

**Empowerment Sold Separately: Eye-Tracking Messages of Empowerment and  
Objectification in Contemporary Advertising**

by

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## **DEDICATION**

This dissertation is dedicated to my husband Jeff, and my parents Donna and Tom, for their unending encouragement and belief in me.

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## **ABSTRACT**

Advertisements with an ostensibly empowering message are becoming an attractive marketing strategy for companies due to their popularity among female consumers. While the explicit narratives of these advertisements may seem empowering, the visual messages still resemble traditional, objectifying campaigns. This dissertation uses scale development and eye-tracking experiments to explore young women's responses to empowerment-themed media messages, examining tensions between felt empowerment and self-objectification when the two message themes are presented simultaneously. The goals are three-fold, to build upon existing knowledge vis-à-vis: 1) mechanism: assessment of schema activation when empowering and objectifying messages are presented simultaneously; 2) measurement: development of a context-flexible tool to measure felt empowerment; and 3) message processing: combining self-report measures with eye-tracking data to test the effect of specific message components (i.e., text and imagery) on women's felt empowerment and body image. Together, these experiments evaluate message processing of empowerment-themed media and can be used to determine how visual processing relates to participants' felt empowerment and body image.

## **Chapter 1**

### **Introduction and Literature Review**

#### **Overview**

Many women find it easy to describe the characteristics of objectifying media images, but what does an *empowering* image look like? Can narratives of women's empowerment overcome images that contain subtle (or overt) messages of objectification, or are the two necessarily incompatible? As a media psychologist studying feminist issues, my goal is to understand how women's interactions with media affect their mental and physical health. More specifically, I am interested in the roles that advertising and social media play in women's self-objectification, felt empowerment, and body image. This dissertation explores the effects of messages that purport to empower women, but may still contain objectifying information.

Since 2013, there has been major growth in empowerment-themed advertising (ETA), coined "femvertising" by SheKnows Media (SheKnows Media, 2016). Femvertising is a marketing movement that seeks to merge profit goals with feminist-themed messages (SheKnows Media, 2016). Companies in the beauty industry, historically criticized for their objectification of women, have been some of the most frequent adopters of this strategy. Pantene was among the first companies to employ this advertising approach with their *#ShineStrong* campaign, launched in 2013, but several other companies have since taken note of Pantene's success and employed ETAs as part of their marketing strategy. Companies such as Dove and Aerie have built brand images around messages of body positivity. ETAs take this platform a

step further, moving past body positivity to tackle other issues women face, such as gender stereotypes. The focus of these messages varies greatly, as do the types of companies that have employed them. What they share is an emphasis on employing female talent, and messages that intend to inspire and encourage female consumers toward self-realization (SheKnows Media, 2016).

Scholars and consumers have questioned the motive behind ETAs, describing the movement as a more “palatable” but ersatz feminism (Zeisler, 2017). However, there is clear evidence of the market potential of advertisements with empowerment-focused messages (Abitbol, 2016; Akestam, Rosengren, & Dahlen, 2017; Kapoor & Munjal, 2017). Susan Wojcicki, CEO of YouTube, indicated in a 2016 report that women aged 18-34 were 2.5 times less likely to skip, and 80% more likely to comment on or share, advertisements containing empowerment-themed messages than similar advertisements without empowerment themes. A consumer survey by SheKnows media (2016) reported that 53% of women in their sample chose to purchase products because they liked the portrayal of women in the company’s advertising, and that nearly half of women surveyed had stopped purchasing a product due to negative representation of women by that company. Additionally, 47% of women in their sample reported having shared a TV or print ad that contained a pro-female message. The same survey found that 88% of women and 74% of men recalled advertisements that featured positive female representation, indicating that these messages improved memorability. For the reasons above, empowerment messages are becoming an appealing strategy for companies seeking to market to female consumers.

Messages of empowerment and objectification, though seemingly in conflict, are frequently presented simultaneously in ETAs. These advertisements often include the implicit

message that empowerment comes from feeling beautiful, and that beauty comes from product use. For example, the *#ShineStrong* series by Pantene addresses feminist issues such as double standards for women in the workplace but features conventionally beautiful models. While one Under Armour commercial featuring ballerina Misty Copeland includes a narrative of triumph over setbacks and adversity, the visual images still contain framing in line with traditional critiques of objectification. Specifically, in a 30-second broadcast version of the campaign, audiences see a brief glimpse of Copeland's entire body in the first frame, but Copeland's face does not appear again until nearly halfway through the video. Empowerment-themed advertisements contain explicit messages of empowerment. However, my research is among the first to examine the effect that these advertisements have on women's self-objectification and feelings of empowerment immediately after exposure.

Women with a positive body image often describe using media literacy skills as a way to combat potentially harmful effects of thin-ideal media exposure (Holmqvist & Frisén, 2012; Wood-Barcalow, Tylka, & Augustus-Horvath, 2010), and teaching media literacy skills can be an effective intervention strategy for disordered eating (McLean, Paxton, & Wertheim, 2016). Using media literacy, women may learn to remain guarded against media representations that objectify women, such as those in traditional beauty advertisements (McLean et al., 2016). Advertisements structured with empowerment themes may bypass critical reflection due to the belief that ETAs are progressive and beneficial to women. In support of this, Akestam et al. (2017) found that advertisements with less stereotypical representations (e.g., femvertisements) led to lower consumer reactance and higher brand appeal than traditional advertisements. In a meta-analysis by Want (2009), effect sizes for self-objectification were largest when participants were asked to view advertisements through a dimension other than appearance. These findings

suggest that the most objectifying advertisements may be those that contain an explicitly non-objectifying message along with an implicit emphasis on beauty and body ideals: the structure of most ETAs.

Empowerment is generally thought to have adaptive outcomes such as increased managerial effectiveness in workplace settings (Spreitzer, 1995), community involvement (Peterson et al., 2006; Zimmerman & Rappaport, 1988), and advocacy for personal goals and needs (Zimmerman, 1995). In contrast, self-objectification is primarily recognized as a harmful psychological process (Aubrey, 2006, 2007; Fredrickson, Roberts, Noll, Quinn, & Twenge, 1998; Harrison & Fredrickson, 2003; Latzer, Spivak-Lavi, & Katz, 2015; Monro & Huon, 2005; Monro & Huon, 2006; Quinn, Kallen, Twenge, & Fredrickson, 2006; Tylka & Hill, 2004). Thus, it seems that these schemas, or mental models (Chen, 2001), compete with one another, and are unlikely to be activated simultaneously.

This dissertation extends work that I began in the first year of my doctoral program. My initial experiment examined empowerment appeals in beauty advertisements (Couture Bue & Harrison, 2019). In this experiment, observers judged women who viewed ETAs before giving an impromptu speech as more empowered than women who saw traditional beauty or control advertisements. However, women in the ETA condition did not report greater feelings of self-efficacy (a variable related to felt empowerment). Moreover, the women who saw the ETAs exhibited greater state objectification post-viewing than those in the control condition.

Although this study provided initial evidence of some of the effects of ETAs, it focused narrowly on beauty advertisements and left many questions about the relationship between objectification and felt empowerment unanswered. My dissertation expands on this research to further explore the effects of ostensibly empowering media messages on women's felt

empowerment and self-objectification, using a more comprehensive range of advertisements and methods.

The studies in my dissertation examine three aspects of empowerment in media: mechanism (Study 1), measurement (Study 2), and message processing (Study 3). Specifically, Study 1 uses an expanded range of advertisements as well as a lexical decision task to examine the activation of empowerment and objectification schemas following exposure to ETAs. Study 2 describes the development of a scale that can be used to measure felt empowerment following media exposure. Finally, Study 3 comprises three experiments that combine eye-tracking methods with self-report measures to examine the effect of textual and visual messages on women's felt empowerment and body image across a variety of platforms: a selfie photo (Study 3.1), advertising (Study 3.2), and social media (Study 3.3).

The literature described in the next section sets the foundation for the hypotheses presented in each study. To my knowledge, there is no published research testing the effect that ETAs have on women's self-objectification and felt empowerment, so I draw on scholarship examining context-specific empowerment research from other fields, such as feminist theory. I also review the extensive research that describes the role of exposure to both traditional and social media exposure on women's body image.

## **Literature Review**

### **Media and Empowerment**

Empowerment is a term frequently heard in popular discourse paired with discussions of social movements within disadvantaged groups, including women. Given the frequent commodification of empowerment in the current media environment (Davidson, Healy, & Telegraph, 2015; Monllos, 2015; Skey, 2015), it is more important than ever for feminist

scholars to examine tensions between felt empowerment and objectification (Fredrickson & Roberts, 1997). Objectification refers to representations that reduce women to the status of (sexual) objects, while subjectification (Gill, 2003) refers to intentionally presenting oneself as a sexual object. In contradiction to extensive research linking sexual objectification with negative consequences for women's task performance (Aubrey, Gamble, & Hahn, 2016; Fredrickson et al., 1998; Halliwell, Malson, & Tischner, 2011; Ward, Seabrook, Grower, Giaccardi, & Lippman, 2018), media messages frequently present self-sexualization and subjectification as paths to empowerment (Donaghue, Kurtz, & Whitehead, 2011; Gill, 2012; Holland & Tiggemann, 2017; Holland & Attwood, 2009; Lamb & Peterson, 2012; Levy, 2005; Smith, 2007). This project focuses on self-objectification rather than subjectification as Gill (2003) defined it.

Empowerment is a complex psychological, sociological, and political concept, one that deserves attention from a variety of epistemological approaches. Media representations of empowerment are understudied, yet ETAs are becoming increasingly common (Drake, 2017). Thus, I argue that an understanding of felt empowerment after media exposure is vital to the field. This vitality is underscored by the fact that while some version of felt empowerment and self-objectification can co-occur (as suggested by Couture Bue and Harrison, 2019), the long-term consequences of objectification may be obscured by the short-term affective experience of empowerment (Liss, Erchull, & Ramsey, 2010), leading women back to the same objectifying media content again and again.

Empowerment has been studied in various fields, including economics, organizational psychology, healthcare, social work, and women's studies (Narayan, 2005). While the concept termed *psychological empowerment* has received less scholarly attention than structural



empowerment (Narayan, 2005), it is an important contributor to an individual's subjective well-being (Diener & Biswas-Diener, 2005). Quantitative scholars have yet to study empowerment in a mediated context, but a study examining the long-term effects of self-determination on workplace success found that psychological empowerment in high school predicted post-school employment status, as well as benefits and wages (Shogren, Lee, & Panko, 2017). Within an occupational setting, feelings of empowerment have been associated with increased managerial effectiveness (Spreitzer, 1995), reduced employee burnout (Kim & Fernandez, 2017; Livne & Rashkovits, 2018), and improved employee health and well-being (Laschinger, Read, & Zhu, 2016). In a community setting, psychological empowerment leads to greater community involvement (Peterson et al., 2006; Zimmerman & Rappaport, 1988) and greater advocacy for personal goals and needs (Zimmerman, 1995); thus it can be beneficial.

Scholars have noted the multidimensional and ambiguous nature of empowerment theory for nearly 30 years (Ackerson & Harrison, 2000; Dolničar & Fortunati, 2014; Zimmerman & Rappaport, 1988), but have made little progress toward solidifying a multi-disciplinary theory. As it stands, there are currently two central problems that exist in the literature: 1) defining and identifying empowerment as a construct, and 2) measuring felt empowerment as a transitory affective state. The following section on empowerment theory addresses these concerns through a review of existing literature, concluding with a proposed theoretical framework relevant to felt empowerment and objectification specifically.

### ***Defining and Identifying Empowerment***

There is no standard definition of empowerment within the existing empowerment literature; there seems to be agreement only in recognizing that empowerment is inherently challenging to identify and describe (Dolničar & Fortunati, 2014; Thomas & Velthouse, 1990;

Zimmerman, 1995). While definitions of empowerment vary widely across context and discipline, these definitions share an emphasis on the individual's autonomy and control over resources necessary to achieve their goals (Zimmerman & Rappaport, 1988). Scholars within both feminist and social science traditions have also emphasized the importance of developing a "critical consciousness" in which individuals begin to identify forms of systemic oppression as the first step to becoming empowered individuals and advocating for change (Becker, Israel, Schulz, Parker, & Klem, 2002; Gutierrez, 1995; McGirr & Sullivan, 2017). Definitions of empowerment tend to include elements of personal agency and community engagement (Zimmerman, 2000). One of the most commonly cited definitions is by Zimmerman and Rappaport (1988), who describe empowerment as the "process by which individuals gain mastery and control over their own lives or democratic participation in the life of their community" (p. 726).

The concept of empowerment has been used to describe both individual-level characteristics and group-level behaviors (Dolničar & Fortunati, 2014; Narayan-Parker, 2005; Sadan, 1997; Zimmerman, 2000), but scholars rarely make distinctions between the two levels (Sadan, 1997). Instead of thinking of empowerment as a single, unified theory, it is more productive to think of it as an umbrella term encompassing many levels and facets of the construct. The structural (external) level of empowerment generally refers to resources available to an individual at the community, organizational, and interpersonal levels. Psychological empowerment refers to the individual's perception of control and mastery over their life outcomes. While the term psychological empowerment is used extensively in prior research (Diener & Biswas-Diener, 2005; Spreitzer, 1995; Zimmerman, 1995, 2000) the term itself is

broad and unspecific. Because of this, the term *felt empowerment* is used to describe the momentary and transitory perception of psychological empowerment.

Structural empowerment and psychological empowerment tend to be positively correlated, but it is important to measure the levels independently as well since access to resources does not necessarily lead to feelings of empowerment (Narayan-Parker, 2005). It is possible for a person to feel empowered but have no means of changing their circumstances; likewise, it is possible to feel disempowered despite a wealth of privileges and options. Lokshin and Ravallion (2005) found that while income levels of individuals in the Soviet Union were positively related to felt empowerment, many individuals from an affluent socioeconomic demographic did not report feeling empowered. Similarly, many individuals with low access to resources reported high levels of felt empowerment (Lokshin & Ravallion, 2005). In light of this, an understanding of empowerment at both structural and psychological levels is essential, and researchers need to be explicit about the level they are describing. Referring to empowerment without making distinctions about the level of interest leads to confusion, and creates challenges in broader theory building. Although community and organizational empowerment are also important to understand, the proposed framework of this dissertation will focus on felt empowerment as an emotional/motivational state that can be influenced by events and messages, as this definition is most relevant to the purported goals of ETAs.

In addition to struggling to define empowerment, scholars have also disagreed about identification and measurement. Within feminist scholarship, there has been ongoing discussion about the role of women's sexual expression and bodies in the fight for power, and whether self-sexualization is an expression of empowerment (Lamb & Peterson, 2012). There are debates within the literature about which messages and images should be classified as empowering

(Aubrey et al., 2016; Dolničar & Fortunati, 2014; Gill, 2008); whether empowerment represents a process or an outcome (Sadan, 1997); and even how to distinguish empowered from disempowered individuals (Peterson et al., 2006; Zimmerman, 1995).

Scholars reference personality, cognitive, and motivational constructs as common elements of psychological empowerment (Dolničar & Fortunati, 2014; Zimmerman, 1995, 2000), but use different terminology across contexts and disciplines. While there is strong evidence that the expression of psychological empowerment varies substantially across individuals (Foster-Fishman, Salem, Chibnall, & Yapchai, 1998; Zimmerman, 2000), if felt empowerment is a useful construct, there should be core elements of felt empowerment that are generalizable across contexts and disciplines.

### ***Illustration of the Theoretical Framework***

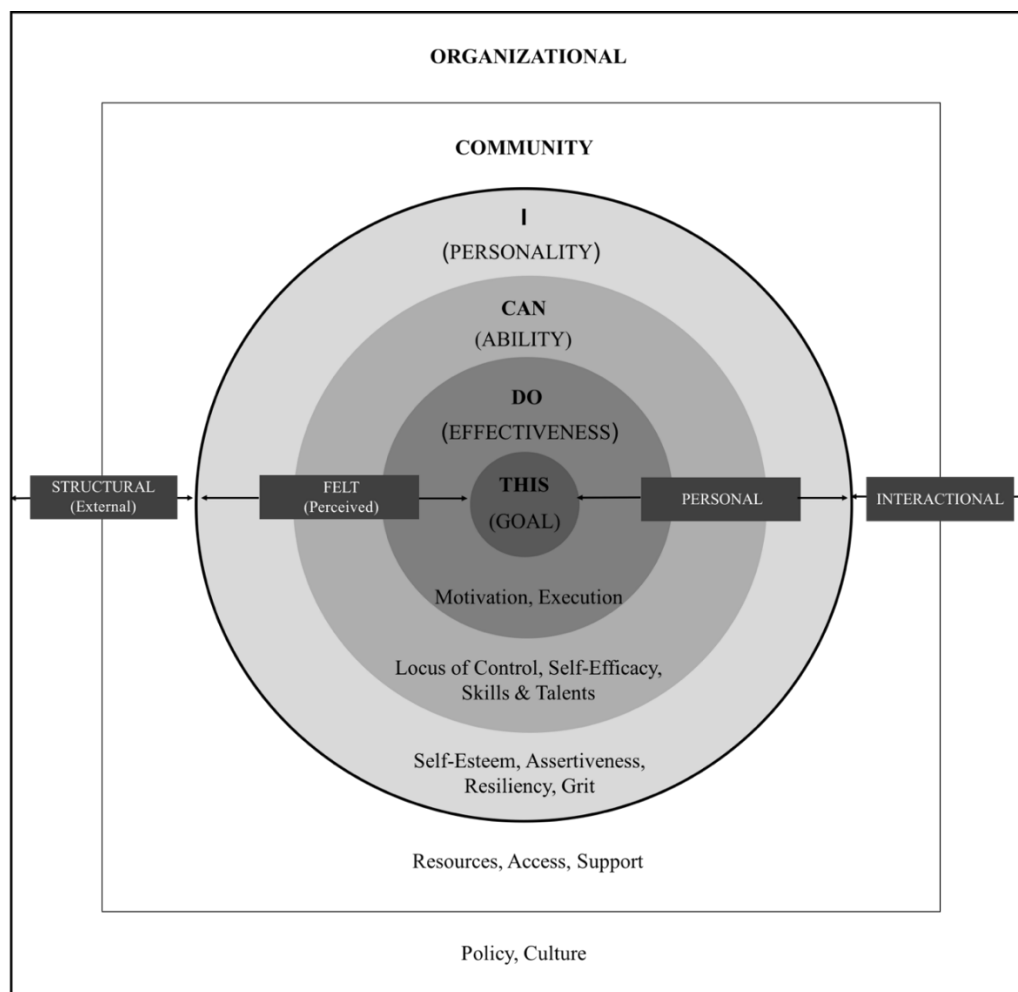
I constructed the following model to summarize cross-disciplinary approaches to conceptualizing empowerment, using the phrase “I Can Do This” as a guiding illustration (Figure 1). Elements of felt empowerment are presented within a target shape, whereas the surrounding square boxes represent external/structural empowerment levels. An individual’s structural empowerment level may determine whether or not experiencing felt empowerment helps them reach their goals. Felt empowerment is vital to understand, as it helps individuals evaluate whether or not to attempt a task. Individuals who feel inadequately resourced may choose to forgo their goals, even if the resource in question is in fact available to them.

In this illustration, I break down felt empowerment into the following sub-levels: personality characteristics, ability, effectiveness, and goal. Personality characteristics, represented with the word “I,” relate to traits such as assertiveness and confidence that the individual carries from one goal/activity to another. The next level, represented by the word

“Can,” represents whether or not the individual feels that they have the skills, ability, and agency necessary to complete the task. “Do” represents the execution of the task, as well as evaluations of impact/meaning as are described in the workplace empowerment literature (e.g., if I can complete my goal, will it have the desired outcomes?) (Spreitzer, 1995). Finally, the word “This” in the model contextualizes the model to the individual’s specific goal.

**Figure 1-1**

*Cross-Disciplinary Illustration of Empowerment*



**Measuring Empowerment**

As discussed in the prior section, while many scholars have examined discrete portions of this model, they rarely discuss the connections between psychological empowerment and

structural empowerment, instead choosing to focus on one construct or the other (primarily structural empowerment). The Gender Empowerment Measure, among others (see Charmes & Wieringa, 2003 for discussion), exists to evaluate structural empowerment. Questionnaires of this sort typically involve questions regarding women's democratic and legal rights in society and do not give scholars an indication of felt empowerment.

Scholars who study psychological empowerment have suggested that the inherently complex and individual nature of the construct makes it difficult, and even inappropriate, to measure across contexts with a single scale (Foster-Fishman et al., 1998; Zimmerman, 1995, 2000). This perspective has stalled work on generalized felt empowerment. Zimmerman (2000) emphasizes the fluid, continuous, and developmental nature of empowerment, and argues that measures of felt empowerment should not be used to label individuals as either "empowered" or "disempowered." Similarly, scholars such as Carr (2003) stress the developmental nature of empowerment and suggest that instead of a static trait, it is a process that occurs over an individual's lifetime. Finally, Zimmerman (2000) conceptualizes empowerment theory more as a heuristic than a measurement tool. While it is certainly unrealistic to measure all facets of empowerment through a single measure, a felt empowerment scale that can capture feelings of empowerment in various contexts and after exposure to various messages is an important tool for understanding the affective consequences of empowerment-themed media and whether those feelings align with the effects advertisers claim their messages will have.

Since there is no all-purpose measure of felt empowerment, researchers typically create scales with items tailored to the context pertinent to their research question. For example, individual scales have been used to measure felt empowerment as it relates to community engagement and activism (Sociopolitical Control Scale, Peterson et al., 2006; Zimmerman &

Zahniser, 1991), specific organizational settings such as the workplace (Spreitzer, 1995), and healthcare contexts (Israel, Checkoway, Schulz, & Zimmerman, 1994; Wallerstein, 2002). The structure and content of these felt empowerment scales vary significantly by discipline (for example, see Becker et al., 2002; Zimmerman & Zahniser, 1991), and this variation creates challenges for comparing findings across projects. Although creating measures on a study-by-study basis allows researchers to answer context-specific questions, it makes it difficult to draw broader conclusions about empowerment across disciplines, or about messages that purport to be “empowering” across a range of topics and contexts.

A central argument of this dissertation is the assertion that it is possible to quantitatively estimate felt empowerment. Felt empowerment has typically been described as a motivational mechanism rather than an emotion (Conger & Kanungo, 1988), but the measurement challenges are similar. Emotional states such as happiness are also multifaceted, person- and context-dependent, and fluid in nature (Larsen & Fredrickson, 1999). Therefore, I argue that empowerment can be measured using strategies similar to those applied to the measurement of constructs such as happiness, with the acknowledgment that measurement of an individual’s felt empowerment at one point in time is part of a continuous, developmental process (Zimmerman, 2000) and not a fixed “trait” variable. Psychologists studying emotion do not claim to capture all information about an individual’s lifetime experience of happiness, for instance, in a single measure, but still administer self-report scales because such scales provide fruitful evidence of the real-time experience of emotions in specific contexts (Larsen & Fredrickson, 1999).

Instead of creating a new scale for each study, emotion scholars often use a consistent list of items and account for context by adjusting the instruction set. An example of this type of scale is the Multiple Affective Adjective Checklist (MAACL) (Zuckerman & Lubin, 1965), which

measures self-perceived emotional states. The participant, upon being given a set of instructions modified to fit to the study context, is asked to rate the extent to which a series of emotion-representing adjectives apply to them. The Affective Empowerment Checklist (AECL), developed for this dissertation and described in Study 2 (Chapter 3), is an adaptation of the MAACL, with adjectives describing empowerment-related constructs. The structure of the AECL provides the flexibility necessary to measure empowerment in multiple contexts and after different events (such as following media exposure) while requiring limited modification and facilitating maximum ease of use and standardization across studies.

### **Traditional Media and Body Image**

What does objectification have to do with ETA? Western media images, particularly within the beauty and fashion industries, have been criticized for the emphasis they place on women's appearance. Magazines tend to define the ideal feminine appearance as passive and flawless (Conley & Ramsey, 2011), young (Bessenoff & Priore, 2007), and thin (Derenne & Beresin, 2006). A recent content analysis by Mastro and Figueroa-Caballero (2018) supported the argument that models in television are becoming thinner over time. While recent studies have documented a shift in ideals away from thinness exclusively and towards fitness and muscularity (Boepple, Ata, Rum, & Thompson, 2016), a content analysis of U.S. Beauty Pageant winners spanning the last 15 years demonstrated that recent winners were both thinner and more muscular than past winners (Bozsik, Whisenhunt, Hudson, Bennett, & Lundgren, 2018). This finding implies that while beauty ideals may be shifting, modern standards of the "fit" ideal are not necessarily healthier or more achievable for women than the thin ideal. Exposure to images of models who are both thin and muscular, as well as merely thin models, has been associated



with decreased body satisfaction (Benton & Karazsia, 2015). Thus these contemporary beauty standards may still define beauty in a way that is problematic for women.

