66
Internalization – General								
a path	(1,124)	7.00	0.009	0.05	-2.14	-2.65	0.009	0.81
b path	(2,123)	16.85	0.000	0.22	-1.34	-2.15	0.034	0.62
path c'	(2,123)	16.85	0.000	0.22	0.32	4.75	0.000	0.07
c path	(1,124)	9.49	0.003	0.07	-2.03	-3.08	0.003	0.66
Internalization – Athlete								
a path	(1,124)	6.41	0.013	0.05	-1.06	-2.53	0.013	0.42
b path	(2,123)	11.78	0.000	0.16	-1.51	-2.34	0.021	0.64
path c'	(2,123)	11.78	0.000	0.16	0.49	3.62	0.000	0.14
c path	(1,124)	9.49	0.003	0.07	-2.03	-3.08	0.003	0.66

Note. p^1 = model summary significance, p^2 = path significance

Table 11e

Detailed Output – Lower Torso Satisfaction Through the SATAQ-3

Lower Torso Satisfaction (X)					DT is used as the outcome variable (Y) for each model			
Mediators								
	(df1,df2)	*F*	*p¹*	*R²*	*b*	*t*	*p²*	*SE*
SATAQ-3								
a path	(1,124)	8.44	0.004	0.06	-5.59	-2.91	0.004	1.92
b path	(2,123)	21.07	0.000	0.26	-1.96	-3.66	0.000	0.54
path c'	(2,123)	21.07	0.000	0.26	0.10	4.26	0.000	0.02
c path	(1,124)	21.07	0.000	0.15	-2.54	-4.59	0.000	0.55
Information								
a path	(1,124)	0.72	0.399	0.01	-0.65	-0.85	0.399	0.77
b path	(2,123)	14.60	0.000	0.19	-2.43	-4.49	0.000	0.54
path c'	(2,123)	14.60	0.000	0.19	0.17	2.67	0.009	0.06
c path	(1,124)	21.07	0.000	0.15	-2.54	-4.59	0.000	0.55
Pressures								
a path	(1,124)	7.16	0.009	0.05	-1.37	-2.67	0.009	0.51
b path	(2,123)	18.11	0.000	0.23	-2.08	-3.83	0.000	0.54
path c'	(2,123)	18.11	0.000	0.23	0.34	3.62	0.000	0.09
c path	(1,124)	21.07	0.000	0.15	-2.54	-4.59	0.000	0.55
Internalization – General								
a path	(1,124)	12.76	0.001	0.09	-2.48	-3.57	0.001	0.70
b path	(2,123)	20.96	0.000	0.25	-1.84	-3.37	0.001	0.55
path c'	(2,123)	20.96	0.000	0.25	0.28	4.24	0.000	0.07
c path	(1,124)	21.07	0.000	0.15	-2.54	-4.59	0.000	0.55
Internalization – Athlete								
a path	(1,124)	8.95	0.003	0.07	-1.09	-2.99	0.003	0.36
b path	(2,123)	16.69	0.000	0.21	-2.07	-3.76	0.000	0.55
path c'	(2,123)	16.69	0.000	0.21	0.43	3.27	0.001	0.13
c path	(1,124)	21.07	0.000	0.15	-2.54	-4.59	0.000	0.55

Note. p^1 = model summary significance, p^2 = path significance

Table 11f

Detailed Output – Leg Satisfaction Through the SATAQ-3

Legs Satisfaction (X)					DT is used as the outcome variable (Y) for each model			
Mediators								
	(df1,df2)	*F*	*p¹*	*R²*	*b*	*t*	*p²*	*SE*
SATAQ-3								
a path	(1,124)	9.85	0.002	0.07	-6.24	-3.14	0.002	1.99
b path	(2,123)	24.10	0.000	0.28	-2.36	-4.29	0.000	0.55
path c'	(2,123)	24.10	0.000	0.28	0.10	4.09	0.000	0.02
c path	(1,124)	27.95	0.000	0.18	-2.97	-5.29	0.000	0.56
Information								
a path	(1,124)	2.58	0.111	0.02	-1.28	-1.61	0.111	0.80
b path	(2,123)	17.16	0.000	0.22	-2.79	-4.99	0.000	0.56
path c'	(2,123)	17.16	0.000	0.22	0.14	2.32	0.022	0.06
c path	(1,124)	27.95	0.000	0.18	-2.97	-5.29	0.000	0.56
Pressures								
a path	(1,124)	7.60	0.007	0.06	-1.46	-2.76	0.007	0.53
b path	(2,123)	21.43	0.000	0.26	-2.50	-4.52	0.000	0.55
path c'	(2,123)	21.43	0.000	0.26	0.32	3.51	0.001	0.09
c path	(1,124)	27.95	0.000	0.18	-2.97	-5.29	0.000	0.56
Internalization – General								
a path	(1,124)	10.07	0.002	0.08	-2.31	-3.17	0.002	0.73
b path	(2,123)	25.13	0.000	0.29	-2.33	-4.25	0.000	0.55
path c'	(2,123)	25.13	0.000	0.29	0.28	4.29	0.000	0.06
c path	(1,124)	27.95	0.000	0.18	-2.97	-5.29	0.000	0.56
Internalization – Athlete								
a path	(1,124)	9.94	0.002	0.07	-1.18	-3.15	0.002	0.38
b path	(2,123)	19.76	0.000	0.24	-2.49	-4.42	0.000	0.56
path c'	(2,123)	19.76	0.000	0.24	0.40	3.10	0.002	0.13
c path	(1,124)	27.95	0.000	0.18	-2.97	-5.29	0.000	0.56

Note. p^1 = model summary significance, p^2 = path significance