Scholars (e.g., Kilbourne, 2010) have hypothesized for nearly four decades that exposure to mass media messages containing idealized images of beauty are harmful for women. Frequent exposure to idealized images has been linked extensively to the internalization of the thin ideal and increased body dissatisfaction (for a meta-analysis, see Grabe, Ward, & Hyde, 2008).

Thompson, Coover, and Stormer (1999) described a Tripartite Influence Model of body image, where individuals develop their body image through information from three primary sources: parents, peers, and media. Parental modeling seems to be of particular importance for young girls' body image development, whereas media become an important source of information for body image during adolescence (Perez, Kroon Van Diest, Smith, & Sladek, 2018). This tripartite model has generally been supported by research, and has been adopted as one of the primary explanations for the development of disordered eating (Keery, van den Berg, & Thompson, 2004; Rodgers, Chabrol, & Paxton, 2011; Van Den Berg, Thompson, Obremski-Brandon, & Coover, 2002).

### **Objectification Theory**

Objectification theory has been used to describe the impact that the kind of cultural commodification and sexualization of women's bodies that appears in advertising has on women's mental health and well-being (Fredrickson & Roberts, 1997). Self-objectification, a related concept that will be defined momentarily, is one of the mechanisms that scholars have used to explain the relationship between media exposure and women's body dissatisfaction. In the media, women's bodies are often objectified, commodified, and depicted as existing primarily for others' enjoyment and consumption (Fredrickson & Roberts, 1997). From an early

age, girls experience circumstances in which their bodies are observed and evaluated by others. Objectification theory posits that over time, women may begin to internalize this perspective and begin to think of their bodies as being valued primarily for attractiveness rather than functionality, a phenomenon referred to as self-objectification (Fredrickson & Roberts, 1997).

Self-objectification exists on both the trait (Calogero & Thompson, 2009) and state (Moradi & Huang, 2008) levels. Whereas trait objectification refers to a relatively stable focus on appearance-as-self that persists across multiple contexts, state objectification is context-specific and can be elicited by exposure to media images. Self-objectification has been linked to a number of problematic outcomes, including decreased sexual satisfaction (Calogero & Thompson, 2009), decreased self-esteem (Aubrey, 2006; Paxton et al., 2010; Strelan, Mehaffey, & Tiggemann, 2003; Tiggemann, 2005), body dissatisfaction (Breines, Crocker, & Garcia, 2008; Harper & Tiggemann, 2008), and disordered eating (Fredrickson et al., 1998; Harrison & Fredrickson, 2003; Schaefer & Thompson, 2018; Tylka & Hill, 2004). Additionally, state objectification leads to decreased performance on cognitive (Fredrickson et al., 1998; Gay & Castano, 2010; Quinn et al., 2006) and athletic (Harrison & Fredrickson, 2003) tasks.

Self-objectification has been linked to greater cognitive load due to a split in available cognitive resources between task attention and self-monitoring (Fredrickson et al., 1998; Gay & Castano, 2010; Quinn et al., 2006). Experimental research supports the cognitive load hypothesis, finding that when individuals who are high in trait objectification are placed in a highly objectifying context, they are slower at a word completion tasks than those who are low in trait objectification (Gay & Castano, 2010). In line with these findings, self-objectification has been linked to outcomes such as decreased cognitive and physical task performance, with individuals high in self-objectification performing worse on math tests (e.g., Fredrickson et al.,

1998; Quinn et al., 2006) and tasks such as throwing a softball (Harrison & Fredrickson, 2003) than individuals who are low in self-objectification. Higher trait objectification has also been linked with harmful psychological processes such as decreased self-esteem and depression (e.g., Thompson et al., 1999). Women who evaluate themselves primarily based on appearance have been shown to perceive themselves as less competent than those who evaluate themselves on other dimensions (Gapinski, Brownell, & Lafrance, 2003). In addition to these psychological outcomes, self-objectification has been linked to health concerns for women, as it is a risk factor for disordered eating (Harrison, 2000; Tylka & Hill, 2004; Vandenberg & Eggermont, 2016). Because of this, it is almost uniformly described as a harmful psychological construct.

Fredrickson and Roberts (1997) described sexual objectification as occurring whenever “a woman’s body, body parts, or sexual functions are separated from her person, reduced to the status of mere instruments, or regarded as if they were capable of representing her,” (p. 175). Objectifying media are commonly operationalized as images that emphasize the male gaze (i.e., unreciprocated male visual attention upon a woman), highlighting a woman’s body over her face, dismemberment of the face from the person, or increased skin exposure (Fredrickson & Roberts, 1997). Initial studies identified correlational links between self-objectification and frequent exposure to thin-ideal magazines and television shows, with scholars later furnishing causal evidence through studies involving experimental manipulations and longitudinal data (for meta-analyses, see Karsay, Knoll, & Matthes, 2018 and Tiggemann, 2014). This relationship between media viewing and increased state objectification seems to be particularly prevalent in individuals who are high in trait social comparison, high in trait objectification, or low in self-esteem or self-efficacy (Tiggemann, 2014). A longitudinal study by Aubrey (2006) suggests that long-term exposure to sexually objectifying television may lead to increased trait objectification

in young women over time. In addition to long-term effects, short-term exposure to various media types such as music videos (Aubrey & Gerding, 2015; Aubrey, Hopper, & Mbure, 2011; Karsay & Matthes, 2016; Prichard & Tiggemann, 2012; Vandebosch & Eggermont, 2016), advertisements (Halliwell et al., 2011), magazines (Morry & Staska, 2001), social media (de Vries & Peter, 2013; Fardouly, Diedrichs, Vartanian, & Halliwell, 2015a; Fox & Rooney, 2015), and video games (Fox, Bailenson, & Tricase, 2013; Fox, Ralston, Cooper, & Jones, 2015; Vandebosch, Driesmans, Trekels, & Eggermont, 2017) has been shown to increase state objectification.

Surprisingly few objectification scholars have made distinctions between the effects of objectifying imagery versus objectifying captions. Stimuli used in prior research can be categorized into four broad groups: 1) stimuli that contain both visual and textual messages and make no distinction between the two (e.g., Aubrey & Gerding, 2015; Aubrey et al., 2011; de Vries & Peter, 2013; Hopper & Aubrey, 2016; Karsay & Matthes, 2016); 2) stimuli that exclusively contain images (e.g., Aubrey, Henson, Hopper, & Smith, 2009; de Vries & Peter, 2013; Grey, Horgan, Long, Herzog, & Lindemulder, 2016; Harper & Tiggemann, 2008); 3) stimuli that exclusively contain text (Calogero, Herbozo, & Thompson, 2009; Calogero & Jost, 2011; Gapinski et al., 2003; Roberts & Gettman, 2004); and finally, stimuli where captions are used to manipulate framing of the images (Harrison & Hefner, 2014; Veldhuis, Konijn, & Seidell, 2014; Veldhuis et al., 2012).

Women's exposure to sexually objectifying images, operationalized as images with more skin exposure or dismemberment of the face from the body, has been shown to lead to greater state objectification (Aubrey et al., 2009). Additionally, Harper and Tiggemann (Harper & Tiggemann, 2008) found that participant state objectification was greater following exposure to

media containing thin-ideal images, regardless of whether or not men were included in the advertisements. In contrast to objectifying material, body competence images, such as those that depict athletic performance, have been shown to reduce state objectification (Grey et al., 2016). Thus, both the content and context of the visual image seems to affect women's self-objectification following exposure.

While fewer studies have examined the independent impact of textual information, there is evidence that objectifying text may also elicit state objectification in women. Roberts and Gettman (2004) found that women who were asked to unscramble sentences that contained suggestions of objectification reported greater state objectification than those who unscrambled phrases related to body competency. Similarly, commentary surrounding women's bodies, whether complimentary (Calogero et al., 2009) or critical (Gapinski et al., 2003), has been shown to lead to greater state objectification in female participants. State objectification was greater when participants were asked to read passages that contained information endorsing either benevolent or complimentary sexism compared with passages related to either hostile sexism or a control text, indicating that even indirectly objectifying textual references may increase self-objectification (Calogero & Jost, 2011).

### **Social Media and Objectification**

A growing body of literature has begun to document the potentially detrimental effects of social media activity on women's body satisfaction (Fardouly & Vartanian, 2016; Perloff, 2014; Rodgers, Mclean, & Paxton, 2015). Social media sites have become increasingly popular over the last ten years, with an estimated 2.5 billion individuals worldwide, and 79% of Americans, regularly engaging with these platforms (EMarketer, 2019). The percentage of social media users is even higher among young adults in the United States, with nearly 90% of individuals aged 18-

29 reporting use of a social media account (Perrin & Anderson, 2019). Furthermore, a majority of both Facebook and Instagram users report using the sites daily. Apart from search engines, social networking sites are among the most visited online (Desilver, 2013), indicating that they are an integral part of daily life for many individuals.

Social media platforms afford opportunities for self-expression and connecting with others (Mehdizadeh, 2010; Zhao, Grasmuck, & Martin, 2008), but research has linked social media activity with adverse outcomes for some users, including increased depression (see Frost & Rickwood, 2017 for a meta-analysis), body dissatisfaction (de Vries, Peter, de Graaf, & Nikken, 2016; A. R. Smith, Hames, & Joiner, 2013), self-objectification (de Vries & Peter, 2013; Fardouly et al., 2015a; Feltman & Szymanski, 2018; Vandenbosch & Eggermont, 2012, 2016), and disordered eating behaviors (Mabe, Forney, & Keel, 2014). Social media are of particular interest to body image scholars due to their focus on both visual and textual self-presentation, and the known influence of peers on body satisfaction (Festinger, 1954; Rodgers et al., 2011).

Initial research examining the association between social media use and body image centered around Facebook due to its popularity among users. Cross-sectional correlational studies examining differences in adolescent Facebook use have shown that users tend to score higher on measures of body dissatisfaction, internalization of thin ideals, and self-objectification as compared to non-users (Meier & Gray, 2013; Stronge et al., 2015; Tiggemann & Slater, 2013). Studies have also found correlations between social media engagement and outcomes including internalization of societal beauty ideals and decreased body satisfaction (Fardouly & Vartanian, 2016; Strubel, Petrie, & Pookulangara, 2016). Longitudinal research on Dutch adolescents reported that greater social networking site activity was associated with body dissatisfaction over time (de Vries et al., 2016) and even a desire for cosmetic surgery (de Vries,

Peter, Nikken, & de Graaf, 2014). Experimental research supports these correlational findings. In multiple studies, having individuals browse Facebook for as little as 10 to 20 minutes led to slightly greater state body dissatisfaction than browsing a neutral website (Fardouly et al., 2015a; Mabe et al., 2014).

Instagram, a photo-sharing site created in 2010 and now owned by Facebook, has become increasingly popular since its creation. Recent reports indicate that there are currently over 800 million users, 500 million of whom are active daily (Balakrishnan & Boorstin, 2017). Similar to the findings on Facebook use, Instagram use is linked with increased self-objectification (Fardouly, Willburger, & Vartanian, 2018) and body anxiety (Adams, Tyler, Calogero, & Lee, 2017). Instagram is of particular interest for body image scholars due to the emphasis on aesthetic content. Whereas platforms such as Facebook tend to include various aspects such as “status updates,” which are a combination of text, image, and video sharing, Instagram is a visual platform consisting mostly of uploaded photos and their text captions. Users can post content that contains a photo and a caption to the site. This content is then visible to individuals who “follow” them. There are a variety of filters available to enhance photos, and individuals on the site interact with others through a comment and “liking” system similar to Facebook.

Correlations between social media use and body dissatisfaction have been found across general samples, but individual differences make certain people particularly vulnerable to body image problems following exposure. A study by Smith, Hames, and Joiner (2013) tracked a sample of college women for four weeks and found that maladaptive Facebook use (i.e., a tendency to engage in comparison-seeking) was related to body dissatisfaction and bulimic symptoms. Some of the individual characteristics that seem to moderate the effect of social media on body image include increased evaluated appearance exposure (Meier & Gray, 2013),

greater attentiveness to social cues such as “likes” and photo comments/sharing (Mabe et al., 2014), appearance investment (de Vries et al., 2014), physical appearance comparison (Fardouly & Vartanian, 2015), and unfavorable comparisons to others as well as seeking negative feedback (Hummel & Smith, 2015; Smith et al., 2013). These studies suggest that, at least for some individuals, greater engagement with social networking sites may have harmful effects on body image and well-being.

Although it is possible to follow celebrities and individuals one does not interact with offline, Instagram is primarily used to interact with known peers (Hew, 2011), which could make it especially influential for body image (Rodgers et al., 2011). Instagram images are potentially perceived as being more “realistic” than mass media images, as they are less likely to be professionally edited and contain more attainable levels of attractiveness; this perception of attainability may lead to greater feelings of relevance for social comparison (Festinger, 1954; Myers & Crowther, 2009). Additionally, social media allow users to exclusively post attractive images. Thus, while the images on social media may be “real” and unfiltered, they may also be highly curated and idealized.

### **Social Comparison Theory**

Many scholars have used social comparison theory to explain the media’s impact on women’s body satisfaction (e.g., Hesse-Biber, Leavy, Quinn, & Zoino, 2006; Knobloch-Westerwick & Romero, 2011; Myers & Crowther, 2009; Tiggemann & Slater, 2004; Want, 2009). Social Comparison Theory refers to the psychological tendency to engage in the process of evaluating others for the sake of developing an accurate self-identity (Festinger, 1954). It suggests that individuals may choose to engage in upward or lateral comparison with individuals



they perceive as performing better than them at a particular task or domain, or downward comparison to confirm that they are doing better than others.

Social comparison in the context of body image has been demonstrated using eye-tracking methods, with differences found based on disordered eating symptomology (Jansen, Nederkoorn, & Mulken, 2005) and body satisfaction (Cho & Lee, 2013). When shown thin-ideal models, body-dissatisfied women exhibited automatic attentional biases in visual processing, exhibiting prolonged and more frequent attention to thin models than body-satisfied women did (Cho & Lee, 2013). When looking at photos of both idealized and plus-sized models, women who were body-satisfied tended to avoid body regions they rated as unsatisfactory on their own body, instead selectively attending to satisfactory areas (Lykins, Ferris, & Graham, 2014). In contrast, individuals who are either high in body dissatisfaction or disordered eating symptomology attend more to their “unattractive” body parts, both in images of themselves and attractive others (Greenberg, Reuman, Hartmann, Kasarskis, & Wilhelm, 2014; Hewig et al., 2008; Smeets, Jansen, & Roefs, 2011). Women diagnosed with bulimia nervosa fixated more on comparison bodies with a lower BMI when given the opportunity to make upward or downward comparisons, implying a tendency towards upward comparison (Blechert, Nickert, Caffier, & Tuschen-Caffier, 2009). Similarly, Freeman et al. (1991) found that individuals who suffered from anorexia nervosa tended to fixate on regions of body dissatisfaction and spent less time looking at faces, whereas non-disordered individuals tended to selectively avoid focusing on areas of body dissatisfaction. This finding was explained by Freeman et al. (1991) as a function of the preoccupation these individuals have with thinness. Finally, gaze patterns also seem to vary according to participant BMI. When viewing a self-photograph, obese women focused more

on their abdominal/waist region than did normal-BMI controls (Gardner & Morrell, 1991; Gardner, Morrell, Watson, & Sandoval, 1990).

In contrast to the literature cited above, Janelle, Hausenblas, Fallon, and Gardner (2003) showed participants a set of images of female models in swimsuits or underwear. They classified the models as underweight, overweight, or healthy. They then compared gaze behavior for individuals who were at high risk for eating disorders to low-risk individuals. Instead of finding that high-risk individuals employed selective attention, they found that high-risk individuals engaged in protective measures by selectively avoiding regions commonly associated with body dissatisfaction for others, regardless of model bodyweight classification (Janelle et al., 2003). Thus, these individuals avoided making upward social comparisons, but also missed the opportunity for downward social comparisons. Taken together, these results indicate that individuals who struggle with body dissatisfaction may show preferential attention to self-reported unattractive body parts and that stimuli that encourage upward social comparisons may lower body satisfaction.

Social media may be one such circumstance that encourages upward social comparison. Fardouly, Pinkus, and Vartanian (2017) asked participants to report their appearance comparisons using Ecological Momentary Assessments methods, and found that while upward comparisons were more common than lateral or downward comparisons across all contexts, social media activity was associated with a greater percentage of upward comparisons than in-person contexts. Upward comparisons made on social media were followed by less appearance satisfaction than comparisons made in person, potentially due to a greater perceived discrepancy between the self and comparison target (Fardouly et al., 2017).

Instagram allows for the careful curation of posted images, including photo editing, which means that individuals may see disproportionately attractive representations of their friends (Manago, Graham, Green, & Salimkhan, 2008; Zhao et al., 2008). Since social comparison theory holds that individuals select targets of comparison that are reasonably similar to themselves (Festinger, 1954), this perception of attainability may lead to greater feelings of relevance for social comparison (Myers & Crowther, 2009), and thus greater importance. Although researchers have explored differences in gaze patterns as a function of body satisfaction, BMI, and clinical classification of disordered eating, to the best of my knowledge no published work has examined how gaze differs as a function of social media use. By tagging photographs to reflect women's self-satisfaction with individual body parts, in Study 3.1 I examined the relationship between social media use and selective attention to high- versus low-anxiety body regions.

In conclusion, this dissertation extends knowledge about the visual processing and objectifying aspects of empowerment-themed media messages. The mechanism portion of the study (Study 1) expands understanding of how empowerment and self-objectification schemas interact when co-activated. The development of a context-flexible felt empowerment measure (Study 2) allows future scholars to more easily evaluate felt empowerment following exposure to a variety of experiences or messages. Finally, the results of Study 3 contribute to our knowledge about the message processing that leads to changes in felt empowerment and women's body image exposure to traditional and social media.

## **Chapter 2**

### **Study 1: Activation of Empowerment and Objectification Schemas After ETA Exposure**

#### **Study 1 Overview**

Study 1 of this dissertation, the “mechanism” chapter, examines priming effects of exposure to empowerment-themed advertisements. Specifically, I examine the effect of exposure to various types of ETAs on empowerment- and objectification-related thoughts in a lexical decision task (LDT). As described in the previous chapter, research has linked setting-specific empowerment with positive outcomes, including increased managerial effectiveness in workplace settings (Spreitzer, 1995) and increased advocacy for personal goals and needs (Zimmerman, 1995). In contrast, self-objectification is recognized mainly as a harmful psychological process (Fredrickson et al., 1998). Intuitively it seems that empowerment and self-objectification would be in conflict, with empowerment-related cognitions primed and objectification-related cognitions inhibited or suppressed, and vice versa. However, the relationship between the two constructs has yet to be empirically tested.

This study examines the relationship between empowerment and self-objectification using an experimental design. Two hundred seventy-three female participants were recruited for an in-person experiment. They were randomly assigned to view advertisements that contained combinations of empowerment and objectification themes. They then completed an LDT with

empowerment and objectification synonyms to measure the activation of objectification and empowerment schemas post-exposure.

### **Study 1 Introduction & Hypotheses**

The environments we live in are complex, with a range of simultaneously occurring stimuli. Because of this, humans must quickly and efficiently process a large amount of information through the use of heuristics and organizational systems. One such system is a schema. Schemas are used to perceive, process, and retrieve information, and help people manage a stream of information by assigning it into meaningful categories (Chen, 2001).

Humans create schemas about many aspects of life, including the self (Markus, 1997). Self-schemas are cognitive structures that help us differentiate between the self and others. One such self-schema is appearance (Sinton & Birch, 2006). For some individuals, appearance-related schemas are prominent and chronically activated, leading to a heightened awareness of appearance; for others, they are not (Hargreaves & Tiggemann, 2002b). Appearance-related schemas may be an essential mechanism for understanding the relationship between media and women's body dissatisfaction (Sinton & Birch, 2006), and chronically active appearance-related schemas have been shown to mediate the relationship between media exposure and body dissatisfaction (Brown & Dittmar, 2005; Hargreaves & Tiggemann, 2002b, 2002a). Specifically, individuals with chronically activated appearance schemas appear to pay more attention to schema-relevant material in the media, selectively attending to images of thin-ideal women (Altabe & Thompson, 1996).

Schemas can also become primed in response to external stimuli, including media. Experimental research demonstrates schema activation in response to media in several areas, including violence and aggression (Bushman, 1998), gender stereotypes (Rudman & Borgida,

1995), and racial stereotypes (von Hippel, Jonides, Hilton, & Narayan, 1993). As described in the chronic activation example, this primed activation can lead to heightened attention to other schema-relevant material, and can eventually lead to cognitive-affective consequences such as body dissatisfaction (Aglita & Tantleff-Dunn, 2004).

We can think of schemas as nodes, or points, in a connected network. When two schemas are frequently co-activated, they become “closer” in the network and more likely to be co-activated in the future. Priming of one schema can then facilitate the activation of other connected nodes, a concept called spreading activation (Collins & Loftus, 1975). Research by Dillman Carpentier, Northup, and Parrott (2014) suggests that primes of sex and romance in the context of online dating have a facilitating effect, such that priming romance also increased the accessibility of sex schemas. There are also instances in which priming a schema can inhibit priming of other schemas. For example, a study by Rudman and Borgida (1995) examining schemas relevant to women found that priming maternal schemas inhibited subsequent priming of sexualized schemas.

In the context of empowerment and self-objectification, there are three potential relationships between women’s empowerment and self-objectification schemas. One, they may function orthogonally and vary independently of one another. Two, they may be positively associated, such that the priming of one construct may facilitate priming of the other. Finally, they may be negatively associated, such that the priming of one construct may inhibit the priming of the other construct. This relationship has yet to be tested empirically.

The current research expands on the findings of my earlier research (Couture Bue & Harrison, 2019) through the use of an extended range of advertisements and an LDT to measure priming of empowerment and objectification schemas. Whereas my initial experiment only

included three groups of advertisements (i.e., Beauty ETAs, traditional beauty, and a control condition), the current experiment has been expanded to include ETAs from companies other than beauty companies. This design allowed me to examine the effect of messages that are high in empowerment with visuals that are low in objectification (i.e., the General ETA condition), to examine empowerment messages both in and outside the context of appearance. The use of a lexical decision task as the dependent measure allows me to examine the extent to which empowerment- and objectification-related schemas are activated by various combinations of language and visuals.

Stimuli for this experiment represent a full factorial model of high/low objectification and high/low empowerment, producing four between-participants conditions of advertisements: General TRAD (traditional non-beauty), Beauty TRAD (traditional beauty), General ETA (non-beauty empowerment), and Beauty ETA (beauty empowerment). In addition, a “No Exposure” condition comprised participants who did not see any advertisements. Except for the No Exposure condition, all conditions included four minutes of advertising. Advertising stimuli are described in more detail in the methods section and in Table 2-1.

Activation of empowerment and objectification schemas was measured using a lexical decision task (LDT). In an LDT, participants are primed with a stimulus and then asked to distinguish words from non-words as quickly as possible by pressing a designated key on a computer keyboard. LDTs are a standard, unobtrusive measure of schema activation (Rudman & Borgida, 1995). Specifically, faster response times (RTs) for schema-congruent words are understood as an indication of schema activation (Davies, Spencer, Quinn, & Gerhardstein, 2002; Rudman & Borgida, 1995). For the LDT in this study, words were categorized as objectification-relevant, empowerment-relevant, neutral, or non-words. Neutral words are used

to evaluate how quickly participants respond to unprimed concepts, similar to a control condition in an experimental design. Non-words provide challenge and are necessary for task believability. Prior research has indicated that when schemas contain conflicting information, one schema can inhibit priming of another schema (e.g., Rudman & Borgida, 1995). If both objectification-relevant and empowerment-relevant words are recognized faster than neutral words, this would suggest that the schemas can co-occur and are not truly conflicting in the minds of participants.

Prior to formalizing hypotheses for this study, there is one qualification that must be explained. High state objectification can hinder performance on cognitive tasks by increasing cognitive load (Fredrickson et al., 1998; Gay & Castano, 2010; Quinn et al., 2006). During data collection, I realized that this cognitive inhibition could affect the LDT results. Based on schema priming, experiencing state objectification in response to objectifying advertisements should speed recognition of words in the objectification-relevant category (leading to shorter RTs). However, based on the attendant increase in cognitive load, state objectification should also slow cognitive processing (leading to longer RTs overall). Taken together, these competing outcomes could make interpretation of the results challenging. Neutral words can be used to estimate the cognitive processing slowdown of state objectification empirically. Specifically, if an increase in cognitive load is occurring due to exposure to objectifying advertising, I would expect participants in the relevant condition to have slower RTs to all words, including neutral words.

H1: Individuals exposed to Beauty TRAD advertisements will identify objectification-relevant words more quickly than neutral words in an LDT.

H2: Due to cognitive load, individuals in the beauty conditions will be slower to respond to neutral words than those in the other conditions.



RQ1: Will individuals in the General ETA and Beauty ETA conditions recognize empowerment-relevant words more quickly than neutral words?

RQ2: What is the relationship between RTs to empowerment-themed words and RTs to objectification-themed words?

## **Study 1 Method**

### **Procedure**

This study was approved by the University of Michigan Health Sciences and Behavioral Sciences IRB prior to recruitment and data collection. Participants completed the session in groups of two to nine people. Participants were told that this was a study measuring the effectiveness of advertisements from various companies to reduce suspicion about the purpose of the study. Participants completed the study at individual computer cubicles, and computers were randomly assigned to conditions before the start of each session. Following introductory questions, participants viewed four minutes of advertisements from their assigned condition and then completed the LDT. Next, participants were asked to reflect on the advertisements again for 30 seconds, and then self-reported demographics and the extent to which they felt the messages they saw were empowering and objectifying, as a manipulation check.

### **Participants**

Two hundred seventy-three women were recruited from an introductory communication studies course for a study about the effectiveness of advertisements. They received course credit in exchange for participation. Data from seven participants were dropped due to technical problems in which the computer system either did not display the LDT or did not have sound (and thus lacked the empowerment message). Individuals who did not answer at least 90% of word trials correctly were eliminated from the analyses ( $n = 11$ ). This is customary for lexical

decision studies and allows the researcher to eliminate participants who either mis-identified keys for word/non-word distinctions or who were randomly pressing keys. Dropping these cases left a total of 256 participants (57 in the Beauty TRAD condition, 61 in the Beauty ETA condition, 54 in the General ETA condition, 41 in the General TRAD condition, and 43 in the No Exposure condition).

According to self-reports, 75.6% (192) of participants were non-Hispanic white; 11.8% (30) were Asian/Asian-American; 4.7% (12) identified as biracial/multiracial; 2.8% (7) of participants were non-Hispanic black; 2.8% (7) were Hispanic; 0.8% (2) were Pacific Islander, and 0.8% (2) of participants identified as “other.” Four participants did not report their race/ethnicity. Household income in this sample was higher than the national average ( $M = 3.99$ ,  $SD = 1.32$ ), with only 15% (38) of participants reporting an annual household income under \$70,000. The average participant in the sample had a normal self-reported BMI ( $M = 22.54$ ,  $SD = 3.04$ ). Five participants were missing measures for either height or weight, and thus had a missing BMI score. According to BMI classifications, eight (3%) participants were underweight ( $< 18.5$ ), 192 (75%) participants were normal weight (18.5 - 24.9), 47 (18.4%) participants were overweight (25.0 - 29.9), and five (2%) participants were obese (30+).

## **Measures**

### ***Lexical Decision Task***

The LDT was programmed using the DirectRT option within the MediaLab software. Every trial began with a fixation sign (“+”) presented in the middle of the screen for two seconds. After this time, participants were presented with the word prime, which remained on the screen until the participant used the keyboard key to indicate whether or not the string of letters represented a word in English. Directly following their response, the computer displayed either

the word "correct" or "incorrect," depending on the accuracy of the classification. Participants completed a set of five practice trials before beginning the recorded trials. Feedback on performance (correct/incorrect) was displayed after each word trial.

The LDT consisted of three categories of words (empowerment-relevant words, objectification-relevant words, and neutral words), with 24 words in each category. These words were chosen by searching for synonyms of words related to empowerment and beauty, respectively. After developing an initial list, I consulted an undergraduate research assistant to confirm that the vocabulary level of the words was suitable for use in an undergraduate population. I used a final set of 144 randomly presented word trials, 72 of which were words and 72 of which were letter strings that did not form words in English (Appendix B). The English Lexical Project (Balota et al., 2007) was used to match word categories as closely as possible on a variety of characteristics such as the number of letters, the frequency with which the words are used in English, the number of phonemes, the number of syllables, and the mean RT based on normative samples (Table 2-2). The non-words were created using a feature of the English Lexical Project that generates word-strings with a similar level of challenge as the entered word lists. Non-words were not used in the analyses, but were necessary for the LDT.

### ***Manipulation Check***

Perceived empowerment and appearance awareness were assessed via single items with response options ranging from 1 (*Strongly disagree*) to 5 (*Strongly agree*). Perceived empowerment was measured using the statement, "I felt empowered after watching these advertisements,"  $M = 3.54$ ,  $SD = 1.09$ . Appearance awareness was measured using the statement, "These advertisements made me aware of my physical appearance,"  $M = 3.10$ ,  $SD = 1.19$ .

Participants in the No Exposure condition were not asked these questions since they did not see advertisements as part of the study.

## **Stimulus Description**

### ***Beauty ETA Condition***

The four advertisements in the high objectification / high empowerment condition were chosen due to their emphasis on women's empowerment, and their classification by SheKnows Media into the genre of "femvertising," an empowerment-based campaign strategy (Ciambriello, 2014; Griner, 2014; Muller, 2015). The specific plots of the advertisements varied, but all advertisements chosen for the condition were produced by cosmetic, haircare, or clothing companies and featured ostensibly empowering narratives that challenged traditional gender stereotypes. The advertisements depicted models of a variety of ethnicities, body shapes and sizes, and celebrity statuses. Except for the Under Armour advertisement titled "I Will What I Want," which included specific references to ballerina Misty Copeland's athletic body, none of the stimuli in this condition explicitly referenced beauty standards or featured a specific product. Instead, advertisements focused on creating associations between the brand and feminism.

### ***General ETA Condition***

Advertisements in this condition were also chosen based on their classification into the femvertising genre by SheKnows media or Adweek magazine (Mayer, 2015; Nudd, 2014; Monllos, 2015; Skey, 2015) along with the absence of beauty-related products from the company that produced the ads. Specific companies represented in stimuli included Always ("Throw like a girl"), Dodge Ram ("The Courage is Already Inside"), Lego ("Inspire Imagination and Keep Building"), and Gatorade ("Forget Me"). As an example, in the "Throw Like a Girl" campaign by Always, which produces feminine hygiene products, young girls critique the negative

connotation associated with the phrase “you throw like a girl.” These advertisements were intended to appeal to female audiences, and featured female lead characters, but did so in a way that was minimally sexualizing, and did not emphasize women’s appearance or beauty norms.

### ***Beauty TRAD Condition***

The advertisements in the Beauty TRAD condition (high objectification / low empowerment beauty) were from companies analogous to those in the Beauty ETA condition. However, these advertisements included explicit endorsements of beauty ideals and products in place of empowerment-themed content. The advertisements for this genre were typically shorter in duration than the empowerment-themed beauty ads (30 seconds rather than one minute); thus, the exposure time was matched across conditions by using five advertisements in this condition.

To the extent possible, the advertisements in the Beauty TRAD condition were matched with advertising characteristics in the Beauty ETA condition. For example, the Beauty ETA condition included the Under Armour advertisement "I Will What I Want" featuring ballerina Misty Copeland, while the Beauty TRAD condition contained an advertisement for Nike featuring a single female dancer. Both the Under Armour and Nike commercials alternated visual framing between close-up and full-body shots. The Nike model was comparably slim to Copeland but less muscular. While both advertisements featured dancers, only the Beauty ETA advertisement featured the empowerment-focused narrative. As another example, the Covergirl advertisement in the Beauty ETA condition featured a diverse range of celebrities such as Ellen DeGeneres discussing the societal limitations placed on women. The comparable Beauty TRAD Covergirl advertisement featured images of celebrity Katy Perry but focused exclusively on her make-up and appearance.

### ***General TRAD Condition***

The General TRAD condition advertisements (low objectification / low empowerment) included commercials for gender-neutral products that did not include female actors. Specific stimuli included advertisements for Net10, which contained colorful sketches illustrating the affordances of the wireless network; an Allstate commercial featuring spokesperson Dennis Haysbert that discussed humorous takes on holiday-related accidents; a Geico commercial that featured the cartoon gecko spokesperson discussing car insurance as he approaches the nose of Mt. Rushmore; an iPhone commercial depicting a discussion between voice programs Siri and Cortana; a Microsoft commercial advertising the Surface computer; a Merrill Lynch commercial featuring themes of innovation, and a commercial for Apple featuring the MacBook Pro adorned with various stickers. As with the other conditions, advertisements in this condition ranged in length from 30 seconds to 90 seconds, and the total exposure time was four minutes.

### **Data Analysis Strategy**

Data from the LDT were analyzed using multilevel linear models (MLM), also known as mixed-effects models or hierarchical linear models. The structure of the LDT creates words that are nested within word category, and participants that are nested within conditions. Nested data structures violate the assumptions of both ANOVA and OLS regression analyses, and thus a multilevel modeling structure is most appropriate for tasks with repeated measures (Peugh, 2010), such as repeated word trials. There are three levels of data in this experiment (Level 1 = participant; Level 2 = word category in the LDT; Level 3 = experimental condition). The use of MLM accounts for correlations between RTs within participants (a participant effect) and thus provides greater statistical power than a traditional linear regression model or repeated-measures ANOVA.

Multilevel modeling is often conducted in a series of steps, with models increasing in complexity (Tabachnick & Fidell, 2013a). A random effect allows for variation across participants, whereas a fixed effect is expected to apply equally across groups. In the current study, I anticipated substantial variation in average RTs across participants, thus participant factor (nested within condition) was treated as a random intercept (i.e., random effect); all other predictors were entered as fixed effects.

Model 1 presents an intercepts-only model used to test for differences in response times between participants. This model is useful for establishing the appropriateness of MLM for the analysis (Tabachnick & Fidell, 2013a). The first-level predictor, word category, was added to the intercepts-only model as a fixed effect in Model 2. Model 3 included condition as a fixed effects predictor. Finally, Model 4 included the interaction between condition and word category. Model 4 is particularly useful in answering the hypotheses, as pairwise comparisons in this model can be used to evaluate differences in RTs to word categories compared between conditions, and differences between word categories within conditions. All statistical analyses were performed with SPSS 26 software using restricted maximum likelihood estimation (REML).

Mean RTs for correct trials and percentage error for each word type can be found in Table 2-3. Outliers were defined as a correct RT exceeding two standard deviations above or below the participant means for that condition RT. Words with RTs greater than this amount of time were capped at two standard deviations above the mean, impacting a total of 825 (2%) of trials. RTs shorter than 300 milliseconds were labeled as anticipatory responses, and were dropped from the data, affecting nine trials (< 1% of the total number of trials). As a manipulation check, appearance awareness and perceived empowerment were analyzed using an

ANOVA model, with condition entered as the independent variable and appearance awareness and perceived empowerment as separate dependent variables.

## **Study 1 Results**

### **Preliminary Analyses**

#### ***Manipulation Check***

The ANCOVA with condition specified as the independent variable and perceived empowerment as the dependent variable (Figure 2-1) was significant ( $F(3, 224) = 55.269, p < .001$ ), with pairwise comparisons indicating that participants in both the Beauty ETAs and General ETA conditions reported greater perceived empowerment than those who saw the Beauty TRAD and General TRAD advertisements ( $p < .001$ ). Perceived empowerment ratings were not significantly different between the Beauty TRAD condition and the General TRAD condition ( $p = .99$ ), nor were the differences between the two ETA conditions significant ( $p = .90$ ). This indicates that the advertisements chosen for the ETA conditions were perceived as empowering.

The ANOVA model using condition as the independent variable and explicit appearance awareness as the dependent variable was significant ( $F(3, 224) = 61.68, p = .001$ ), indicating differences in appearance awareness between conditions. Exposure to the Beauty TRAD advertisements led to the greatest appearance awareness, followed by Beauty ETAs, General ETAs, and finally the General TRAD condition (Figure 2-2). Pairwise comparisons between all conditions were significant at the  $p < .01$  level, indicating that the high-objectification conditions led to significantly greater appearance awareness than the low-objectification conditions.



### ***Multilevel Model Results Overview***

Table 2-3 presents the parameters of both the fixed and random effects of four models. The grand mean of response times was 710.79 milliseconds (the intercept of Model 1,  $SE = 7.39$ ,  $p < .001$ ). The estimated variance of the random components (i.e., subject nested within word category) was estimated at 13,422.81 ( $SE = 477.38$ , Wald  $Z = 10.80$ ,  $p < .001$ ) indicating a significant random effect of subject factor. The degree of nonindependence on response times was .23. In other words, 23% of the total variance in the response times was accounted for by differences between participants, thus the MLM structure was justified.

Three word categories (i.e., empowerment-relevant, objectification-relevant, and neutral) were entered in Model 2 as predictors along with the random coefficient (participant). This is a two-level conditional hierarchical linear model because response times are nested within each participant and participants are classified according to word category. There was a significant effect of word category in this model ( $F(2, 18,145.94) = 207.722$ ,  $p < .001$ ). Both the objectification-relevant ( $M = 689.03$ ,  $SE = 7.59$ ) and empowerment-relevant words ( $M = 686.40$ ,  $SE = 7.59$ ) were recognized faster than neutral words ( $M = 754.11$ ,  $SE = 7.59$ ), though response times for objectification-relevant and empowerment-relevant words did not differ ( $p = 1.00$ , 95% CI [-6.43, 11.80]).

The effect of experimental condition on response times (Model 3) was significant ( $F(4, 250.89) = 5.390$ ,  $p < .001$ ), with participants in the Beauty TRAD ( $M = 764.10$ ,  $SE = 15.18$ ) and No Exposure conditions ( $M = 725.86$ ,  $SE = 17.48$ ) responding significantly more slowly to LDT trials than participants in the General TRAD condition ( $M = 674.64$ ,  $SE = 17.90$ ). Participants in the Beauty TRAD condition responded significantly more slowly to trials than participants in the Beauty ETA condition ( $M = 680.64$ ,  $SE = 14.68$ ),  $p = .001$ , 95% CI [23.66, 143.25]. No other pairwise comparisons were significant. A table summarizing the mean

response times for each word group by condition, including the percentage of correct trials, is shown in Table 2-4.

### ***Hypothesis 1***

Hypothesis 1 predicted that individuals in the Beauty TRAD condition would identify objectification-relevant words more quickly than neutral words. Participants in the Beauty TRAD condition recognized objectification-relevant words an average of 82.03 milliseconds faster than neutral words ( $SE = 8.07$ ,  $p < .001$ , 95% CI [-101.36, -62.70]), supporting H1 (Figure 2-3).

### ***Hypothesis 2***

Pairwise comparisons within the condition x word category interaction (Model 4) indicated that participants in the Beauty TRAD condition were significantly slower to respond to neutral words than participants in all conditions except the No Exposure condition ( $p = .549$ ): Beauty ETA condition ( $p < .001$ ), General ETA condition ( $p = .024$ ), General TRAD condition ( $p < .001$ ). This supports Hypothesis 2, suggesting that exposure to objectification-themed content slowed cognitive processing. No other pairwise comparisons examining response times (RTs) for neutral words approached significance (Figure 2-4).

### ***Research Question 1***

The condition by word category interaction (Model 4) was also used to compare RTs to empowerment-relevant words across conditions (Figure 2-5). Pairwise comparisons suggested that the only significant difference was between the Beauty TRAD and Beauty ETA/General TRAD conditions, with participants in the Beauty TRAD condition responding to empowerment-relevant words an average of 84.04 milliseconds more slowly than participants in the Beauty ETA condition ( $SE = 22.09$ ,  $p = .002$ , 95% CI [-146.49, -21.58]) and 88.08 milliseconds more slowly than participants in the General TRAD condition ( $SE = 24.55$ ,  $p = .004$ , 95% CI [18.65,

157.51]). This indicates that while no condition was significantly more empowerment-priming than the General TRAD condition, the Beauty TRAD condition was significantly less empowerment-priming.

### ***Research Question 2***

Co-occurrence of empowerment and objectification schemas was answered by examining pairwise comparisons of word type within condition in Model 4. Both empowerment-relevant and objectification-relevant words were recognized more quickly than neutral words in all conditions (Table 2-1). This suggests that empowerment and objectification schemas can be primed together. Interestingly, the manipulation check measures of appearance awareness and perceived empowerment were not correlated ( $r(212) = -.025, p = .718$ ).

## **Study 1 Discussion**

Scholars have discussed the relationship between empowerment and objectification primarily in theoretical terms; there is little empirical evidence of how they interact when both concepts are co-presented in media messages. Participants' schema activation was measured using a lexical decision task containing four string types: objectification-relevant words, empowerment-relevant words, neutral words, and non-words. This study provides some of the first empirical evidence of schema activation following media exposure to content that contains both objectification and empowerment messages, suggesting that it is possible for empowerment and objectification schemas to be primed together.

Participants perceived the ETA advertisements to be significantly more empowering than the traditional advertisements. When comparing RTs for empowerment-relevant words across conditions, individuals in the Beauty TRAD condition were the only group to differ from the General TRAD group, showing less activation of empowerment schemas. Thus, rather than

finding evidence that the ETAs increased activation of empowerment schemas, the LDT results suggest that the only difference in activation was in the traditional beauty condition, where empowerment schemas were activated less than the General TRAD condition. Response times for empowerment-relevant words did not differ between the general ETA and Beauty ETA conditions, nor did RTs differ for empowerment-relevant words in the ETA conditions compared to the No Exposure and General TRAD conditions. This finding indicated that neither ETA condition led to greater activation of empowerment schemas than the control conditions.

Means for self-reported appearance awareness were similar in pattern to self-objectification results found in my first study on this topic (Couture Bue & Harrison, 2019). Specifically, in the current study, appearance awareness was highest for those exposed to Beauty TRAD ads, followed by Beauty ETAs, then General ETAs, and lastly General TRAD ads. At the same time, individuals in the Beauty TRAD condition showed *slower* recognition of objectification-relevant words than individuals in the General TRAD and Beauty ETA conditions. This might be interpreted as less objectification schema activation except for the dampening impact of objectification on cognitive processing due to increased cognitive load (discussed below). No other pairwise comparison approached significance.

In line with the cognitive load hypothesis, I found that individuals exposed to traditional beauty advertisements were slower to recognize neutral words than individuals in any other condition. This suggests that individuals in this condition were managing the cognitive impact of objectification. I also found evidence that self-reported appearance awareness varied significantly across conditions. Individuals who were exposed to traditional beauty advertisements expressed the greatest body awareness following stimulus exposure, and women in both ETA conditions reported greater appearance awareness than those in the General TRAD.

Taken together, these findings substantiate the argument that there were indeed objectifying elements present in these media.

When looking specifically at comparisons to neutral words within each condition, participants showed activation of both empowerment and objectification schemas in all conditions. This pattern of results was not hypothesized, as I would not have expected the General TRAD and No Exposure conditions to increase activation of either empowerment or objectification schemas. There are at least two possible explanations for these results: (1) participants had chronically activated schemas that emerged apart from the stimuli, or (2) the words differed in difficulty in a way that confounded the experiment. The latter seems unlikely, as the words used in all word categories were matched on difficulty using data from the English Lexicon Project (Balota et al., 2007).

If the difficulty of words did not differ between categories, the finding that empowerment and objectification schemas were primed together could indicate that the schemas function orthogonally, and that different elements in the stimuli primed each schema independently. Alternatively, it could indicate that empowerment and objectification schemas have a mutually facilitating effect, and that priming one automatically leads to priming of the other, even in the absence of schema-relevant materials. It seems counter-intuitive that empowerment schemas and objectification schemas could be facilitatory, especially given the conflicting nature of their outcomes as described in the literature review. On the other hand, empowerment is heavily gendered in U.S. media, and in advertising it is almost exclusively spoken about in the context of women. Beauty is also associated with women in U.S. media, so priming thoughts of womanhood might activate schemas of both empowerment and objectification. In other words, if the associations between empowerment schemas and objectification schemas are strong enough,

priming either schema might prime the other through spreading activation, especially among women who live in a culture that connects female beauty with power and vice versa.

Self-objectification is primarily an aesthetic process, focusing on appearances (Fredrickson & Roberts, 1997), and thus it seems logical that the presence of objectifying visuals in these advertisements would be driving increases in objectification. Although the spoken messages in ETAs are ostensibly empowering, the visuals still contain components that might be objectifying, such as frames that do not show the entire individual but instead show segmented body parts. This is especially true in the case of the advertisements from the Beauty ETA condition. Although many of these advertisements contain body-positive messages, they also contain references to societal expectations about appearance. An example of this is the #IWillWhatIWant advertisement from Under Armour featuring Misty Copeland, which includes Copeland's reading of a ballet school rejection letter that critiques many body parts as "unfit" for ballet. The advertisement is framed to show Copeland's triumph over the adversity presented in this letter, and the message is intended to be empowering, but it still critiques Copeland's body in a way that could lead individuals to scrutinize their appearance. This is supported by the finding that participants in both ETA conditions reported greater appearance awareness than participants in the General TRAD condition. In addition, many of the ETA advertisements display models who fit the Westernized thin ideal, which has been linked with greater self-objectification (Harper & Tiggemann, 2008).

It is interesting to note that women in the General ETA condition, which represented messages that were on the surface high in empowerment and low in objectification, still reported greater appearance awareness than women in the General TRAD and No Exposure conditions. Although these messages did not contain the same idealized images and discussion of body-

relevant concepts, they contained information about gender stereotypes. As discussed before, priming gender-relevant schemas may be enough to prompt greater appearance awareness, as attractiveness is displayed by the media as a central facet of femininity.

When comparing RTs for empowerment-relevant and objectification-relevant words to neutral words within conditions (in contrast to comparing RTs for empowerment-relevant words between conditions), I found limited evidence of greater empowerment schema activation in both the LDT measures and the self-report empowerment item following exposure to both ETA conditions. This makes intuitive sense given the content of the advertisements, and raises interesting questions about the relationship between the theoretical constructs of self-objectification and empowerment. Perceived empowerment and appearance awareness were not correlated in the self-report measures, so it appears that they function independently when research participants are asked to consider them consciously. At the same time, they were co-activated in the LDT, suggesting that they in fact are connected schematically in the women who participated in this study. However, the LDT measure could be compromised due to the potential for cognitive load in the context of state objectification, or differences in word difficulty that were not due to schema activation. Future studies might address this using a less cognitively taxing measure of objectification schema activation, such as a word completion task. The complexity of self-objectification as a cognitive process makes it challenging to study using the lexical decision task. Ordinarily RTs for activated schemas are faster, but since objectification is associated with compromised task completion, it may be an exception to the rule that applies to other schemas in LDT research. Hypothesis 1, which suggested that women in the Beauty TRAD condition would be faster to recognize objectification-relevant words was not supported in this study. Since RTs for women in the Beauty TRAD condition were slower for neutral words, it

appears that Hypothesis 1 may have been unsupported due to cognitive load associated with self-objectification.

### **Study 1 Limitations and Future Directions**

As discussed in the prior section, one key limitation of this study is that self-objectification was only measured through the lexical decision task, results of which are difficult to interpret given the complex relationship between activation of self-objectification schemas and increased cognitive load. Future studies should include alternative measures of self-objectification in order to validate the lexical decision task as a way to measure schema activation, or use less cognitively taxing tasks.

Explicit measures of self-objectification and empowerment in response to the stimuli were only measured through single items as a means of providing a manipulation check, so they are limited in informing our understanding of the participant experience. This is especially true in the case of the “appearance awareness” statement, which did not allow women to express the valence of this awareness. In theory, it is possible to self-objectify in an affirmative direction, with an awareness that leads to higher body-esteem. However, self-objectification can lead to problematic outcomes even when individuals self-objectify in a direction with a positive valence (Fredrickson & Roberts, 1997), as they are still prioritizing external appraisals of their appearance over other characteristics that do not involve external appraisals. Although the harmful impact of self-objectification has been demonstrated regardless of valence, it would still be interesting to code for valence of words used in the twenty-statements test (Fredrickson et al., 1998) to allow for more informative measurement and analysis.

Finally, the sample was taken from an introductory communication course, and included students who may have a different level of media literacy than the average individual. As such,



these students may process and interpret these advertisements differently than other individuals in the general population. Future studies should expand to include individuals from a variety of backgrounds and demographics to see if the current results still hold.

### **Study 1 Conclusion**

Results of the LDT indicated that ETAs were largely ineffective at priming empowerment schemas when compared with traditional ads. Appearance awareness differed by condition, with participants exposed to traditional beauty advertisements reporting the highest level of body awareness, followed by Beauty ETAs, and General ETAs. Individuals in the General TRAD condition reported the lowest level of body awareness. Individuals in both the General ETA condition and Beauty ETA condition reported similar levels of perceived empowerment, and perceived empowerment was greater in these conditions than the Beauty TRAD and General TRAD conditions. Exposure to ETAs did not lead to greater empowerment schema activation than exposure to General TRAD ads, though exposure to traditional beauty advertisements led to less empowerment schema activation than exposure to General TRAD ads. Participants who were exposed to Beauty TRAD advertisements responded more slowly to word trials in the LDT across all word categories. This may indicate increased cognitive load, which is consistent with the argument that self-objectification is cognitively taxing.

**Table 2-1***Description of Advertisements in Each Condition*

	General TRAD	Beauty TRAD	General ETA	Beauty ETA
Objectification	Low	High	Low	High
Empowerment	Low	Low	High	High
Narrative	Neutral, non-beauty, non-empowerment themed content	Low-empowerment content focused on beauty products	Empowerment-themed messages from companies outside of the beauty industry. Did not contain any explicit message of attractiveness or body standards	Empowerment-themed messages from companies within the beauty industry. Only references to appearance were in the context of double standards placed on women and Misty Copeland's athletic physique.
Visual	Dennis Haysbert from Allstate is the only human actor. All other images are cartoons or technology demonstrations.	Conventionally beautiful models, camera emphasis on model's skin and hair.	Showed women performing a range of activities, including sports. Models were attractive, but were not depicted with an emphasis on appearance.	Conventionally beautiful models, camera emphasized the model's skin and hair.
Companies	Apple, Geico, Allstate, Net10, Microsoft	Covergirl, Nike, Pantene	Always, Gatorade, Dodge Ram	Covergirl, Pantene, Under Armour

**Table 2-2**

*Word Characteristics According to the English Lexicon Project for Each Word Category*

	Length	Frequency	Log Frequency	# of Phenoms	# of Syllables	Mean RT
Empowerment-relevant	7.667	30,327.13	9.144	6.333	2.458	683.39
Objectification-relevant	7.143	12,508.67	7.91	5.667	2.19	667.07
Neutral	7.458	6,369.79	7.434	6.458	2.5	706.189

*Note.* All metrics represent averages across words as retrieved from the English Lexicon Project (Balota et al., 2007). Length indicates the average number of letters in each word. Mean RT indicates the average response times to these words as catalogued by the English Lexicon Project

**Table 2-3**

*Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Models of the Predictors of Lexical Decision Task RTs*

Parameter	Model 1	Model 2	Model 3	Model 4
Fixed Effects				
Intercept (between-participants)	710.79** (7.39)	755.56** (7.23)	719.42** (18.03)	710.46** (18.72)
Level 1 (Word Category)				
Empowerment-relevant		-68.50 (3.81)**	-68.50 (3.81)**	-58.60** (9.51)
Objectification-relevant		-65.82 (3.81)**	-65.82 (3.81)**	-48.87 (9.51)
Neutral		---	---	---
Level 2 (Experimental Condition)				
Beauty ETA			6.00 (23.15)	14.41 (24.21)
General ETA			29.37 (23.74)	37.06 (24.83)
Beauty TRAD			89.46 (23.47)**	106.73** (24.55)
No Exposure			51.22 (25.02)*	60.07* (26.17)
General TRAD			---	---
Level 3 (Word Category*Condition)				
Empowerment x Beauty ETA				-10.37 (12.30)
Empowerment x General ETA				-11.77 (12.62)
Empowerment x Beauty TRAD				18.65 (12.48)
Empowerment x No Exposure				-4.75 (13.29)
Empowerment x General TRAD				---
Objectification x Beauty ETA				-14.86 (12.30)
Objectification x General ETA				-11.29 (12.62)
Objectification x Beauty TRAD				-33.16** (12.48)
Objectification x No Exposure				-21.77 (13.29)
Objectification x General TRAD				---
Neutral x Beauty ETA				---
Neutral x General ETA				---
Neutral x Beauty TRAD				---
Neutral x No Exposure				---
Neutral x General TRAD				---
Random parameters				

Participant	13349.80** (1236.14)	13422.81** (1243.78)	12,517.81** (466.78)	12,517 (1172.87)
2*log likelihood	25041.95	249976.57	249924.37	249863.8
Wald Z Statistics	10.8	10.79	10.67	10.67
Random error	45474.37** (477.38)	44,461.28** (466.78)	44461.30** (466.78)	44,457.83

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*Note.* Standard errors are in parentheses. Response times for intercepts are displayed in milliseconds. \* $p < .05$ . \*\* $p < .01$ .

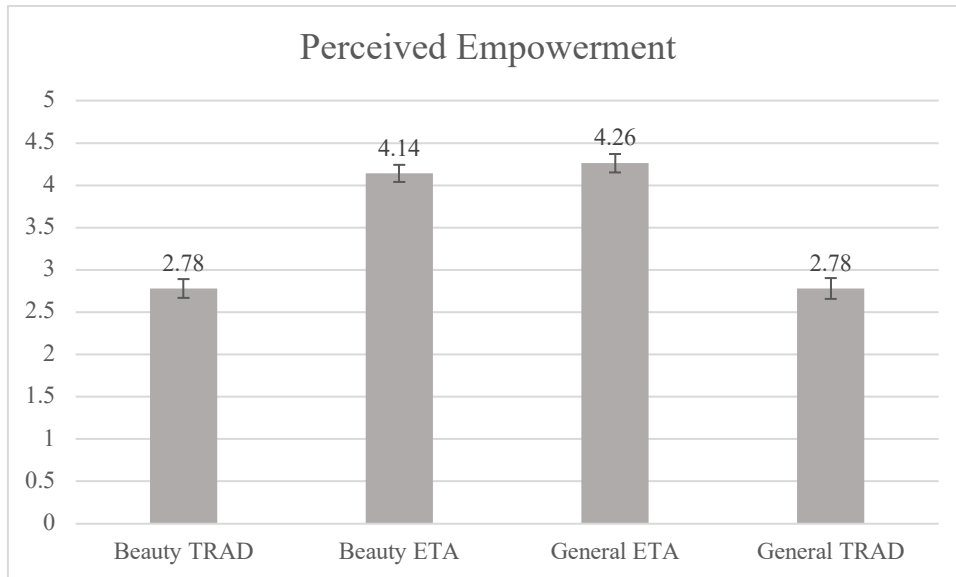
**Table 2-4***Means (Standard Deviations) and Percent of Trials Correct by Word Category and Condition*

	Empowerment-Relevant		Objectification-Relevant		Neutral	
	RT	% Correct	RT	% Correct	RT	% Correct
Beauty TRAD	771.96 (435.60)	98.2	777.59 (533.06)	96.1	869.53 (524.47)	95.1
Beauty ETA	673.49 (326.58)	99.1	693.22 (400.353)	97.1	754.95 (357.07)	95.6
General TRAD	668.90 (321.36)	98.9	698.57 (446.00)	96.1	756.04 (609.57)	94.6
General ETA	693.71 (305.95)	99.0	720.25 (419.35)	96.7	788.47 (456.23)	95.0
No Exposure	734.94 (377.22)	98.8	718.21 (343.25)	97.3	807.50 (404.41)	95.3
Total	709.27 (359.68)	98.8	722.76 (437.10)	96.7	796.53 (473.56)	95.1

*Note.* RT represents the average response time in milliseconds.

**Figure 2-1**

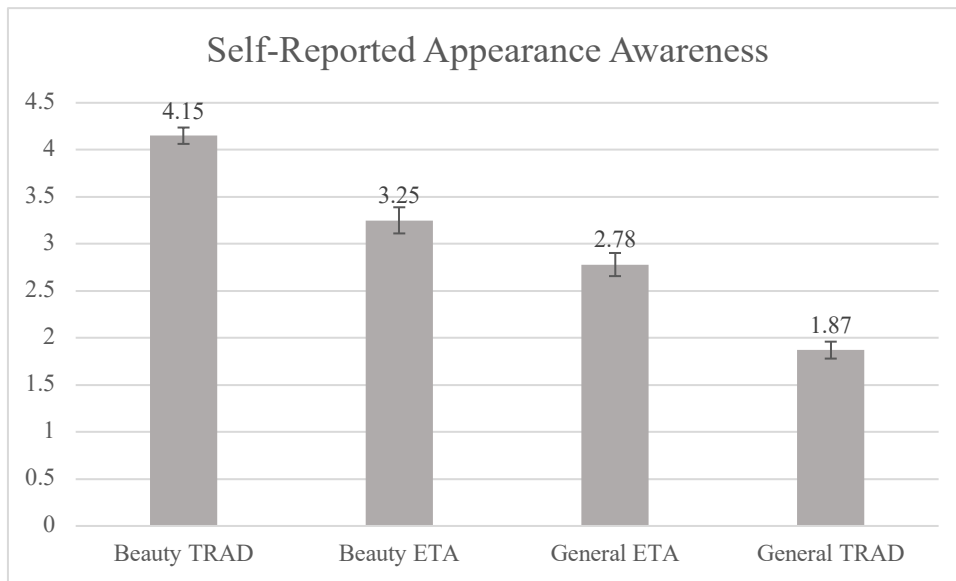
*Differences in Self-Reported Perceived Empowerment Between Conditions*



*Notes. The Beauty ETA and General ETA conditions significantly differed from the Beauty TRAD and General TRAD conditions at the  $p < .001$  level. No other pairwise comparisons were significant.*

**Figure 2-2**

*Self-Reported Appearance Awareness by Experimental Condition*

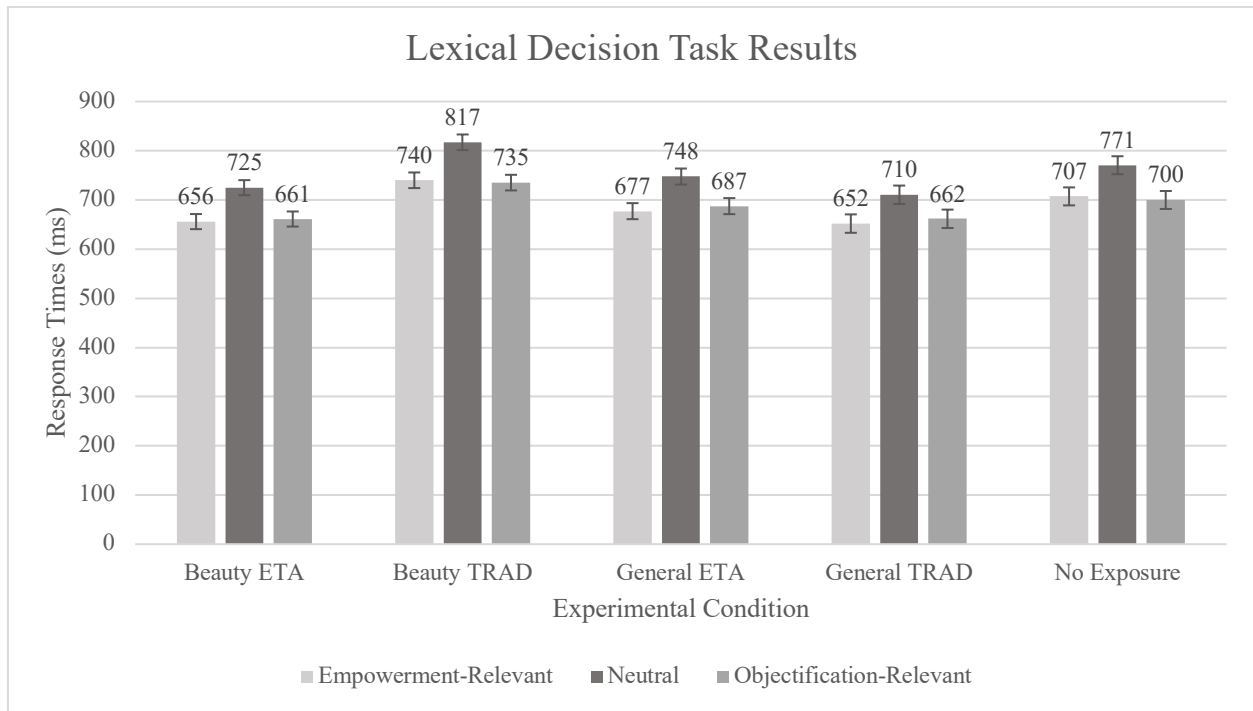


*Note. Pairwise comparisons between all conditions were significant at the  $p < .01$  level.*



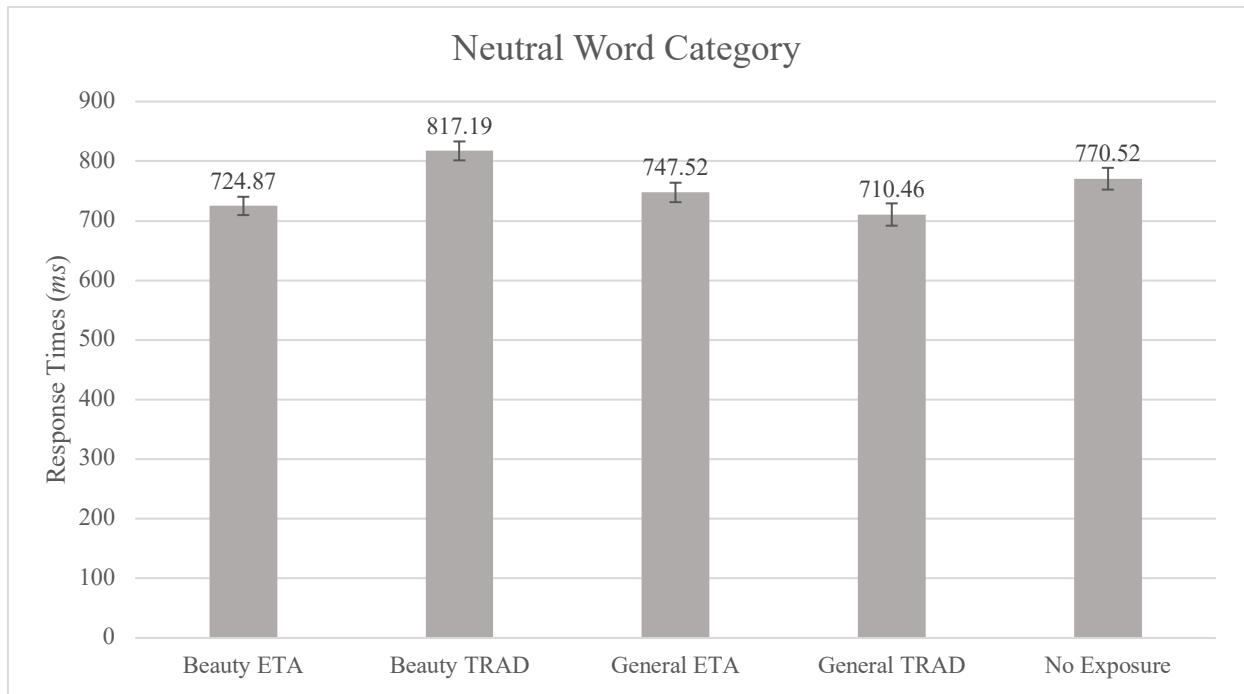
**Figure 2-3**

*Differences in RTs for Word Category Between and Across Conditions*



**Figure 2-4**

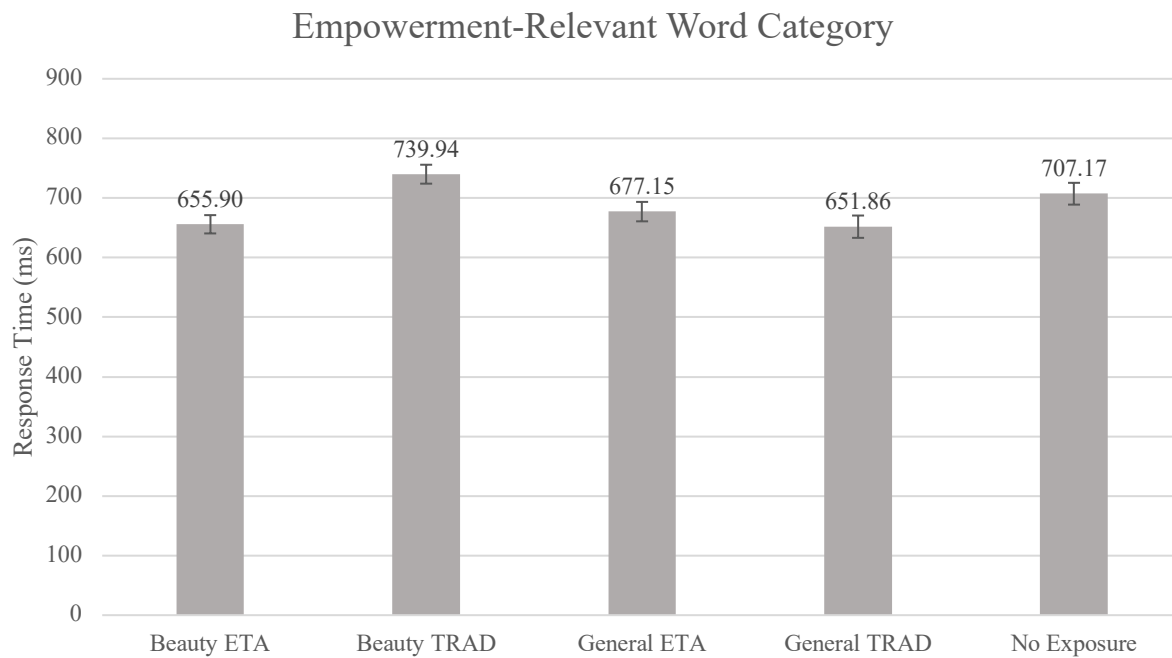
*Average Response Times for Neutral Words in the Lexical Decision Task Between Conditions*



*Notes. Pairwise comparisons between the Beauty ETA condition and all conditions except for the Beauty TRAD condition were significant at the  $p < .05$  level. No other pairwise comparisons approached significance.*

**Figure 2-5**

*Average Response Times for Empowerment-Related Words Between Conditions*



*Notes. Response times for the Beauty TRAD condition were significantly different from the Beauty ETA and General TRAD conditions at the  $p < .01$  level. No other pairwise comparisons were significant.*

## **Chapter 3**

### **Development and Validation of the Affective Empowerment Checklist**

#### **Study 2 Overview**

This chapter, the measurement chapter, describes the development of the Affective Empowerment Checklist (AECL). The AECL is a scale that can be used to assess people's feelings of empowerment following media exposure. As reviewed in Chapter 1, there are frequent references to empowerment in mass media and consumer appeals. Examining whether these advertisements actually make women feel empowered is impossible without a suitable measure. Current practices for measuring empowerment as an individual-level phenomenon involve tailoring scales to individual social or political contexts (e.g., "I feel effective at work"). A context-free measure is needed to capture felt empowerment in response to motivational messages like advertisements.

This study introduces and validates an adaptation of the Multiple Adjective Checklist (MAACL) (Zuckerman & Lubin, 1965), which was created to capture the extent to which an individual is feeling a variety of emotions, by replacing the MAACL emotions with words reflecting feelings of empowerment and disempowerment. The resulting scale is called the Affective Empowerment Checklist (AECL). I designed it as part of this dissertation to measure psychological empowerment as a temporary emotional-motivational state across a variety of contexts, including within an experimental setting involving message effects. In this chapter, I present validation results for the AECL-30 (15 adjectives for empowerment and 15 adjectives for disempowerment), the AECL-24 (12 adjectives for empowerment and 12 adjectives for

disempowerment), and the AECL-20 (10 adjectives for empowerment and 10 adjectives for disempowerment). Because it is possible to have mixed feelings of empowerment and disempowerment, the final score is produced by subtracting the sum of disempowerment items from the sum of empowerment items. Thus the score reflects relative felt empowerment, or the extent to which the individual feels more empowered than disempowered. Positive scores indicate relatively higher felt empowerment, whereas negative scores indicate relatively higher felt disempowerment.

### **Introduction & Hypotheses**

The commercialized and gendered nature of ETAs raises questions about the relationship between felt empowerment and self-objectification. Creating a measure of felt empowerment provides scholars with a way to assess the emotional impact of empowerment-themed advertisements (ETAs), while also affording an examination of the relationship between felt empowerment and other outcomes of message exposure like state objectification. The adjectives in the AECL are not meant to describe the items in the “I Can Do This” illustration from Chapter 1 (Figure 1-1). Instead, they are intended to capture the transitory experience of felt empowerment that may occur during and after exposure to ETAs. Psychological empowerment is an umbrella term that has been applied in theory and research to a number of established psychological constructs, including self-esteem (Rosenberg, 1965), self-efficacy (Chen, Gully, & Eden, 2001), assertiveness (McCormick, 1985), and locus of control (Levenson, 1981). Although there is considerable conceptual overlap among these concepts, I argue that felt empowerment captures a distinct experience.

Self-efficacy (Bandura, 1982) is one of the closest constructs to felt empowerment, and it may serve as an appropriate proxy for momentary empowerment in some settings (Couture Bue

& Harrison, 2019). Alone, however, it fails to capture the assertiveness that comes with feeling empowered. Further, unlike state self-efficacy, which is task-specific (Chen et al., 2001), felt empowerment reflects a general sense of heightened agency that can extend to other tasks. Self-esteem (Rosenberg, 1965), another concept related to empowerment, captures a sense of self-assurance but does not capture perceived control over outcomes in the way that locus of control (Levenson, 1981) does. In addition, assertiveness (McCormick, 1985) is a necessary component for advocating for one's needs and goals, but it fails to capture the perception of whether or not advocating will lead to change (as is measured by locus of control and self-efficacy). Optimism (Scheier, Carver, & Bridges, 1994), grit (Duckworth & Quinn, 2009), hope (Bolland, 2003), and resiliency (Beattie, Hardy, Savage, Woodman, & Callow, 2011) are similar to one another in that they relate to perseverance and anticipation of the future. These constructs are important for feeling empowered, as they give individuals confidence that they can take on and complete difficult tasks, even if they are initially unsuccessful. Because of this, I argue that while the established psychological constructs described above contribute to feelings of empowerment, the experience of feeling empowered is a unique affective-motivational state that is greater than the sum of its parts.

In Study 2 of my dissertation, women completed a survey that included the AECL along with a series of scales measuring concepts related to felt empowerment. This survey also included demographic measures such as gender, household income, and race and ethnicity. Measures of related constructs used for construct validation included the Rosenberg Self-Esteem Questionnaire (Rosenberg, 1965) [self-esteem], the New General Self-Efficacy Scale (Chen et al., 2001) [self-efficacy], the Levenson IPC Scale (Levenson, 1981) [locus of control], the Simple Rathus Assertiveness Schedule (McCormick, 1985) [assertiveness], the Life Orientation

Test (Scheier et al., 1994) [optimism], the Short Grit Scale (Duckworth & Quinn, 2009) [grit], the Trait Robustness of Self Confidence Inventory (Beattie, Hardy, Savage, Woodman, & Callow, 2011) [resiliency], the Sociopolitical Control Scale (Peterson et al., 2006) [political psychological empowerment], and the Workplace Empowerment Scale (Spreitzer, 1995) [workplace psychological empowerment]. The survey also included the Defeat Scale (Gilbert & Allan, 1998) [defeat] and Brief Hopelessness Scale [hopelessness] (Bolland, 2003), which I expected to negatively correlate with AECL scores. There were two samples, one of university women from a large Midwestern university recruited through a course-related participant pool, and one of participants of a broader range of ages, recruited electronically. Both samples included both male and female participants.

When validating scales, scholars often use factor analysis to confirm the presence of latent variables that capture patterns of covariance among measured variables (Tabachnick & Fidell, 2013b). Latent variables are not directly measured, but are instead inferred from connections across other variables (Tabachnick & Fidell, 2013c). To test for the presence of a latent variable, a model is created in which the latent variable predicts the measured variables (i.e., by using factor analysis). Latent variables are useful when scholars have theoretical reason to believe that the presence of a latent variable is predicting scores on individual items.

Emergent construct models provide an alternative to latent variable models. In an emergent construct model, the relationships between the observed and latent variables are reversed, such that the observed variables predict the latent variable (Coan & Gonzalez, 2015). Importantly, in an emergent model, the underlying construct is detected through the measurement of its indicators. Instead of felt empowerment driving feelings of self-efficacy, confidence, and assertiveness, as they would in a latent variable model, in an emergent model,

experiencing self-efficacy, confidence, and/or assertiveness would be interpreted as feeling empowered. Whereas latent variable models require codependence among the variables predicted by the latent variable, emergent models can survive independence of each predictor. When a person feels empowered, she might experience that empowerment as a heightened sense of self-efficacy one time, and a boost in confidence another time. There is no reason to expect that empowerment includes all of the relevant feelings every time it is experienced. Emergent models allow for independence of indicators and are useful in cases where substantial variance in the latent construct is to be expected (Coan & Gonzalez, 2015). Expressions of empowerment differ widely across individuals and even within individuals across context (Zimmerman, 1995), so an emergent model is most appropriate for validating the AECL.

Recently, emotion researchers have debated two models of emotion: the faculty model and the constructivist model (Barrett & Russell, 2015). The faculty model suggests that emotions arise from specific neurological and physiological responses to stimuli that are then interpreted as emotion. In contrast, the constructivist model suggests that emotions are instead constructed from the process of interpreting and labeling contextualized body cues, that vary in expression (Barrett & Russell, 2015). Emotion researchers who follow the constructivist model of emotion have discussed the value of emergent construct models, stating that “here [the emergent model] the variability in the indicators is not caused by the hypothetical construct; rather, it *causes* variability in the construct. In this way, emergent variable models of emotion can be considered *formative*” [emphasis original] (Coan & Gonzalez, 2015, p. 217).

Following the constructivist model of emotion, the experience of heightened self-esteem, self-efficacy, internal locus of control, and/or assertiveness may be interpreted as feeling empowered. While experiencing several of these feelings should lead to stronger felt



empowerment, it is not necessary to experience *all* of these feelings to feel empowered. For example, an individual who reports both high self-esteem and a strong internal locus of control should feel more empowered than an individual who only reports high self-esteem; however, having high self-esteem would not necessarily predict having a strong internal locus of control. Empowerment messages in media vary greatly, and individual messages may target some aspects of empowerment and not others. Sometimes the message emphasizes the YOU of “you can do this;” sometimes it captures the CAN, the DO, or the THIS. This variation makes the emergent variable model especially beneficial in the case of felt empowerment in response to media messages. In short, it is expected that individuals may report feeling some items on the scale to a different degree than others, and that individuals who endorse more empowerment words than disempowerment words would feel more empowered overall.

In the case of emergent models, the thoroughness of the items and predictive power of the scale is more critical than the presence of latent factors (Coan & Gonzalez, 2015). This indicates that the validity of the AECL is best captured by the relationship between the AECL and measures of the other related constructs mentioned previously in this chapter, as opposed to a traditional factor analysis model designed to reduce the scale to the minimum number of items that can reliably predict outcomes of interest. In validating the AECL and its construction, I propose three hypotheses:

H1: Empowerment words will be negatively correlated with disempowerment words.

H2a: Scores on the AECL will be positively correlated with measures of self-esteem, self-efficacy, internal locus of control, assertiveness, optimism, grit, confidence, and context-specific measures of empowerment.

H2b: Scores on the AECL will be negatively correlated with measures of defeat, helplessness, and external locus of control.

## **Method**

### **Procedure**

This study was approved by the University of Michigan Health Sciences and Behavioral Sciences IRB prior to participant recruitment and data collection. I began scale development by generating lists of adjectives describing felt empowerment using dictionaries and thesauri. I then expanded this initial list of adjectives to include antonyms representing disempowerment until the list contained a range of empowerment and disempowerment themes, with 15 words relating to each category.

I chose to administer the questionnaire to both a student population and a more representative panel sample collected via Qualtrics to test validity across multiple demographic groups. Participants were told that this was a survey about empowerment. They were then asked to reflect on their definitions of empowerment and report a media text example that they found to be particularly empowering in an open-ended response to the following prompt:

*“What is a video, advertisement, or other media message that you find especially empowering? In your response (a short paragraph in the space below), please include the title if you know it, as well as a brief description and the reasons that you found it to be empowering.”*

This was done to generate stimulus materials for future use. Following the open-ended items, participants responded to the Affective Empowerment Checklist (AECL), which asked how much each adjective *typically* represented them. Since I asked participants to think about an empowering narrative first, I chose to ask about typical empowerment to reduce potential effects

of the particular stimulus the participants called to mind. Asking about typical representation also captures a more stable, trait-like measure, as responses are less context dependent.

Participants then reported how much they felt each item was representative of empowerment or disempowerment as appropriate; the full list of instructions and the adjectives can be found in the Study 2 section of Appendix F. Participants then answered a series of scales measuring concepts related to felt empowerment that were used for construct validation.

Participants in the student sample completed the questionnaire in person, whereas the individuals in the Qualtrics sample completed the questionnaire online.

## **Participants**

### ***Sample 1 (Student Sample)***

One hundred seventy-seven participants were recruited through the University of Michigan Communication Studies Participant Pool. These students participated in the study in exchange for one hour of research credit. Student participants completed the survey at individual computer stations in groups of one to eight individuals per session. Of the 177 participants in this sample, a total of 123 (69.5%) identified as female, 50 (28.2%) identified as male, 3 (1.7%) participants chose not to respond to this question, and a single participant (< 1%) identified as gender variant/non-conforming. According to self-reports about race/ethnicity, 118 (66.7%) of participants were non-Hispanic white; 24 (13.6%) were Asian/Asian-American; 7 (4%) were biracial/multiracial; 10 (5.6%) were non-Hispanic black; 9 (5.1%) were Hispanic/Latino/a; 4 (2.3%) were Pacific Islander, and 3 (1.7%) identified as “other.” Household annual income was measured by having participants select 1 of 6 categories of income ranges. Eleven (6.2%) participants reported a total household income of \$29,000 or below, 9 (5.1%) participants between \$30,000 and \$49,000, 12 (6.8%) between \$50,000 and \$69,000, 23 (13%) between

\$70,000 and \$99,000, 49 (27.7%) between \$100,000 and \$199,000, and 71 (40.1%) participants reported incomes greater than \$200,000.

### ***Sample 2 (General Sample)***

The goal of gathering sample 2 was to replicate the results found with the student sample while using a more diverse group of respondents. Two hundred and eleven individuals were recruited through Qualtrics and paid for their online participation. According to self-reports, 104 (49.3%) identified as male, 105 (49.8%) identified as female, a single participant identified as a transgender male, and a single participant identified as gender non-conforming. Participant ages ranged from 17 to 86 years old, with a mean age of 41 years ( $SD = 15.79$ ). A total of 125 (59.2%) of participants were non-Hispanic white; 15 (7.1%) were Asian/Asian-American; 7 (3.3%) were biracial/multiracial; 25 (11.8%) were non-Hispanic black; 30 (14.2%) were Hispanic; 6 (2.8%) were American Indian or Native Alaskan, and 3 (1.4%) participants identified as “other.” Total household income was again measured by having participants select 1 of 6 categories. Sixty-five (30.8%) participants in the general sample reported a total household income of \$29,000 or below, 50 (23.7%) between \$30,000 and \$49,000, 34 (16.1%) between \$50,000 and \$69,000, 31 (14.7%) between \$70,000 and \$99,000, 23 (10.9%) between \$100,000 and \$199,000, and 8 (3.8%) participants reported incomes greater than \$200,000.

### **Measures and Scales**

#### ***Affective Empowerment Checklist (AECL)***

To measure felt empowerment, participants were given the following prompt, “Please indicate the extent to which you *typically* feel the following adjectives describe you.” Response options ranged from 1 (*Not at all*) to 7 (*A great deal*). Adjectives were presented in a series of three matrices, with 10 adjectives shown per block. There were 15 adjectives related to empowerment (i.e., Capable, Strong, Mighty, Secure, Decisive, Effective, Leader, Commanding,

Able, Assertive, Charismatic, Empowered, Influential, Confident, Bold) and 15 adjectives related to disempowerment (i.e., Defeated, Weak, Incompetent, Ineffective, Exploited, Useless, Insecure, Timid, Inept, Subordinate, Inferior, Feeble, Oppressed, Delicate, Indecisive). The order of adjectives was randomly placed using a random number generator; the order used can be found in Appendix F. Twenty-one words used are appropriate for individuals who read at or below an eighth grade reading level, seven are at or below high school reading level (Dale & O'Rourke, 1981). The vocabulary level of *exploited* and *inept* are post-secondary, and are appropriate for participants who read at a college reading level (Dale & O'Rourke, 1981). Descriptive information and alphas for each scale version (AECL-30, AECL-24, AECL-20) are presented in Table 3-4.

### ***Self-Esteem***

Self-esteem was measured using the Rosenberg Self-Esteem Questionnaire (Rosenberg, 1965). This measure consisted of 10 questions. Sample items included "On the whole I am satisfied with myself," and "I am able to do things as well as most people." Response options ranged from 1 (*Strongly disagree*) to 5 (*Strongly agree*). Internal consistency estimated by Cronbach's  $\alpha$  was .95 in the student sample and .89 in the general sample.

### ***Self-Efficacy***

Self-efficacy was measured with the New General Self-Efficacy Scale (Chen et al., 2001). This scale eliminates the reverse-scored items in the General Self-Efficacy Scale (Sherer et al., 1982), and contains eight items including "I will be able to achieve most of the goals that I have set for myself" and "In general, I think that I can obtain outcomes that are important to me." Participants rated their agreement with the statements on a scale of 1 (*Strongly disagree*) to 5 (*Strongly agree*); student sample  $\alpha$  = .86, general sample  $\alpha$  = .93.

### ***Perceived Control***

The 27-item Levenson IPC Scale (Levenson, 1981) captures the following dimensions: Internality (nine items, student sample  $\alpha = .52$ , general sample  $\alpha = .73$ ), Powerful Others (nine items, student sample  $\alpha = .64$ , general sample  $\alpha = .79$ ), and Chance (nine items, student sample  $\alpha = .65$ , general sample  $\alpha = .79$ ). Response options ranged from 1 (*Strongly disagree*) to 5 (*Strongly agree*). Example items include: “Whether or not I get to be a leader depends mostly on my ability” [Internality], “My life is chiefly controlled by powerful others” [Powerful Others], and “Whether or not I get into a car accident is mostly a matter of luck” [Chance].

### ***Assertiveness***

Assertiveness was measured using the Simple Rathus Assertiveness Schedule (McCormick, 1985). This 30-item scale prompts participants to rate how much each statement represents them on a scale of 1 (*Very unlike me*) to 6 (*Very much like me*). Sample items include “If someone has been telling false and bad stories about me, I see him (her) as soon as possible to ‘have a talk’ about it;” and “I often have a hard time saying no” (reverse-scored). Average scores range from 1 (*Lowest*) to 6 (*Highest*); student sample  $\alpha = .87$ , general sample  $\alpha = .88$ .

### ***Optimism***

Optimism was measured using the 6-item revised Life Orientation Test (LOT-R) (Scheier et al., 1994), excluding the three filler items. Three of the items measured optimism, and the remaining three items measured pessimism. Sample items included “In uncertain times, I usually expect the best” and “If something can go wrong for me, it will” (reverse-scored). The items measuring pessimism were reverse-scored, leading to a single measure ranging from 1 (*Strongly disagree*) to 5 (*Strongly agree*); student sample  $\alpha = .81$ , general sample  $\alpha = .85$ .

### ***Grit***

Grit was measured using 6 items from the perseverance of effort subscale of the Short Grit Scale (Grit-S) (Duckworth & Quinn, 2009). Sample items included “I have achieved a goal that took years of work” and “I have overcome setbacks to conquer an important challenge.” Scores ranged from 1 (*Strongly disagree*) to 5 (*Strongly agree*); student sample  $\alpha = .70$ , general sample  $\alpha = .76$ .

### ***Defeat***

Perceptions of defeat were measured with 16 items from the Defeat Scale (Gilbert & Allan, 1998). This scale was developed to examine a sense of “failed struggle and losing rank” (Gilbert & Allan, 1998, p.589). Example items include “I feel powerless” and “I feel that I am a successful person” (reverse-scored). The original validation of this scale included a clinical sample of depressed individuals as well as a student sample (Gilbert & Allan, 1998). Response options range from 1 (*Never*) to 5 (*Always/all the time*); student sample  $\alpha = .91$ , general sample  $\alpha = .97$ .

### ***Hopelessness***

Feelings of hopelessness were measured with the 6-item Brief Hopelessness Scale (Bolland, 2003). Sample items include "All I see ahead of me are bad things, not good things," and "I never get what I want, so it's dumb to want things." Response options ranged from 1 (*Strongly agree*) to 5 (*Strongly disagree*); student sample  $\alpha = .84$ , general sample  $\alpha = .93$ .

### ***Resiliency***

Participants responded to the 8-item Trait Robustness of Self Confidence Inventory (Beattie et al., 2011) as a measure of resiliency. The scale includes items such as “My self-confidence goes up and down a lot,” and “Negative feedback from others does not affect my level of self-confidence.” Response options ranged from 1 (*Strongly disagree*) to 5 (*Strongly agree*); student sample  $\alpha = .85$ , general sample  $\alpha = .82$ .

### ***Context-Specific Psychological Empowerment Measures***

Measures of psychological empowerment are typically context-dependent; two of the most commonly used measures are the Workplace Empowerment Scale (Spreitzer, 1995) and the Sociopolitical Control Scale (SPCS-R) (Peterson et al., 2006). The Workplace Empowerment Scale is made up of 12 items that capture the dimensions of workplace empowerment, with response options ranging from 1 (*Strongly disagree*) to 5 (*Strongly agree*). As students may not have work experience, items for the student sample were amended to a classroom context (see Appendix E for exact wording). Sample items of the 3-item competence subscale include “I am confident about my ability to do my job” and “I am self-assured about my ability to do my job;” student sample  $\alpha = .81$ , general sample,  $\alpha = .89$ . Sample items of the 3-item meaning sub-scale include “The work I do is meaningful to me” and “The work I do is very important to me;” student sample  $\alpha = .92$ , general sample  $\alpha = .91$ . Sample items of the 3-item self-determination subscale include “I have significant autonomy in determining how I do my job,” and “I can decide on my own how to go about doing my work;” student sample  $\alpha = .84$ , general sample  $\alpha = .85$ . Finally, sample items from the 3-item impact subscale include “I have a great deal of control over what happens in my department” and “My impact on what happens in my department is huge;” student sample  $\alpha = .91$ , general sample  $\alpha = .91$ . Alphas across the full scale were .90 for the student sample, and .94 for the general sample.

The SPCS-R (Peterson et al., 2006) is a 17-item scale designed to measure feelings of political empowerment. The SPCS-R contains subscales related to leadership competence and policy control. Sample items of the leadership competence subscale include “I am often a leader in groups” and “Other people usually follow my ideas.” Sample items of the policy control subscale include “I enjoy political participation because I want to have as much say in running the government as possible” and “A person like me can really understand what's going on with



government and politics.” Response options for the leadership competence subscale range from 1 (*Strongly agree*) to 5 (*Strongly disagree*); reliability for the SPCS-R was good in both samples ( $\alpha = .95$  in the student sample and  $.89$  in the general sample).

### **Data Analysis Plan**

Three versions of the scale were created using different numbers of items (AECL-30, AECL-24, AECL-20). Items were chosen based on participant ratings of representativeness to dis/empowerment words (Table 3-1, Table 3-2) and the item’s contribution to overall scale alpha (Table 3-3). Content validity was tested by examining correlations between empowerment and disempowerment words (H1), and correlations between the three variations of the AECL and scales measuring related constructs (H2).

## **Results**

### **Reliability and Validity**

#### ***Reliability***

Reliability was measured using Cronbach’s alpha for empowerment words and disempowerment words separately. When using the 30-item scale, the empowerment words had good reliability in the combined sample as well as the independent student and general population samples (Table 3-4). Reliability was not impacted by deleting any items.

#### ***Shorter Versions***

To facilitate easier responding, shorter versions of the scale were explored (AECL-24, AECL-20). A 24-item version of the scale was created by eliminating *decisive*, *charismatic*, and *commanding* from the empowerment list, and the words *delicate*, *indecisive*, and *inept* from the disempowerment list. These words were rated by participants as being least representative of disempowerment/empowerment, respectively. The 20-item version of the scale was created by

eliminating 2 additional items from each word list based on corrected item-total correlation scores (Table 3-3). Specifically, *capable* and *able* were removed from the empowerment items, and *subordinate* and *feeble* were removed from the disempowerment items.

### ***AECL-24 Differences by Demographic Groups***

An ANOVA was performed to compare group differences across gender and racial groups, using four demographic groups as the predictor variable (women of color, white women, men of color, white men),  $F(3, 379) = 2.27, p = .080$ . The means for each demographic group can be found in Table 3-4. Collapsing racial groups, and using an independent samples t-test to evaluate differences by gender, men scored significantly higher on the AECL-24 than women ( $t(381) = 2.23, p = .026$ ). There was no significant difference in AECL-24 scores between racial groups when collapsing across gender ( $t(384) = .66, p = .513$ ).

## **Hypothesis Testing**

### ***Hypothesis 1***

Empowerment scale items were negatively correlated with disempowerment scale items in all versions of the scale (Table 3-5). This indicates that individuals who endorsed empowerment words as self-descriptive tended not to endorse disempowerment words and vice versa. Importantly, empowerment and disempowerment were not perfectly correlated, suggesting that using the two sets of words to create a net score is representative of empowered feelings. Thus, hypothesis 1 was supported.

### ***Hypothesis 2a***

Convergent validity was established by assessing relationships between the AECL and the psychological constructs related to empowerment described in the introduction. As anticipated, felt empowerment scores using all versions of the AECL (AECL, AECL-24, and AECL-20) were positively correlated with measures of self-esteem, self-efficacy, resiliency,

optimism, grit, assertiveness, internal locus of control, workplace empowerment, and sociopolitical control at weak-to-moderate levels in both the student sample (Table 3-6) and the general sample (Table 3-7). Hypothesis 2a was supported.

### ***Hypothesis 2b***

As predicted, scores on the AECL-30, AECL-24, and AECL-20 were negatively correlated with the brief hopelessness, defeat, and high endorsement of the “powerful others” and “chance” subscales of locus of control.

## **Discussion**

Currently, Empowerment Theory is used primarily as a theoretical foundation, with little agreement among scholars on consistent facets or measurement strategies. Clear strategies for measurement and conceptualization of felt empowerment are necessary to advance our understanding of empowerment as an outcome of discrete episodes of media exposure. The Empowerment Adjective Checklist (AECL-24) is a flexible measure for measuring felt empowerment that can be adapted to many circumstances with minor changes in the instructions.

Scores on the AECL reflect felt empowerment relative to disempowerment. Positive scores indicate greater felt empowerment relative to disempowerment, and negative scores indicate greater felt disempowerment relative to empowerment. Felt empowerment is a fluid, and continuous process (Zimmerman, 2000), and thus it is important not to use the AECL-24 to label individuals as “empowered” or “disempowered” based on positive and negative scores. I do not conceptualize zero as a tipping point, where an individual will suddenly identify their current feelings as “empowered.” Instead, whether or not the individual will *feel* empowered is more dependent on context and their prior levels of felt empowerment.

This study explored three versions of the AECL (AECL-30, AECL-24, AECL-20), each with varying numbers of items. Reliability was similar in each version, as were correlations between the AECL and established psychological constructs related to felt empowerment. For emergent constructs, the exhaustiveness of items and their ability to predict scores on existing measures can be even more important than the emergence of a latent variable (Coan & Gonzalez, 2015). Ideally for an emergent construct the list would be exhaustive; the AECL-24 balances thoroughness with ease of reporting.

For the student sample, The AECL-24 was strongly correlated with self-esteem, and moderately correlated with self-efficacy, assertiveness, optimism, resiliency, defeat (inversely), sociopolitical control, and workplace competency. It was weakly correlated with grit, locus of control in powerful others and chance (inversely), brief hopelessness (inversely), and workplace competency. Correlations with the following measures were weak but still significant: Internal locus of control, workplace meaning, workplace self-determination, income, and the composite workplace empowerment scale. Scores on the AECL-24 were not significantly correlated with work impact. The workplace empowerment scale was modified to fit a classroom context; thus it is unsurprising that workplace impact was not as relevant in this sample.

Correlations between the AECL-24 and related construct measures for the general sample largely mirrored findings in the student sample. Scores on the AECL-24 were again most strongly correlated with assertiveness in this sample, sharing 56% of variance with this measure. As with the student sample, self-esteem and felt empowerment were strongly correlated, but in this sample felt empowerment was also strongly correlated with defeat (inversely). Self-efficacy, resiliency, optimism, grit, hopelessness (inversely), workplace competency, overall workplace empowerment, and sociopolitical control were moderately correlated with AECL-24 scores. The

AECL-24 was weakly correlated with locus of control in chance and powerful others (inversely), as well as workplace meaning, self-determination, and impact. In the general sample, internal locus of control did not correlate with any other predictors.

Demographic variables had different relationships with felt empowerment scores between samples. The only demographic variable that felt empowerment significantly correlated with in the general sample was gender, with women from the general sample responding with lower scores on the AECL-24 than men. Scores on the AECL-24 were not correlated with gender in the student sample. Instead, having a lower household income and identifying as a member of a non-white racial/ethnic group predicted lower felt empowerment scores in the student sample.

The finding that women in the general sample but not the student sample reported lower felt empowerment could potentially be due to generational or developmental differences in gender and empowerment, as the average age in the general sample was higher. Women in the general sample also reported lower assertiveness, optimism, and grit than men in the sample. They tended to feel less internal locus of control than men, and lower perceived workplace impact, but reported feeling more sociopolitical control on both leadership and policy control.

Although it was not my intention when sampling, race and gender were correlated in the general sample, with female participants being more likely to identify as participants of color than male participants. In the student sample, identifying as female exclusively predicted higher workplace meaning, and was not correlated with race. Power dynamics associated with gender and race do not function independently, and taking an intersectional approach to understanding the relationship between gender, race, and empowerment-related variables can provide a more complete picture of structural empowerment. Women in the general sample were more likely to identify as participants of color; black women have historically faced more oppression and

persecution in the United States than their white or male counterparts (Hill Collins, 2000). The differences in AECL-24 scores when combining samples reflect this, with women of color scoring lower on felt empowerment than any other group. The student sample was smaller than the general sample, and there were only 39 women in the student sample who identified as students of color. Participants from minority groups in the general sample reported feeling that their locus of control was tied to chance, but no other variables were significantly correlated with race, including felt empowerment. In the student sample, identifying as a student of color was correlated with lower felt empowerment, lower self-esteem, lower grit, less internal locus of control, greater feelings of defeat, and lower workplace competency. Students of color also tended to report lower household incomes.

Income was not significantly related to felt empowerment in the general sample. Income was significantly related to other measured items in the general sample; as household income increased so did scores on the grit scale. Workplace empowerment (meaning, competency, impact, and total scores) also increased with income in the general sample. Participants in the general sample who reported lower household income felt less control over policy, although it did not impact their feelings of leadership as measured by the sociopolitical control scale (Peterson et al., 2006). Household income was a stronger predictor of felt empowerment than race in the student sample, with felt empowerment increasing as household income increased. Reporting higher income in the student sample was associated with greater feelings of assertiveness, lower feelings of defeat, and greater overall perceptions of workplace empowerment.

Interestingly, the only variable that was significantly correlated with gender in the student sample was workplace meaning, with female students reporting higher workplace meaning in the

context of the classroom. Students of color tended to report lower household income than white students. Students who reported greater household income reported greater felt empowerment, workplace empowerment, and assertiveness, and lower defeat. Students of color also reported lower felt empowerment, self-esteem, grit, internal locus of control, workplace competency, and greater defeat.

On all three versions of the AECL, feeling empowered and disempowered were not mutually exclusive. Specifically, responses to the two scale components were significantly but not perfectly inversely correlated. Participants who endorsed empowerment words as typically applying to them tended to report that disempowerment words did not apply to them, but this relationship only accounted for around 25% of the total variance. The inclusion of both adjectives related to empowerment and disempowerment adjectives is helpful for indicating the extent to which people feel relatively more empowered than disempowered.

This survey tested the AECL-24 in the context of more stable, trait-like correlates of empowerment by asking the extent to which participants *typically* felt that the adjectives describe them, but the scale should be adapted to measure more transient felt empowerment, like that produced by exposure to media content, by asking how much the adjectives *currently* describe them. This scale could also be adapted to fit a variety of contexts with minor changes in the instruction set to reflect responses to media stimuli or specific environments in which participants may or may not feel empowered (such as in the workplace, or after interacting with another participant). This flexibility satisfies some of the prior concerns that researchers have had about developing a single measure of empowerment that can be used across multiple contexts, and has the advantage of maintaining a question structure that could be used for meta-analyses.

## **Conclusion**

All three of the AECL versions tested for this study demonstrated excellent reliability and validity in both a student sample and a general sample. The 24-item AECL represents a compromise between the efficiency of a shorter scale and the comprehensiveness of a longer scale, which is appropriate for measurement of an emergent construct. The two samples varied substantially in terms of participant age, socioeconomic status, and ethnicity, and thus the AECL-24 seems to reliably identify felt empowerment among a variety of participants. Felt empowerment was most closely correlated with scores for self-esteem in the student sample, and assertiveness and self-esteem in the general sample. It is important to take an intersectional approach when considering how felt empowerment differs based on identity, as gender, race, and income were all predictive of felt empowerment but not consistently across samples. This scale was only tested for use with adult participants, and would not be appropriate for use in research with children or individuals who are not comfortable reading at a high-school level due to the advanced vocabulary level of some of the words. A more accessible scale should be created in the future for use with children or populations without access to secondary education.



**Table 3-1***Representativeness Ratings of Empowerment Words as Described by Participants*

	Mean	<i>SD</i>	Variance
Confident	6.26	1.079	1.164
Strong	6.21	1.110	1.231
Powerful	6.20	1.262	1.594
Able	6.09	1.112	1.237
Capable	6.07	1.132	1.281
Leader	5.97	1.306	1.705
Effective	5.93	1.223	1.496
Bold	5.85	1.369	1.873
Influential	5.81	1.309	1.712
Secure	5.80	1.251	1.565
Assertive	5.66	1.397	1.951
Mighty	5.54	1.475	2.176
Decisive	5.54	1.439	2.072
Charismatic	5.39	1.510	2.279
Commanding	5.24	1.571	2.469

*Note.* Response options ranged from 1 (*Not at all*) to 7 (*A great deal*).

**Table 3-2***Representativeness Ratings of Disempowerment Words as Described by Participants*

	Mean	<i>SD</i>	Variance
Exploited	4.90	2.210	4.884
Weak	4.89	2.298	5.280
Insecure	4.82	2.223	4.943
Defeated	4.81	2.337	5.459
Oppressed	4.77	2.302	5.297
Ineffective	4.58	2.268	5.143
Incompetent	4.58	2.237	5.003
Subordinate	4.52	2.190	4.797
Timid	4.52	2.168	4.702
Inferior	4.49	2.347	5.508
Feeble	4.47	2.187	4.781
Useless	4.45	2.290	5.246
Indecisive	4.44	2.149	4.616
Inept	4.41	2.234	4.991
Delicate	4.07	2.099	4.405

*Note.* Response options ranged from 1 (*Not at all*) to 7 (*A great deal*).

**Table 3-3***Item Reading Levels and Item-to-Scale Correlation Information for Total Sample (N = 372)*

		Reading Level	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Empowerment	Strong	4	68.18	239.186	.78	.93
	Mighty	4	69.01	234.829	.72	.93
	Effective	6	68.22	242.050	.73	.93
	Leader	4	68.44	234.009	.75	.93
	Assertive	12	68.96	236.283	.71	.93
	Powerful	4	68.77	235.398	.76	.93
	Influential	10	68.84	236.745	.73	.93
	Confident	8	68.35	235.533	.80	.93
	Bold	6	68.90	234.022	.75	.93
	Secure	6	68.46	241.111	.69	.93
	Able	4	67.96	246.502	.69	.93
	Capable	4	67.88	249.545	.61	.93
	Decisive	12	69.09	247.111	.44	.94
	Commanding	4	69.63	241.144	.57	.94
	Charismatic	10	68.78	241.795	.57	.94
	Total	--	73.53	273.903	---	.94
Dis-empowerment	Timid	8	35.18	200.409	.66	.90
	Inferior	8	35.74	203.463	.69	.90
	Exploited	16	36.02	211.935	.52	.91
	Insecure	4	35.10	198.675	.67	.90
	Weak	4	35.87	205.043	.72	.90
	Incompetent	12	35.98	205.501	.71	.90
	Ineffective	6	35.81	203.596	.75	.90
	Oppressed	10	35.86	208.521	.57	.91
	Useless	4	36.11	205.101	.73	.90
	Defeated	4	35.72	204.013	.69	.90
	Feeble	6	35.67	209.036	.51	.91
	Subordinate	12	35.13	210.590	.49	.91
	Inept	16	35.93	207.168	.67	.90
	Indecisive	10	34.75	204.059	.53	.91
	Delicate	6	34.74	213.855	.36	.92
	Total	--	38.12	235.078	---	.91

**Table 3-4***Combined Samples AECL-24 Scores By Demographic Group*

	Race		
	White	Other	Total
Men	33.28 (26.42) <i>n</i> = 112	36.51 (20.99) <i>n</i> = 43	34.17 (25.01) <i>n</i> = 155
Women	30.29 (21.62) <i>n</i> = 130	26.93 (21.04) <i>n</i> = 98	28.85 (21.39) <i>n</i> = 228
Total	31.59 (23.95) <i>n</i> = 242	30.00 (21.30) <i>n</i> = 141	31.00 (23.04) <i>n</i> = 383

*Note.* Scores on the AECL-24 differed significantly by gender, with men reporting higher scores than women.

**Table 3-5***Scale Reliability Criteria and Correlations Between Empowerment and Disempowerment Words for All Three Scale Versions*

		30-Item AECL			24-Item AECL			20-Item AECL		
		Student	General	Total	Student	General	Total	Student	General	Total
<i>Pearson's r</i>		-.56**	-.51**	-.52**	-.53**	-.57**	-.56**	-.53**	-.61**	-.59**
Empowerment	Alpha	0.91	0.95	0.94	0.91	0.95	0.94	0.91	0.95	0.94
	Average	71.73	74.92	73.56	58.85	61.64	60.45	47.75	50.31	49.22
	Average/item	4.78	4.99	4.90	4.90	5.14	5.04	4.78	5.03	4.92
	Variance	150.12	364.77	275.03	102.46	250.75	188.93	81.58	192.60	146.50
	SD	12.25	19.10	16.58	10.12	15.84	13.75	9.03	13.88	12.10
	SD/item	0.82	1.27	1.11	0.84	1.32	1.15	0.90	1.39	1.21
Disempowerment	Alpha	0.86	0.93	0.91	0.86	0.92	0.91	0.83	0.93	0.91
	Average	38.38	38.00	38.17	28.96	29.46	29.25	23.90	23.70	23.79
	Average/item	2.56	2.53	2.54	2.41	2.46	2.44	2.39	2.37	2.38
	Variance	113.71	330.07	237.24	75.46	224.47	160.58	53.88	173.66	122.28
	SD	10.66	18.17	15.40	8.69	14.98	12.67	7.34	13.18	11.06
	SD/item	0.71	1.21	1.03	0.72	1.25	1.06	0.73	1.32	1.11

*Note.* Correlation between empowerment and disempowerment words is shown in the first line.\*\*  $p < .001$ .

**Table 3-6***Means, Standard Deviations, and Intercorrelations for Key Variables in the Student Sample*

Measure	1	2	3	4	5	6	7	8	9	10	11	12
<i>M</i>	33.35	29.89	23.84	3.70	3.85	2.70	3.42	3.86	3.64	3.54	2.68	2.55
<i>SD</i>	20.22	16.46	14.34	.56	.48	.64	.66	.52	.62	.42	.47	.51
1. AECL	--	.98**	.98**	.77**	.60**	.51**	.62**	.39**	.67**	.25**	-.39**	-.31**
2. AECL-24		--	.99**	.78**	.59**	.51**	.61**	.39**	.66**	.23**	-.42**	-.32**
3. AECL-20			--	.77**	.57**	.51**	.60**	.38**	.65**	.23**	-.40**	-.29**
4. Self Esteem				--	.56**	.61**	.65**	.32**	.58**	.31**	-.39**	-.27**
5. Self-Efficacy					--	.32**	.60**	.55**	.39**	.19*	-.25**	-.26**
6. Resiliency						--	.42**	.14	.47**	.09	-.32**	-.12
7. Optimism							--	.35**	.42**	.24**	-.36**	-.38**
8. Grit								--	.20*	.28**	-.137	-.23**
9. Assertiveness									--	.25**	-.36**	-.28**
10. LOC Internal										--	-.10	-.22**
11. LOC Powerful Others											--	.46**
12. LOC Chance												--
13. Brief Hopelessness												
14. Defeat												
15. Work Meaning												
16. Work Competency												
17. Work Self-Determination												
18. Work Impact												
19. Work Empowerment Total												
20. SPCS Leadership Competence												
21. SPCS Policy Control												
22. Income												
23. Race												
24. Gender												

*Note.* AECL indicates felt empowerment, and the corresponding number indicates number of items. LOC = Locus of Control. SPCS = Sociopolitical Control Scale. Gender coded as Male=0, Female=1. Race/ethnicity coded white=0, Other=1. Income coded as 6 categories, with 1 representing incomes of less than \$29,000 and 6 representing incomes reported as greater than \$200,000. Scores for the SPCS-R are scored 1 (Strongly agree) to 5 (Strongly disagree). † $p < .10$ , \* $p < .05$ , \*\* $p < .001$ .

Table 3-6 Continued

Measure	13	14	15	16	17	18	19	20	21	22	23
<i>M</i>	4.35	2.12	3.37	3.82	3.45	2.74	3.34	2.65	4.73	.32	.76
<i>SD</i>	.58	.55	1.09	.73	.92	.97	.73	.28	1.49	.47	.46
1. AECL	.45**	-.65**	.23**	.35**	.21**	.09	.28**	-.27**	.17*	-.16	-.02
2. AECL-24	.46**	-.66**	.24**	.34**	.22**	.10	.29**	-.26**	.19*	-.17*	.01
3. AECL-20	.44**	-.65**	.24**	.33**	.23**	.12	.29**	-.28**	.20*	-.18*	-.02
4. Self Esteem	.53**	-.76**	.26**	.32**	.21**	.12	.29**	-.18*	.14	-.21**	-.03
5. Self-Efficacy	.51**	-.53**	.38**	.50**	.38**	.21**	.47**	-.31**	.13	-.12	.04
6. Resiliency	.29**	-.54**	.23**	.18*	.09	.13	.21**	-.04	.04	-.10	-.01
7. Optimism	.61**	-.59**	.21**	.43**	.25**	.09	.29**	-.17*	.12	-.15	-.02
8. Grit	.33**	-.30**	.42**	.32**	.25**	.15	.38**	-.30**	.11	-.20*	.15 <sup>†</sup>
9. Assertiveness	.33**	-.46**	.15	.27**	.16	.15	.23**	-.13	.29**	-.11	-.08
10. LOC Internal	.29**	-.29**	.05	.17*	.15	.06	.14	-.06	.06	-.16*	-.14 <sup>†</sup>
11. LOC Powerful Others	-.32**	.38**	.01	-.06	-.03	-.02	-.03	.08	-.01	.09	-.11
12. LOC Chance	-.33**	.26**	.02	-.15	-.05	-.02	-.05	.00	-.05	.05	-.16*
13. Brief Hopelessness	--	-.56**	.23**	.34**	.27**	.12	.31**	-.17*	.07	-.14	.14 <sup>†</sup>
14. Defeat		--	-.17*	-.28**	-.17*	-.10	-.23**	.12	-.16*	.32**	.05
15. Work Meaning			--	.31**	.62**	.57**	.84**	-.15	.16	-.07	.22**
16. Work Competency				--	.43**	.26**	.59**	-.13	.08	-.17*	.06
17. Work Self-Determination					--	.57**	.85**	.00	.13	-.11	.06
18. Work Impact						--	.80**	.05	.14	-.04	.03
19. Work Empowerment Total							--	-.08	.18*	-.12	.11
20. SPCS Leadership Competence								--	-.10	.05	.05
21. Income									--	-.33	-.07
22. Race										--	.00
23. Gender											--

**Table 3-7***Means, Standard Deviations, and Intercorrelations for Key Variables in the General Sample*

Measure	1	2	3	4	5	6	7	8	9	10	11	12
<i>M</i>	36.91	32.18	27.14	3.68	3.95	4.91	3.41	3.89	3.71	3.88	3.26	3.22
<i>SD</i>	32.39	27.33	23.32	.78	.74	.81	.86	.65	.76	.68	.84	.86
1. AECL	--	.99**	.98**	.75**	.64**	.63**	.68**	.61**	.76**	.08	-.38**	-.39**
2. AECL-24		--	.99**	.75**	.65**	.63**	.67**	.61**	.75**	.07	-.38**	-.38**
3. AECL-20			--	.74**	.67**	.63**	.67**	.62**	.75**	.07	-.36**	-.37**
4. Self Esteem				--	.64**	.69**	.72**	.62**	.70**	.00	-.52**	-.48**
5. Self-Efficacy					--	.50**	.54**	.68**	.58**	.08	-.26**	-.26**
6. Resiliency						--	.56**	.51**	.65**	.07	-.42**	-.34**
7. Optimism							--	.54**	.67**	.05	-.42**	-.41**
8. Grit								--	.50**	.01	-.32**	-.32**
9. Assertiveness									--	.03	-.47**	-.47**
10. LOC Internal										--	.26**	.33**
11. LOC Powerful Others											--	.73**
12. LOC Chance												--
13. Brief Hopelessness												
14. Defeat												
15. Work Meaning												
16. Work Competency												
17. Work Self-Determination												
18. Work Impact												
19. Work Empowerment Total												
20. SPCS Leadership Competence												
21. SPCS Policy Control												
22. Income												
23. Race												
24. Gender												

*Note.* AECL indicates felt empowerment, and the corresponding number indicates number of items. LOC = Locus of Control. SPCS = Sociopolitical Control Scale. Gender coded as Male=0, Female=1. Race/ethnicity coded white=0, Other=1. Income coded as 6 categories, with 1 representing incomes of less than \$29,000 and 6 representing incomes reported as greater than \$200,000. Scores for the SPCS-R are scored 1 (Strongly agree) to 5 (Strongly disagree). \* $p < .05$ , \*\* $p < .001$ .



Table 3-7 Continued

Measure	13	14	15	16	17	18	19	20	21	22	23	24
<i>M</i>	3.81	2.29	3.81	3.95	3.76	3.39	3.73	2.44	2.71	2.63	.41	.51
<i>SD</i>	1.02	1.02	1.04	.90	.92	1.11	.85	.90	.89	1.50	.49	.51
1. AECL	.58**	-.70**	.45**	.52**	.48**	.44**	.55**	-.64**	-.54**	.07	-.01	-.19**
2. AECL-24	.59**	-.70**	.46**	.52**	.48**	.44**	.55**	-.62**	-.53**	.06	.02	-.15*
3. AECL-20	.57**	-.69**	.47**	.52**	.50**	.46**	.57**	-.65**	-.55**	.06	.03	-.16*
4. Self Esteem	.74**	-.78**	.43**	.46**	.35**	.32**	.45**	-.43**	-.41**	.04	.01	-.09
5. Self-Efficacy	.45**	-.49**	.48**	.55**	.46**	.48**	.57**	-.61**	-.49**	.12	.05	-.07
6. Resiliency	.39**	-.58**	.30**	.34**	.38**	.35**	.40**	-.46**	-.39**	.05	-.02	-.23**
7. Optimism	.65**	-.69**	.37**	.42**	.41**	.41**	.47**	-.49**	-.41**	.07	.00	-.16*
8. Grit	.44**	-.48**	.50**	.52**	.45**	.48**	.57**	-.53**	-.58**	.22**	-.02	-.15*
9. Assertiveness	.56**	-.64**	.30**	.38**	.38**	.34**	.41**	-.62**	-.40**	.06	.00	-.19*
10. LOC Internal	.05	-.12	-.08	-.02	.08	.07	.02	.06	.05	.12	.01	-.18**
11. LOC Powerful Others	-.45**	.48**	-.21**	-.29**	-.17*	-.02	-.19**	.30**	.18**	.08	.03	-.05
12. LOC Chance	-.41**	.43**	-.26**	-.27**	-.19**	-.02	-.21**	.28**	.19**	.00	.14*	.05
13. Brief Hopelessness	--	-.78**	.27**	.34**	.29**	.19**	.31**	-.23**	-.21**	-.02	.03	-.03
14. Defeat		--	-.36**	-.42**	-.35**	-.28**	-.41**	.32**	.30**	-.01	-.03	.13
15. Work Meaning			--	.63**	.66**	.62**	.85**	-.42**	-.39**	.15*	.10	-.01
16. Work Competency				--	.72**	.55**	.83**	-.46**	-.46**	.15*	-.03	-.06
17. Work Self-Determination					--	.67**	.88**	-.44**	-.41**	.12	.01	-.13
18. Work Impact						--	.85**	-.44**	-.45**	.21**	.06	-.17*
19. Work Empowerment Total							--	-.52**	-.50**	.19**	.04	-.11
20. SPCS Leadership Competence								--	.63**	-.10	-.01	.18*
21. SPCS Policy Control									--	-.19**	.06	.21**
22. Income										--	-.06	-.05
23. Race											--	.31**
24. Gender												--

## **Chapter 4**

### **Eye-Tracking Studies**

#### **Study 3 Overview**

In this chapter, the “message processing” chapter,” I describe the results from three studies examining the impact of visual and textual message factors on women’s body image. While the goals of each study varied in terms of specific research questions and media type, the studies in this series all examined visual processing through the use of eye-tracking methodology. Other commonalities include a focus on social comparison theory and visual attention to high- versus low-anxiety body regions. In Study 3.1, I examine how social media use frequency predicts women’s visual processing of a self-photo, demonstrating that Instagram use frequency was related to visual attention to high-anxiety body regions. Study 3.2 used an experimental design to test how the presence of empowerment- or objectification-themed text moderated the effect of advertising visuals, indicating that the visual message presented in ETAs likely compromised the effectiveness of the empowerment-themed narrative. In Study 3.3, I paired thin-ideal Instagram imagery with text that either critiqued the photo’s unrealistic nature (Disclaimer Comment condition) or idealized and romanticized it (Idealized Comment condition). This study demonstrated that re-captioning interventions did not prevent increases in body dissatisfaction following exposure to thin-ideal Instagram images. Collectively these studies offer a multimodal framing approach to understanding the effects of text and imagery in

idealized media, and in turn, how visual attention relates to body image and feelings of empowerment.

### **Study 3 General Introduction**

Although researchers have yet to systematically study the unique and collaborative contributions of visual and textual media messages in the context of objectification, scholars in the broader field of communication have begun to theorize and describe different effects of imagery and text. One such theory is the Dynamic Human Centric Communications Systems Theory (DHCCST), which asserts that humans use similar cognitive resources to process media messages as they do other environmental stimuli (Lang, 2014). In this theory, Lang (2014) makes distinctions between environmental, representational, and symbolic stimuli.

Environmental stimuli are those that we think of as the “real world”—things that we can see, touch, smell, and taste. Representational stimuli are those that capture some, but not all, aspects of an environmental sensory experience. Photographs of landscapes or scented candles are examples of representational stimuli. Representational stimuli allow for a limited sensory experience (seeing a photograph or smelling a candle), but these experiences are one step removed from environmental stimuli. While representational stimuli offer a limited sensory experience, DHCCST predicts that our bodies process representational stimuli with identical systems to those used to process environmental stimuli. Finally, Lang (2014) describes symbolic stimuli, such as textual descriptions, as being one step removed from representations, and suggests that symbolic representations are processed cognitively rather than physiologically (i.e., they do not promote the same biological response as imagery).

In line with DHCCST, scholars have found that visuals lead to a stronger emotional response than text (Iyer & Oldmeadow, 2006). Powell, Boomgaarden, De Swert, and de Vreese

(2015) argued that it is important to consider both visual and textual framing, finding that the textual message of news stories influenced opinion regardless of the visual message. In contrast, they found that the visual message affected behavioral intentions irrespective of textual framing.

The studies presented in this chapter use eye-tracking technology to examine message processing, examining how textual framing of images relates to visual attention to high-anxiety body regions, felt empowerment, state self-objectification, and body dissatisfaction. Study 3.1 and Study 3.3 examine social media effects, specifically, how social media use relates to visual processing of a self-photo, and the effectiveness of disclaimer interventions for preventing body anxiety following exposure to idealized social media imagery. Similar to Study 1, Study 3.2 focuses on the effects of ETA exposure on women's self-objectification and feelings of empowerment, but this time using the AECL measure of felt empowerment validated in Study 2.

The following section describes the general procedure and participant demographics for all three studies. A baseline survey was conducted to gather pretest data on a variety of variables relevant to Studies 3.1, 3.2, and/or 3.3. Measures for all baseline variables are described in this section, whereas the posttest variables associated with each study are detailed in the method section of that study.

## **General Methods**

### **Procedure**

#### ***General Procedure***

This study was approved by the University of Michigan Health Sciences and Behavioral Sciences IRB before recruitment and data collection began. The baseline survey was completed online, at least one week prior to the lab session. The eye-tracking data for all three studies were collected in a single session. Study 3.2 included two text-only conditions without imagery.

Because of this, additional participants were recruited for a non-eye-tracking version of study 3.2 (described below in a separate section labeled “non-eye-tracking group”). Participants from both groups completed a survey with all pretest measures one week before the in-lab session. The in-lab sessions were completed as individual appointments.

### ***Eye-Tracking Group***

Eye-tracking sessions took place in a neutral office room containing two computers separated by a partition screen. Participants were seated at the computer closest to the door. The research assistant sat beside the wall. The partition allowed the research assistant to upload the photos necessary for the photo study and monitor data quality and study progress throughout the session. All research assistants involved in the study were women. They were instructed to wear drab-colored, loose-fitting clothing without text or logos, and to remove non-essential accessories such as jewelry and sunglasses. This was done to limit distractions and to avoid priming appearance awareness.

After signing the study consent form, the research assistant took photos of each participant from the front and the side. Both the participant and research assistant then returned to the research room. Participants were asked to take off any makeup and clean any glasses with eyeglass cleaner. The assistant then positioned the participant a fixed distance from the computer monitor and started a filler video with moving shapes to “rest the participant’s eyes” before the start of the study. The real purpose of the video was to give the research assistant time to load the participant photos into the eye-tracking software for use in Study 3.1 (the self-photo study). The research assistant ended the video and proceeded to calibrate the eye tracker once she finished uploading the photos.

To calibrate the eye tracker, participants were asked to follow the image of a red dot across the screen with their eyes, keeping their heads as still as possible. If the initial calibration

was unsuccessful, the research assistant repeated the task up to two additional times, explaining that the eye tracker had missed calibration points. Participants then continued with the prompting on the screen, with the instruction that they did not need to stay perfectly still during the study, but that they should try not to move too much (for example, they should not lean on their hand, put their head down, or lean toward the screen). Specific procedural instructions associated with each experiment were provided on-screen during the study.

### ***Non-Eye-Tracking Group***

Participants in the non-eye-tracking group also completed the sessions in individual, in-person appointments at least one week following completion of the online baseline survey. The procedure was similar to that of the eye-tracking group, but there was no eye-tracker device present and no calibration. These participants were not photographed and only completed the advertising module of the study (Study 3.2).

## **Participants**

### ***Eye-Tracking Group***

Participants for the eye-tracking portion of the study were recruited from the University of Michigan Health Research pool website. This website connects participants interested in volunteering for research studies with researcher teams seeking volunteers. The study was posted as a “Fashion Study” examining the visual processing of advertisements and social media posts. Women ages 18-35 were eligible to participate. A total of 218 participants completed the pretest measure, and 190 of these participants completed the in-person session. Roughly 20% of the 190 recordings were flagged for a data quality issue (less than 70% of gaze recorded; noticeable offset when reviewing the recordings; or less than 30% of exposure time recorded as fixations). Most eye-tracking studies are published without the inclusion of data quality criteria, which makes it difficult to standardize quality metrics across studies. The criteria used in the current

study were chosen to balance quality data with conservative elimination of participants. Eye-tracking quality metrics were calculated on a study-by-study basis, and as such the specific number of participants varied slightly for each study. The number of participants who passed eye-tracking quality criteria in each condition was roughly the same. The eye-tracking sample in Study 3.2 is substantially lower than in the other studies. This discrepancy is due to a procedural error in which a group of participants ( $N = 49$ ) saw stimuli in Study 3.2 for an incorrect amount of time. Data from these participants were eliminated from Study 3.2 but retained for studies that were unaffected by the procedural error.

Of the 157 participants who completed the eye-tracking study with data that passed the quality control standards, 48 (30%) were 18-19 years old, 46 (29%) were 20-24, 44 (28%) were 25-29, and 20 (13%) were 30-35. The average age of the sample was 23.41 ( $SD = 4.95$ ). One hundred and eight (69%) participants were white (non-Hispanic), 10 (6%) were biracial/multiracial, 7 (4%) were African American/black, 12 (8%) were Hispanic/Latino/a, 14 (9%) were Asian/Asian-American, 3 (2%) were Pacific Islander/Native Hawaiian, and 4 (3%) selected the “other” category. Most ( $N = 79$ , 50%) reported that they had completed “some college.” Only 6 participants (4%) reported that their highest level of education was high school, 28 (18%) were college graduates, 12 (8%) had completed some graduate school, and 33 (21%) had completed a graduate degree. Participants reported their height and weight, and responses to these items were used to calculate participant BMI. The average BMI was in the normal range ( $M = 24.48$ ,  $SD = 5.54$ ), with 2 (1%) participants indicating underweight BMIs ( $< 18.5$ ), 108 (69%) in the normal range (BMI 18.5-24.9), 25 (16%) overweight (BMI between 25.0-29.9), and 22 (14%) obese (BMI = 30+).

### ***Non-Eye-Tracking Group***

Ninety-two participants were recruited for the non-eye-tracking conditions in Study 3.2. Of these participants, 30 (33%) were 18-19 years old, 40 (43.9%) were 20-24, 15 (16%) were 25-29, and 6 (7%) were 30-35. A single participant did not provide her age. The average age in the sample was 22.08 ( $SD = 4.29$ ). Sixty-three (67.7%) participants were white (non-Hispanic), 4 (4.3%) were biracial/multiracial, 3 (3.2%) were African American/black, 5 (5.4%) were Hispanic/Latino/a, 16 (17.2%) were Asian/Asian-American, and 1 (1.1%) selected the “other” category. Most of the sample ( $N = 46$ , 49.5%) had completed “some college.” Only 12 participants (12.9%) reported that their highest level of education was high school, 14 (15.1%) were college graduates, 9 (9.7%) had completed some graduate school, and 11 (11.8%) had completed a graduate degree.

### **Baseline Measures**

#### ***Body Anxiety***

Baseline body anxiety was measured in the online baseline survey. Participants responded to the Physical Appearance Trait Anxiety Scale (PASTAS) (Reed, Thompson, Brannick, & Sacco, 1991) to indicate the extent to which they *generally* felt nervous about the appearance of 16 body parts. Response options ranged from 1 (*Not at all*) to 5 (*Exceptionally*). The average score across the items was 2.03 ( $SD = .68$ ). Body regions that participants reported as either 1 (*Not at all*) or 2 (*A little*) were considered to be low-anxiety body regions, and those labeled 3 (*A moderate amount*) to 5 (*Exceptionally*) were considered to be high-anxiety body regions. This cutoff was chosen based on the median score ( $Mdn = 1.94$ ) and construct validity based on the response-option label. The reliability of this scale was good (Cronbach’s  $\alpha = .88$ ),



and average scores for individual items ranged from 1.13 (*Ears*) to 3.23 (*Stomach*); ( $M = 1.99$ ,  $SD = .42$ ).

### ***Body Dissatisfaction***

The body dissatisfaction subscale of the EDI-3 (Garner, 2004) was used to measure baseline body dissatisfaction. This subscale consists of nine statements about the shape of participants' stomach, thighs, buttocks, and hips. Sample items include "I think my stomach is too big" and "I feel satisfied with the shape of my body" (reverse-coded). Response options range from 1 (*Never*) to 6 (*Usually*). The final score reflects an average of all scale items. The mean score in this sample was 3.52 ( $SD = .97$ ;  $Mdn = 3.56$ ), and the reliability of the scale was good (Cronbach's  $\alpha = .85$ ).

### ***Drive for Thinness***

The Drive for Thinness subscale of the EDI-3 (Garner, 2004) was used to measure baseline drive for thinness. Participants responded to seven items that asked how much each item applied to them on a scale of 1 (*Never*) to 6 (*Always*). Sample items include "I think about dieting" and "I am terrified of gaining weight." Composite scores from this sample ranged from 1.57 to 5.86 ( $M = 3.39$ ,  $SD = 1.01$ ,  $\alpha = .81$ ).

### ***Felt Empowerment***

The 24-item Affective Empowerment Checklist (AECL-24) from Study 2 was used to measure felt empowerment at baseline. Participants indicated the extent to which they felt that each adjective *typically* described them from 1 (*Not at all*) to 7 (*A great deal*). Twelve of the adjectives represented empowerment words (e.g., empowered, mighty, capable) and 12 represented disempowerment words (e.g., timid, ineffective, exploited). Final scores were calculated by subtracting the total score for disempowerment words ( $M = 30.18$ ,  $SD = 10.88$ ,  $\alpha = .89$ ) from the total score for empowerment words ( $M = 54.29$ ,  $SD = 11.53$ ,  $\alpha = .91$ ). Possible

scores ranged from -72 to 72; the mean score in this sample was 24.84 ( $SD = 20.31$ ), indicating relatively greater empowerment than disempowerment at baseline.

### ***Physical Appearance Comparison***

Baseline appearance comparison tendencies were measured using the Physical Appearance Comparison Scale (PAC-R) (Schaefer & Thompson, 2014). The 11-item scale references appearance comparison in several contexts, including general public contexts and more specific contexts such as work or school or shopping for clothing. Sample items include “When I’m out in public, I compare my physical appearance to the appearance of others” and “When I meet a new person (same sex), I compare my body size to his/her body size.” Participants responded on a scale of 1 (*Never*) to 5 (*Always*). Composite scores from this sample ranged from 1 (*Low*) to 5 (*High*) ( $M = 3.02$ ,  $SD = 1.00$ ,  $\alpha = .96$ ).

### ***Media Use Frequency***

For social media use frequency variables, I had participants indicate the number of minutes they spent on Instagram and Facebook on a typical weekday and weekend day, broken into morning, afternoon, and evening times. This procedure is similar to media activity variables used by Harrison (2000a) and Harrison and Liechty (2012). Response options ranged from 0 minutes to 5+ hours (coded as 300 minutes). The average participant in this sample reported spending an average of 26 minutes per day on Instagram ( $SD = 50.15$ ) and 37 minutes on Facebook ( $SD = 70.56$ ). When looking exclusively at individuals who reported at least some Facebook use (97%,  $N = 154$ ), participants reported an average of 38 minutes ( $SD = 71.22$ ) of use per day. Likewise, when looking at individuals who reported at least some Instagram use (87%,  $N = 140$ ), participants reported an average of 29 minutes ( $SD = 52.37$ ) of use per day.

Daily television use frequency was measured using the question, “About how many minutes or hours do you usually watch television with commercials,” asked for a typical

weekday and weekend day, broken into morning, afternoon, and evening times. Response options ranged from 0 minutes to 5+ hours (coded as 300 minutes). Participants in the sample reported spending an average of 34.55 min ( $SD = 65.92$ ) watching television. When looking exclusively at individuals who reported at least some television use (91%,  $N = 144$ ), participants reported an average of 37.67 min ( $SD = 67.98$ ) of use per day.

### ***Sociocultural Attitudes Towards Appearance***

The Sociocultural Attitudes Towards Appearance Questionnaire (*SATAQ-4*) (Schaefer, Burke, Thompson, & Dedrick, 2015) was used to measure the extent to which participants felt pressure to improve appearance from a variety of sources. Subscales included pressure from peers (e.g., close friends, classmates, other social contacts), media (e.g., television, magazines, the Internet, movies, billboards, and advertisements), and family (e.g., parents, brothers, sisters, relatives). Scores ranged from 1 (*Definitely disagree*) to 5 (*Definitely agree*). I added an adapted version of the media measures to reflect pressure from social media (e.g., Facebook, Instagram, SnapChat, Twitter, etc.). Sample items included “I get pressure from my peers to decrease my level of body fat” and “I feel pressure from the media to look thinner.” Scores for each subscale were calculated by averaging the responses in each subscale. The means and alphas for the subscales were as follows: Peers:  $M = 1.99$ ,  $SD = 1.01$ ,  $\alpha = .90$ ; Social Media:  $M = 3.56$ ,  $SD = 1.16$ ,  $\alpha = .92$ ; Media:  $M = 3.62$ ,  $SD = 1.12$ ,  $\alpha = .94$ ; and Family:  $M = 2.47$ ,  $SD = 1.20$ ,  $\alpha = .89$ . The baseline SATAQ measure was identical to the one used in the posttest survey (see study 3.3 Methods), but was obtained one week prior to the study to avoid sensitizing participants to the purpose of the study.

### ***Trait Self-Objectification***

Trait self-objectification was measured using the Self-Objectification Questionnaire (Fredrickson et al., 1998), which has participants rank-order 10 statements about their physical self-concept in order of personal importance. This questionnaire included statements representing functional values (e.g., “When considering your physical self-concept, what rank do you assign to physical coordination?”) as well as statements that represented aesthetic values (e.g., “When considering your physical self-concept, what rank do you assign to physical attractiveness?”). The final score was created by subtracting the sum of competency items from appearance items. Scores ranged from -25 to +25, with positive scores representing higher importance placed on appearance, which can be interpreted as higher trait self-objectification. For this sample, the mean score was -2.92 ( $SD = 13.64$ ).

### ***Eye Tracking***

Participants’ eye movements were recorded in Tobii Studio (Version 3.3.1.757; Tobii Technology AB, 2015) at a sampling rate of 60 Hz using a remote eye tracker (Tobii X2-60 Compact Edition; Tobii Technology, Inc.) affixed to a 21.5-inch computer monitor set to 1920 x 1080 resolution. The Tobii X2-60 eye tracker uses a dual-camera system to automatically select dark or bright pupil tracking based on superior performance during calibration. All participants completed a nine-point calibration procedure. This eye tracker does not require the use of chin rests, and therefore allows for a natural viewing position within a designated region of space in front of the eye tracker (a 20- by 14-inch area at a distance of approximately 27.5 inches from the monitor).

### **Study 3.1 Overview**

Study 3.1 used eye-tracking methods to examine how 157 women aged 18-35 processed a self-photo, measuring visual attention to self-reported high- and low-anxiety body regions. Research links social media use with greater body dissatisfaction and appearance comparison, demonstrating that photo-based behaviors such as taking and posting ‘selfies’ may lead to greater risk of body image disturbance (Cohen, Newton-John, & Slater, 2017). Social media users frequently interact with photos of themselves online as they engage with social media platforms. When looking at a self-photo, individuals can selectively focus attention on body regions that are self-reported as attractive or unattractive; attention to unattractive regions has been associated with increased body dissatisfaction (Smeets et al., 2011). Likewise, body dissatisfaction is a predictor of selective attention to self-reported unattractive regions (Lykins, Ferris, & Graham, 2014), suggesting a reinforcing cycle.

### **Study 3.1 Introduction and Hypotheses**

Social media sites have been classified as either highly-visual social media or low-visual social media (e.g., Marengo, Longobardi, Fabris, & Settanni, 2018). Sites such as Instagram and Snapchat, which focus primarily on imagery, are considered to be highly-visual social media. In contrast, sites such as Facebook and Twitter primarily focus on text and are considered to be low-visual social media (Marengo et al., 2018). Highly visual social media are almost entirely photo-based, and therefore may encourage more frequent engagement in appearance-related behaviors than low visual social media. Highly visual social media also lead to greater feelings

of intimacy than text-based platforms, as they simulate a social experience that is less abstract and more similar to real life (for a more thorough explanation, see Pittman & Reich, 2016).

Instagram is a highly-visual social media platform owned by Facebook and used for photo and video sharing. It is of particular interest to body image scholars due to its emphasis on aesthetic content and the prevalence of photo editing through the site's smartphone camera app (Fardouly & Vartanian, 2016). Instagram allows users to post digitally edited photos that can then be viewed, "liked," and commented on by others in their social network. Whereas Facebook allows for text-based status updates without visual images, Instagram is a visual platform that requires any textual content to be paired with a photo.

Perhaps in part due to this emphasis on visual imagery, Instagram is a popular site for sharing "selfie" photos. "Selfies" describe self-photos that are typically taken with a smartphone and posted online. The prevalence of selfies on social media has rapidly become a cultural phenomenon, with the Oxford Dictionary recognizing the term as the word of the year in 2013. Researchers have described a variety of motivations for posting a selfie, including attention-seeking and entertainment (Sung, Lee, Kim, & Choi, 2016). Notably for the current study, prior research has found that selfie posting may encourage social comparison behaviors (Chae, 2017).

Many studies use social comparison theory as a mechanism for understanding body image disturbances in response to social media use. However, the current study is among the first to use eye-tracking methods to compare attention to high- versus low-anxiety body regions in relation to social media activity. Eye-tracking data provide researchers with a relatively objective measure of attention to high-anxiety body regions versus low-anxiety body regions. This information can be used to improve understanding of social comparison processes as they occur during real-time use of social media. The current study also loosely replicates prior work on how

body-dissatisfied individuals visually process appearance-relevant material (Glashouwer, Jonker, Thomassen, & de Jong, 2016; Janelle et al., 2003; Jansen et al., 2005; Rodgers & DuBois, 2016), while expanding what researchers know about how gaze patterns differ as a function of social media activity.

Physical appearance comparison seems to be an important mechanism underlying the relationship between Facebook use frequency and body dissatisfaction. Specifically, making appearance comparisons on Facebook predicts body image concerns (Fardouly & Vartanian, 2015; Smith et al., 2013) and appearance comparison frequency may be a better predictor of body image outcomes after using social media than general use without appearance comparisons. Modica (2019) found that while Facebook appearance exposure, which he operationalized as photo-related activities, was positively correlated with body surveillance in a sample of adult women aged 20 to 72, Facebook appearance comparison was the only variable that was significantly related to body esteem. Similarly, Kim and Chock (2015) reported that appearance comparison mediated the relationship between specific activities such as viewing and commenting on peers' profile pictures and increased drive for thinness.

Social comparison as a predictor of body dissatisfaction has been demonstrated using both cross-sectional (Myers & Crowther, 2009) and longitudinal data (Rodgers et al., 2015). Using a longitudinal design, Rodgers et al. (2015) found that social comparison frequency measured in the eight month of the study predicted body dissatisfaction levels six months later. Physical appearance comparison seems to mediate the relationship between Instagram use and body dissatisfaction as well, with greater Instagram use frequency leading to greater appearance comparison, and appearance comparison in turn predicting body dissatisfaction (Hendrickse, Arpan, Clayton, & Ridgway, 2017).

When calculating the direction and magnitude of a social comparison, there are two important evaluations that must be made: evaluation of the self, and evaluation of the other (i.e., the comparison target). Overestimation in an upward comparison can occur either by a) over-valuing the other, or b) under-valuing the self. Currently, most social comparison research on media and body image focuses on the former, examining how exposure to idealized stimuli in traditional media affects body image. Social media may lead to some over-evaluations of comparison targets, due to posters' ability to filter out unattractive photos and enhance attractiveness via photo-editing, but as a whole they should provide more realistic comparisons than traditional media, because users include a mix of acquaintances and celebrities. Because of this, evaluations of the self on social media may be especially important.

Social media use has been associated with more frequent appearance comparisons (Cohen et al., 2017), and longitudinal research has shown that appearance comparisons predict body dissatisfaction (Rodgers et al., 2015). Other studies have tested physical comparison as a mediator between social networking site use and body dissatisfaction, finding strong support (Hendrickse et al., 2017; Ryding & Kuss, 2019). As described above, body dissatisfaction has in turn been shown to predict attention to high-anxiety body regions on a self-photo using eye tracking. Because of this, I suggest the following hypotheses:

H1a: Body-satisfied individuals will selectively fixate on self-reported low-anxiety body regions when viewing a self-photo.

H1b: Body-dissatisfied individuals will selectively fixate on self-reported high-anxiety body regions when viewing a self-photo.

H2: Social media use frequency will predict attention to high-anxiety body regions (i.e., upward comparisons) after controlling for trait body dissatisfaction.



H3: Physical appearance comparison and body dissatisfaction will serially mediate the relationship between social media activity and attention to high-anxiety body regions.

RQ: Will Instagram and Facebook use frequency differently predict attention to high- vs low-anxiety body regions?

### **Study 3.1 Method**

#### **Procedure**

As described in the general study procedure section, participants were photographed prior to calibrating the eye-tracker. Participants were taken to a neutral colored wall in the research room and instructed to stand centered over an “x” on the ground with feet shoulder-width apart. They were then asked to put their hands on their hips and to face the camera. If participants asked whether or not they should smile, they were instructed to do whatever was most comfortable for them. The research assistants were instructed not to comment on the quality of the photo. However, if the photo was especially unflattering (e.g., photo taken before the participant was ready), they were told to say, “I think you might have blinked. Let’s take it again” and to take another photo. This was done to control for photo quality across participants. Photos were then uploaded into Tobii by the research assistant. Following calibration, each participant viewed the self-photo for 20 seconds while an eye tracker recorded their eye movements. Following 20 seconds, the program automatically advanced to the next study module (Study 3.2).

#### **Participants**

Of the 190 data recordings, 34 (18%) were flagged for a data quality issue in Study 3.1 (less than 70% of gaze recorded; noticeable offset when reviewing the recordings; or less than 5

seconds recorded total fixation time), which left 157 recordings that passed the quality control standards.

## **Baseline Measures**

Baseline measures were gathered in the pretest survey taken 1-week prior to the lab session. Media use frequency was measured by asking participants to report activity on Facebook, Instagram, and Television on a typical weekday and weekend day, broken into morning, afternoon, and evening times. Body dissatisfaction and drive for thinness were measured with the EDI-3 (Garner, 2004); body anxiety with the PASTAS (Reed et al., 1991); and physical appearance comparison with the Physical Appearance Comparison Scale (PAC-R) (Schaefer & Thompson, 2014).

## **Participant Gaze Metrics**

### ***Photo Tagging***

Polygonal Areas of Interest (AOIs) were specified for each image (example included in Figure 4.1-1). Each person's body shape is different, and thus AOIs varied slightly based on body shape. Each participant's photo was tagged for the following regions: face, hair, chest, arms, waist, hips, upper legs, and lower legs (see Appendix D for detailed coding instructions). The person variable included the outline of the individual and the space between the arms and thighs, if applicable (the body negative AOI). These body negative regions are important for evaluating thinness, as they mark where body regions begin and end, and thus were included as part of the person variable. Baseline responses on the PASTA scale (Reed et al., 1991) were used to classify participants' individual body parts (face, stomach, hips, thighs, and legs) as low-anxiety (*Not at all* or *A little bit*) or high-anxiety (*Moderate amount* to *Exceptionally*). Attention

scores for these regions were summed to create a composite measure for total attention to low- and high-anxiety body regions.

### **Data Analysis Strategy**

Bivariate regression was used to evaluate H1a and H1b, whether baseline body dissatisfaction predicted visual attention to high-anxiety and low-anxiety body regions. For these analyses, baseline body dissatisfaction was used as the predictor variable, and visual attention variables were entered as criterion variables. Following this, a regression model controlling for trait body dissatisfaction estimated the extent to which social media use frequency (Instagram or Facebook) was related to visual attention to low- and high-anxiety body regions. Finally, two models were created using PROCESS Model 6 to test the serial mediation models suggested in Hypothesis 3. The PROCESS plugin (Hayes, 2018) is an alternative to structural equation modeling that allows researchers to easily calculate direct and indirect effects of moderation and mediation models.

## **Study 3.1 Results**

### **Preliminary Analyses**

#### ***Descriptive Statistics***

Means and standard deviations for eye-tracking variables are presented in Table 4.1-1. On average, participants spent the most time looking at the face (31%), followed by the chest (20%), thighs (9%), waist (7%), hips (7%), arms (5%), hair (5%), lower legs (4%), shoes (3%), and spaces between arms and legs (body-negative spaces) (3%) in descending order.

#### ***Correlations Between Key Variables***

Zero-order correlations for key variables are presented in Table 4.1-2. Trait body satisfaction was not significantly correlated with either Instagram or Facebook use frequency.

Use of the two social media platforms was significantly and positively correlated, indicating that individuals who used Instagram also tended to use Facebook. Instagram use frequency, but not Facebook use frequency, was correlated with increased drive for thinness, and increased physical appearance comparison.

## **Hypothesis Testing**

### ***Trait Body Dissatisfaction and Selective Attention***

In support of H1a, baseline body dissatisfaction, standardized from 0 to 1, predicted visual attention to low-anxiety body regions ( $B = -.371, SE = 1.674, r^2 = .137, p < .001$ ). Baseline body dissatisfaction also predicted visual attention to high-anxiety body regions ( $B = .522, SE = 1.068, r^2 = .272, p < .001$ ), supporting H1b. Baseline body dissatisfaction did not predict visual attention to the unclassified regions ( $B = -.105, SE = .978, r^2 = .011, p = .192$ ).

### ***Social Media Use Frequency***

A hierarchical regression was performed to test whether social media use was related to visual attention to high-anxiety body regions (Table 4.1-3). For this model, social media activity was entered as a predictor, and attention to high-anxiety body regions was entered as the criterion variable. The first step of the model only included trait body dissatisfaction. This initial step was significant ( $F(1, 155) = 58.03, p < .001, r^2 = .27$ ), indicating that trait body dissatisfaction accounted for approximately 27% of the variance in attention to high-anxiety body regions. Daily television use was entered on the second step of the model. This step was not significant ( $F(1, 154) = 1.00, p = .319, r^2_{\text{change}} = .01$ ), indicating that TV use was not related to visual attention towards high-anxiety body regions.

Average reported daily use of Instagram and Facebook were entered in Step 3 of the model. This step was also significant ( $F(2, 152) = 5.11, p = .007$ ), supporting H2 and explaining an additional 5% of the variance in attention to high-anxiety body regions. Instagram use

frequency predicted visual attention to high-anxiety body regions ( $\beta = .29, p = .002$ ), but Facebook use frequency did not ( $\beta = -.13, p = .132$ ). Trait body dissatisfaction remained significant in this model ( $\beta = .51, p < .001$ ), and TV exposure remained nonsignificant ( $\beta = -.02, p = .824$ ).

### ***Serial Mediation Models***

Serial mediation hypotheses were tested using Hayes's model 6 from PROCESS Version 3.2.03, using 10,000 bootstrap simulations to test total, direct, and indirect paths (Hayes, 2018). Unstandardized betas are reported here, as per Hayes's (2018) suggestion. In Model 1 (Figure 4.1-2), daily Instagram use frequency was entered as the predictor variable, with attention to high-anxiety body regions entered as the criterion variable. Physical appearance comparison and body dissatisfaction were entered as serial mediators. Model 2 was identical to Model 1, but included Facebook use frequency in place of Instagram use frequency (Figure 4.1-3).

H3 predicted that physical appearance comparison and trait body dissatisfaction would serially mediate the relationship between Instagram use frequency and visual attention to high-anxiety body regions. As presented in Figure 4.1-2, I proposed a 3-step mediation model whereby Instagram use frequency predicts increases in participants' physical appearance comparison, which in turn predicts increased body dissatisfaction, which predicts visual attention to high-anxiety body regions. Accordingly, Instagram use frequency was entered as the predictor variable (X), physical appearance comparison (M1) and body dissatisfaction (M2) were entered as mediators, and visual attention to high-anxiety body regions was entered as the criterion variable (Y).

Results for the serial mediation model with Instagram as the predictor variable can be found in Table 4.1-4. As hypothesized, the path through the mediators was significant, with

scores on the physical appearance comparison scale increasing an average of .4 points for every additional 100 minutes of Instagram use ( $t(156) = 2.51, p = .013$ ). In turn, for each point that a participant's score on the physical appearance comparison scale increased, their body dissatisfaction increased by an average of .51 points ( $t(155) = 7.57, p < .001$ ). Finally, for every point of increase in body dissatisfaction, participants spent an average of 1.19 additional seconds fixated on high-anxiety body regions ( $t(154) = 5.00, p < .001$ ). The direct path between Instagram use frequency and attention to high-anxiety body regions remained significant when accounting for the indirect path ( $t(153) = 2.43, p = .016$ ), indicating partial mediation. These findings partially support H3, which predicted that physical appearance comparison and body dissatisfaction serially mediated the relationship between Instagram use frequency and visual attention to high-anxiety body regions. An alternative model was tested that reversed the order of the mediators, but body dissatisfaction as a mediator for the relationship between Instagram use frequency and physical appearance comparison was not significant, indicating poor fit.

A parallel analysis was conducted with Facebook use frequency entered as the predictor variable with results displayed in Figure 4.1-3. The direct path between Facebook use frequency and visual attention to high-anxiety body regions was not significant, nor was there a significant pathway between Facebook use frequency and physical appearance comparison, the first mediator,  $B = -.000$ , 95% CI  $[-.002, .002]$ . This indicates that physical appearance comparison did not mediate the relationship between Facebook use frequency and visual attention to high-anxiety body regions, rejecting H3 for Facebook use.

### **Study 3.1 Discussion**

Upward social comparisons, in which an individual evaluates themselves as being less attractive than a target individual on traditional or social media, have been associated with

greater body dissatisfaction than other comparison directions (Kim & Chock, 2015; Tiggemann & Polivy, 2010). Prior studies on media and body image have largely measured social comparisons through self-report survey methods, but the eye-tracking method used in this study provides a way to measure automatic visual attentional differences to high- versus low-anxiety regions on a self-photo. This study also brings attention to the importance of self-evaluations in social comparisons, a process largely overlooked in prior research. Additionally, while several prior studies have examined the relationship between trait body dissatisfaction and attention to high-anxiety body regions, the current study is among the first to explore how visual attention to high-anxiety body regions differs based on social media use. In sum, the results of this study: 1) loosely replicate prior work linking body dissatisfaction with attention to high-anxiety body regions on a self-photo; 2) link Instagram use frequency, but not Facebook use frequency, with attention to high-anxiety regions; and 3) implicate social comparison processes and body dissatisfaction as serial mediators in this relationship.

Similar to prior findings on visual attention and body dissatisfaction, individuals in this study who were more body satisfied selectively attended to body regions that they rated as low anxiety, and visually avoided high-anxiety regions. In contrast to this, body-dissatisfied individuals did not practice the same avoidance of high-anxiety regions as body-satisfied individuals, spending nearly as much time looking at high-anxiety as low-anxiety body regions. Both of these findings are in line with prior research on body dissatisfaction and visual attention to a self-photo (Glashouwer et al., 2016; Janelle et al., 2003; Jansen et al., 2005).

Interestingly, this study indicated that Instagram use frequency, but not Facebook use frequency, predicted increased attention to high-anxiety body regions. As discussed in the introduction, whereas Facebook includes a variety of textual and photo-based content, Instagram

is a photo-based platform that rewards users for creating visual content that is aesthetically-pleasing. This may lead to increased opportunities for appearance-related behaviors on Instagram, behaviors which are particularly likely to lead to body dissatisfaction when using social media (Saiphoo & Vahedi, 2019). As individuals use Instagram, it is possible that they begin to prioritize an observer's perspective—devoting special attention to body regions that they perceived others would judge as unattractive. This suggestion is in line with the argument presented in objectification theory (Fredrickson & Roberts, 1997).

Images of our bodies may be more commonly encountered on social media than in “real” life, offering a visual reminder of appearance and repeated opportunities for self-evaluation within the context of social comparisons. Prior research has indicated that visual attention to high-anxiety body regions has implications for body image. While post-exposure outcomes were not measured in this study, other research has indicated that body-checking behaviors in non-clinical samples are associated with increased body dissatisfaction (Stefano, Hudson, Whisenhunt, Buchanan, & Latner, 2016) and negative body-related emotions (Kraus, Lindenberg, Zeeck, Kosfelder, & Vocks, 2015). An experiment by Smeets et al. (2011) primed participants to either focus on their self-reported attractive or unattractive body regions, and found that focusing on high-anxiety body regions led to lower body dissatisfaction, with medium effect sizes ( $d = .57$ ). Thus, visual attention likely has an impact on post-exposure body satisfaction. Having higher body dissatisfaction may lead an individual to focus more on unattractive body regions, creating a reinforcing cycle in which body dissatisfaction is lowered even further.

Visual attention may be an indicator of cognitive attention (Just & Carpenter, 1980), potentially demonstrating that the individuals in this sample who were visually focused on high-



anxiety body regions were focusing on ‘problematic’ body regions during self-evaluations. While measuring visual attention does not allow for direct inferences about cognition, the eye-mind hypothesis suggests that visual attention is a fairly automatic process and visual and cognitive attention are strongly coupled (Just & Carpenter, 1980), especially during complex tasks such as reading (Rayner, 1998). Thus, it is likely that individuals who are visually focusing on high-anxiety body regions would consider these high-anxiety regions more heavily when making social comparisons motivated with the goal of self-enhancement or self-evaluation.

Instagram users who show an attentional preference to high-anxiety body regions may begin to undervalue the self when making social comparisons. This suggestion would be in line with the findings of Fardouly et al. (2017) that comparisons on social media lead to larger perceived discrepancies between the self and others in upward comparisons as compared to in-person comparisons. If participants are engaging with social media platforms with the intention of self-evaluation or self-enhancement, these upward social media comparisons may be especially harmful for body satisfaction (Knobloch-Westerwick, 2015).

This study also measured the mechanisms explaining the relationship between Instagram use frequency and visual attention, specifically examining appearance comparison and body dissatisfaction as potential serial mediators. Research shows that physical appearance comparison serves as a mediator between Instagram photo-based activity and body dissatisfaction (Hendrickse et al., 2017). This relationship was supported in the current study as well, with physical appearance comparison and body dissatisfaction serving as partial serial mediators between Instagram use frequency and high-anxiety body region attention. Specifically, the findings of this study suggest that reporting greater Instagram use was associated with more physical appearance comparison, which then in turn was associated with greater body

dissatisfaction, which then in turn was associated with attention to high-anxiety body regions. Facebook, a low-visual social media platform (Marengo et al., 2018), was not associated with increases in physical appearance comparison, potentially due to the fact that photo activity and aesthetic appeal are less emphasized on this low visual social media platform.

Media use is driven by uses and gratifications, and thus it is possible that individuals who engage with Instagram do so specifically for the content affordances that allow for frequent upward social comparisons. A study by Sheldon and Bryant (2016) found that surveillance/knowledge about others was a primary motivation for Instagram use, with participants using the site to see what others are doing. An alternative model where Instagram use predicted body satisfaction was used to test the suggestion that physical appearance comparison would instead predict Instagram use, which would in turn predict body dissatisfaction and visual attention. This alternative model was also significant, indicating that Instagram may offer affordances for physical appearance comparison that would make it particularly appealing for individuals seeking these comparisons. Future work should continue to examine the order and direction of these relationships.

Highly visual social media channels such as Instagram encourage women to engage in upward social comparisons (e.g., Fardouly et al., 2017), which may then be used for self-evaluation. Because of this, Instagram users may be encouraged to selectively monitor the areas of their body that cause them anxiety, both in the self and other. For example, when evaluating whether or not a photo is flattering, individuals may have particular areas that they monitor to predict others' reception to the photo. Similarly, they may look to these regions on others to establish a goal or an ideal to be modeled, a suggestion that should be tested in future research.

### **Study 3.1 Limitations and Future Directions**

This study provides an initial investigation into social media activity as a predictor of the visual processing of self-photos, but it is not without limitations. All variables with the exception of eye-tracking measures were measured in a cross-sectional survey taken at baseline at least one week prior to the in-person study session. While this confirms that the eye-tracking procedure did not influence the individual difference variables measured, causal inferences cannot be made between variables measured simultaneously in the pretest survey. For example, trait body dissatisfaction was measured prior to eye tracking in this study, which provides evidence of the ways in which trait body dissatisfaction predicts visual attention, but does not provide an indication of changes in body dissatisfaction after photo viewing.

While the order of the mediators in the serial mediation model is supported by theory from other papers (e.g., Hendrickse et al., 2017), these variables were measured simultaneously in this study, and thus causal order cannot be determined. This serial mediation model indicated good fit for the data, and the inclusion of body dissatisfaction in the model as a predictor of attention to high-anxiety body regions is supported by prior research, but the results of Model 4.1-3 indicated that physical appearance comparison could also serve as a direct mediator between Instagram use frequency and attention to high-anxiety body regions. Additionally, it may be that appearance comparison tendency predicts Instagram use, which in turn predicts body dissatisfaction, and in turn predicts visual attention to high-anxiety body regions.

Prior research supports the use of physical appearance comparison as a mediator between Instagram use and body dissatisfaction (Hendrickse et al., 2017; Ryding & Kuss, 2019), but alternative variable orders cannot be ruled out due to the cross-sectional nature of data collection. Future work should use experimental design or more long-term longitudinal methods to further

test the causal relationships between the mediators. The majority of individuals in this sample reported use of both Facebook and Instagram, though the degree to which they used each platform varied substantially. As use of Facebook and Instagram were highly correlated, and these variables were not measured in an experimental design, further limiting the ability to make causal claims from the data presented. Future work should use experimental design to further test the causal relationships between the mediators.

Another limitation of this study is the use of a general sample instead of a sample exhibiting disordered eating behaviors. While this expands our understanding of how the gaze of non-disordered individuals differs in relation to social media use, these results may not extend to women with eating disorders. Additionally, unlike prior research, where individuals were instructed to wear only underwear for the self-photo (i.e., Smeets et al., 2011), participants in the current study were instructed to wear typical clothing, and at times coders were not able to make reliable distinctions in areas such as the thighs/legs due to dresses, skirts, or baggy pants. Participants were instructed to take off their outerwear (e.g., coats and scarves) but data collection occurred primarily in the winter months in a cold climate, so bulky clothing was not uncommon. Participants' choice of clothing (and form-fittingness/skin exposure) may have varied systematically based on trait body dissatisfaction, a key variable of interest in the study. Future research should consider replicating this study with more standardized participant clothing so that all participants display a similar amount of exposed skin.

When designing stimuli for use in eye-tracking studies, areas of interest (AOIs) must be spaced as far as possible from one another to avoid misclassification due to measurement error. The stimuli for Study 3.1, and all studies in this chapter, were designed to maximize the distance between AOIs whenever possible (e.g., the distance between text and model), but it is not

possible to separate body regions from one another without compromising the ecological validity of the stimuli. This proximity of AOIs may have compromised my ability to reliably make distinctions between adjacent AOIs (such as the bottom of the waist region and the tops of the hips). Finally, visual attention can be used, to some extent, as a non-invasive proxy measure for cognitive attention (Just & Carpenter, 1980). An important limitation associated with all eye-tracking studies is that eye-tracking data alone do not allow researchers to tell *what* participants were thinking as they viewed the photo, only *where* they were focusing their attention.

### **Study 3.1 Conclusion**

The current study demonstrates that greater use frequency on Instagram, but not Facebook, predicted attention to high-anxiety body regions, a relationship that was serially mediated to some extent by physical appearance comparison and body dissatisfaction. As a highly visual social media platform, Instagram encourages users to visually focus on body regions they may be anxious about, potentially due to increased importance placed on physical appearance comparison. Attention to self-reported unattractive body regions has been associated with increased body dissatisfaction (Smeets et al., 2011), and thus focusing on these regions may lead to further body dissatisfaction and more extreme upward comparison evaluations due to under-valuing appearance of oneself. Future work should examine the association between attention to high-anxiety body regions and evaluations of personal attractiveness in a social comparison context.

### **Study 3.2 Overview**

Study 3.2 examines visual processing of empowerment-themed advertisements (ETAs). The effect of exposure to objectifying imagery on women's body image has been established in prior research, but objectification theory does not consider the visual processing associated with these outcomes. Additionally, scholars have little understanding of how objectification interacts with other message themes such as empowerment. Study 3.2 uses an experimental design and eye tracking to examine 186 female participants' processing of advertisements that contained combinations of empowerment and objectifying text paired with the same visuals, to examine how the presence of text, and what kind, moderates the effect of a consistent set of model photographs that could reasonably accompany both objectifying and empowering text captions. Results indicated that caption-only conditions (empowerment and objectification) led to greater feelings of empowerment than the conditions that contained a photo. Textual framing of the images as empowering versus objectifying did not modify visual attention to the images. Attention to the models in the image-only condition led to less felt empowerment, but not greater self-objectification, suggesting that another mechanism inhibited feelings of empowerment in this condition.

### **Study 3.2 Introduction and Hypotheses**

The finding that media exposure is linked to increased objectification is robust (see Karsay et al., 2018), as are the problematic outcomes associated with self-objectification, but objectification theory offers little explanation regarding the visual processing that occurs to

increase state self-objectification following exposure to objectifying imagery. Self-objectification among women is, at its core, related to critiques of body appearance (Fredrickson & Roberts, 1997); thus it seems to be an inherently visual process. Applying DHCCST (Lang, 2014) to the context of this study, one might expect that objectifying imagery present in empowerment-themed advertisements may “speak” more strongly than empowerment-themed text, compromising the message of empowerment. For this reason, it is especially vital to understand the ways in which women visually process images of this type. It may be that the images shown in these advertisements are as, or even more, important than the text when it comes to self-objectification and related outcomes. The primary goal of this study is to further understand whether so-called empowering advertising is experienced by women as empowering, and how objectification contributes to this effect.

As discussed in Study 3.1, research indicates that attention to self-reported body-dissatisfied regions, in comparison to body-satisfied regions, is associated with greater body dissatisfaction (Smeets et al., 2011). Research has also shown that body-dissatisfied individuals often visually focus on self-reported body-dissatisfied regions, both for self-photos (Janelle et al., 2003; Jansen et al., 2005) and photos of others (Lykins et al., 2014). Because of this, visual attention to high-anxiety regions was particularly important in this study.

This study used eye-tracking methods to investigate the effect of message components (visual and textual) on felt empowerment and self-objectification among women after viewing ETAs. Conditions were designed using a 2 (Image: Present vs Absent) x 3 (Caption Type: Empowerment-themed, Objectification-themed, None) design (see Table 4.2-1 for a breakdown of conditions). Participants’ eye movements were recorded as they viewed various combinations of text and stimulus photographs resembling those that tend to appear in both traditionally

objectifying ads and ETAs. Attention to text versus image and attention to the model's body versus face (i.e., visual objectification of the model) were analyzed as a function of condition. The dependent variables included state self-objectification and felt empowerment. I propose the following hypotheses and research questions:

- H1: State self-objectification will be highest after viewing images paired with objectifying captions.
- H2: Felt empowerment will be highest after viewing empowering captions with no images.
- H3: Individuals viewing images with objectifying captions will spend more time looking at the model's body than those viewing the same images with empowering captions.
- H4: Individuals viewing images with empowering captions who spend more time looking at the caption and less at the image will report greater felt empowerment after viewing.
- H5a: In all conditions with images and captions, individuals who spend more time looking at the images and less at the captions will report greater state self-objectification after viewing.
- H5b: The pattern predicted in H5a will be especially strong for body regions that are high-anxiety for the participant
- RQ1: How will felt empowerment scores compare across conditions?
- RQ2: How will attention to the text compare across conditions with both images and captions?
- RQ3: How will felt empowerment and state self-objectification be related for each condition?



## **Study 3.2 Method**

### **Procedure**

The same women who participated in Study 3.1 participated in Study 3.2 After completing the eye-tracking portion of Study 3.1, participants briefly viewed a series of moving shapes as a neutral filler task before proceeding to Study 3.2. This was done to limit carry-over effects between studies. Participants were randomly assigned to one of five conditions. The first two conditions featured objectifying captions (OC) and empowering captions (EC) only, with no images. Eye tracking was not assessed in either of these conditions; because attention to the photos was of primary interest, it only made sense to assess eye tracking of text when it was paired with photos. The remaining three conditions all featured the same collection of 10 stimulus photos and differed on the basis of the captions paired with the photos: no captions (Photo condition); objectifying captions (OC + Photo condition); and empowerment captions (EC + Photo condition). Eye tracking was assessed in all three of these conditions. Each photo was displayed for 20 seconds before automatically advancing to the next photo, for a collective total of 200 seconds of exposure. The 10 photos used in each condition were identical with the exception of the caption text; specific information about each stimulus set is described below. After viewing their stimulus materials, participants in all five conditions were automatically directed to a survey that measured felt empowerment and state self-objectification.

### **Participants**

Of the 141 data recordings with correct exposure time, 12 (9%) were flagged for sampling percentages less than 70%, 6 (4%) were flagged due to visible off-set in the eye tracking, and 10 (7%) participants were eliminated due to having less than 33% of recorded time resulting in fixation durations. This left 113 recordings that passed the quality inspection, with

roughly 35 participants per condition (Table 4.2-1). An additional 3 participants did not follow instructions for the state objectification measure (i.e., omitting more than 10 responses); these participants were not included in the analyses for state self-objectification.

## **Measures**

### ***Baseline Measures***

As described in the Study 3 General Methods section, baseline measures of felt empowerment were measured using the 24-item Affective Empowerment Checklist, and trait self-objectification was measured using the Self-Objectification Questionnaire (Fredrickson et al., 1998).

### ***Posttest Measures***

State self-objectification was measured with the Twenty Statements Test (TST) (Fredrickson et al., 1998), with participants providing open-ended answers to complete the statement “I am...” 20 times. Following the procedure of Fredrickson et al. (1998), I coded the statements into five categories: 0 for references to body shape and size (e.g., “small,” “overweight,” “skinny,” etc.), 1 for other words describing physical appearance (e.g., “blonde,” “pretty,” “unattractive,” etc.), 2 for physical competence words (e.g., “strong,” “athletic”), 3 for traits and abilities (e.g., “sister,” “mother,” etc.), 4 for states or emotions (e.g., “happy,” “sad,” “bored,” etc.), and 5 for items that were ambiguous or otherwise not codable into one of the other categories. The state self-objectification score represents the count of words coded as 0 (body shape or size) and 1 (physical appearance). Statements that pertained to physical competency (e.g., “strong,” “athletic”) are not counted as state self-objectification. Scores in this sample ranged from 0 to 8 ( $M = 1.26$ ,  $SD = 1.29$ ), with the majority of participants (68%,  $n = 123$ ) using either zero body/appearance words or one body/appearance word.

Felt empowerment was assessed a second time using the AECL-24, with participants responding to the extent to which they *currently* felt that the 24 empowerment-themed adjectives applied to them, and a final net empowerment score calculated by subtracting disempowerment score from the empowerment score; empowerment  $M = 55.85$ ,  $SD = 13.39$ ,  $\alpha = .94$ ; disempowerment  $M = 27.04$ ,  $SD = 11.19$ ,  $\alpha = .91$ . Posttest AECL scores ranged from -41 to 70 ( $M = 28.67$ ,  $SD = 21.77$ ), again indicating relatively more empowerment than disempowerment.

## **Stimulus Description**

### ***Stimulus Pretest***

The stimulus photos needed to be credible visual accompaniments to different kinds of text. That is, they needed to be ambiguous enough to "harmonize" with either empowering or objectifying language in a way that would resemble real-world advertising. I conducted a pretest of 40 photos, asking 47 female raters recruited on Mechanical Turk to indicate how empowering and how objectifying each photo was to them, from 0 (*Not at all*) to 4 (*Extremely*). All participants recruited for the stimulus pretesting identified as female. Two (4%) were between the ages of 18-24 years old, 14 (30%) were between 25-34, 13 (28%) were between 35-44, 11 (23%) were between 45-54, 5 (11%) were between 55-64, and 2 (4%) were between 65-74.

Because the photos were of female bodies, most wearing form-fitting clothing and involved in some kind of physical action, some objectification was expected. The ideal stimulus photos would have empowerment scores equal to or greater than their objectification scores. There were 20 photos that fit these criteria. Where the objectification ratings exceeded the empowerment ratings, the sexual content of the photos was clearly too strong to pair credibly with empowerment language. The final stimulus photos included those with roughly equal empowerment and objectification ratings and those with empowerment ratings higher than their

objectification ratings. The average empowerment score of the final stimulus photos was 2.76 and the objectification score was 0.81.

After they finished evaluating the photos, the same raters evaluated 35 captions taken from popular advertisements for the extent to which they were *objectifying*, *empowering*, and *interesting* from 0 (*Not at all*) to 4 (*Extremely*). The 10 captions rated as most objectifying were selected for use in the objectification conditions (“*Objectifying*”  $M = 1.63$ , “*Empowering*”  $M = .91$ ), and the 10 captions rated as most empowering were selected for use in the empowerment conditions (“*Empowering*”  $M = 2.80$ , “*Objectifying*”  $M = .55$ ). Both captions were rated by participants as being at least moderately interesting (EC condition,  $M = 4.00$ ,  $SD = .87$ ; OC condition,  $M = 3.24$ ,  $SD = 1.50$ ). Captions in the EC condition were rated as more significantly more interesting than captions in the OC condition ( $t(46) = 3.56$ ,  $p = .001$ ).

### ***Final Stimuli***

The photos and captions selected from the pretest were combined to create the five experimental conditions: Photo (the 10 selected photos with no captions), EC (the 10 selected empowering captions with no photos), OC (the 10 selected objectifying captions with no photos), EC + Photo (the 10 selected empowering captions with the 10 selected photos), and OC + Photo (the 10 selected objectifying captions with the 10 selected photos). Typefaces for each caption were matched across conditions, and texts in the caption + photo conditions were approximately the same length and the same shape on the screen.

### **Participant Gaze Metrics**

In the three conditions featuring photos, polygonal Areas of Interest (AOIs) were specified for each photo, using the same body coding criteria as study 3.1 (Appendix D). Specifically, models in each photo were tagged for the following regions: person, face, hair,

chest, arms, waist, hips, upper legs, and lower legs. AOIs that refer to “person” include the entire model, whereas “body” refers to the model excluding the face. Dimensions and placement of body AOIs were identical across the three conditions. As in Study 3.1, baseline PASTA scores (Reed et al., 1991) were used to designate attention to high-anxiety body regions for each participant. Text was indicated with rectangular AOIs surrounding the entire text region.

### **Data Analysis Strategy**

As with Study 3.1, baseline responses on the PASTA scale (Reed et al., 1991) were used to classify participants’ individual body parts (face, stomach, hips, thighs, and legs) as low-anxiety (scores of 1 or 2) versus high-anxiety (scores of 3+). Scores for visual attention to these regions were summed to create a composite measure for total attention to low- and high-anxiety body regions. ANCOVA models were used to test for differences in felt empowerment and state self-objectification across conditions following exposure. ANOVA models were also used to test for differences in attention to AOIs. Regression analysis was used to test visual attention as a predictor of post-exposure outcomes.

## **Study 3.2 Results**

### **Preliminary Analyses**

Univariate analyses of variance (ANOVAs) were conducted to test whether participants randomly assigned to each condition varied significantly in terms of age,  $F(4, 178) = .86, p = .491$ ; BMI,  $F(4, 176) = 1.14, p = .340$ ; race,  $F(4, 179) = 1.68, p = .156$ ; or income,  $F(4, 176) = .65, p = .628$ . As none of these tests were significant, these variables were not included as covariates in further analyses. There were no differences in pretest felt empowerment ( $F(4, 179) = .378, p = .824$ ) or trait self-objectification ( $F(4, 179) = 1.83, p = .126$ ) by condition.

## Hypothesis Testing

### *State Self-Objectification*

Average state self-objectification scores for each condition are presented in Table 4.2-2. The effect of condition on state self-objectification was tested with an ANCOVA model, using experimental condition as the independent variable and state self-objectification scores as the dependent variable<sup>1</sup>. Trait self-objectification was entered as a covariate in this analysis, as participants who are high in trait self-objectification may be more sensitive to objectifying aspects of the imagery than participants who are low in trait self-objectification (Altabe & Thompson, 1996). The omnibus model testing the effect of condition on state self-objectification was not significant ( $F(4, 175) = 1.15, p = .33; \eta^2 = .026$ ). Only trait self-objectification was a significant predictor in this model ( $F(1, 175) = 9.08, p < .01; \eta^2 = .049$ ). While the omnibus model for experimental condition was not significant, differences between conditions emerged in pairwise comparisons between the five conditions. Only the EC + Photo and OC + Photo conditions differed significantly. ( $p = .043$ ). Women in the EC + Photo condition used an average of 0.59 fewer appearance-related words than women in the OC + Photo condition. No other pairwise comparisons approached significance, leading to the rejection of H1.

A follow-up analysis compared self-objectification scores between conditions with a photo (EC + Photo, OC + Photo, and Photo Condition) and the conditions without a photo (EC, and OC conditions). There was no significant group difference in state self-objectification when

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<sup>1</sup> A follow-up analysis compared self-objectification scores between conditions with a photo (EC + Photo, OC + Photo, and Photo Condition) and the conditions without a photo (EC, and OC conditions). There was no significant group difference in state self-objectification when controlling for state self-objectification ( $F(1, 178) = 2.47, p = .620, \eta_p^2 = .001$ ). Trait self-objectification was a significant predictor in this model,  $F(1, 178) = 11.22, p < .001, \eta_p^2 = .059$ .

controlling for trait self-objectification ( $F(1, 178) = 2.47, p = .620, \eta_p^2 = .001$ ). Trait self-objectification was a significant predictor in this model,  $F(1, 178) = 11.22, p < .001, \eta_p^2 = .059$ ).

### ***Felt Empowerment***

Differences in posttest felt empowerment between conditions were tested using an ANCOVA model with condition as the independent variable and posttest AECL-24 scores as the dependent variable, controlling for baseline AECL-24 scores. This model was significant ( $F(4, 1798) = 2.829, p = .026, \eta_p^2 = .06$ ), indicating differences in felt empowerment by condition (Figure 4.2-1). Answering RQ1, pairwise comparisons between conditions revealed that participants in the EC condition reported greater felt empowerment than those in the Photo condition ( $p = .030$ ), the EC + Photo condition ( $p < .001$ ), and the OC + Photo condition ( $p = .033$ ). Felt empowerment in the OC condition did not significantly differ from felt empowerment in the EC + Photo condition ( $p = .106$ ). No other pairwise comparisons were significant.

### ***Relationship Between Felt Empowerment and State Self-Objectification***

Posttest measures of felt empowerment and state self-objectification were negatively correlated when looking at the sample as a whole ( $r(181) = -.158, p = .033$ ). This suggests that individuals who reported greater objectification reported lower felt empowerment, answering RQ3. There was no significant relationship between posttest felt empowerment and self-objectification in any individual condition, potentially due to smaller sample sizes (Table 4.2-2).

## **Eye-Tracking Analyses**

### ***Attention to Person***

A one-way ANOVA model indicated significant differences in attention to person (both face and body) AOIs across conditions ( $F(2, 107) = 41.74, p < .001$ ), though this result was driven by differences between the photo-only condition and the conditions that included text. Specifically, individuals in the Photo condition spent significantly more time focused on the

model than individuals in the EC + Photo condition ( $p < .001$ ) or the OC + Photo condition ( $p < .001$ ). A one-way ANOVA model also indicated significant differences in attention to the body AOIs (excluding face) across conditions ( $F(2, 107) = 27.56, p < .001$ ), with individuals in the Photo condition spending significantly more time looking at the models' bodies than individuals in EC + Photo condition ( $p < .001$ ) or OC + Photo condition ( $p < .001$ ). This difference in visual attention to the model was likely because women in the photo-only condition had no text to read. Contrary to H3, there was no significant difference between attention to the models' bodies in the EC + Photo and OC + Photo conditions ( $p = .961$ ), leading to the rejection of H3.

Attention to body regions reported as high-anxiety during the baseline survey was highest in the Photo condition ( $M = 17.40, SE = 2.22$ ) and lowest in the OC + Photo condition ( $M = 7.85, SD = 2.25$ ), with the EC + Photo condition in between ( $M = 12.37, SE = 2.16$ ). While the pairwise comparison test between the Photo condition and the OC + Photo condition was significant ( $p < .001$ ), with participants in the Photo condition spending an average of 9.56 seconds longer looking at body regions rated as high-anxiety in the pretest, there was no significant difference between the EC + Photo and Photo conditions ( $p = .11$ ) or the OC + Photo condition and the EC + Photo condition ( $p = .15$ ).

A one-way ANOVA model indicated significant differences in attention to faces across conditions ( $F(2, 107) = 23.30, p < .001, \eta^2 = .303$ ). Post-hoc comparisons indicated that participants in the Photo condition fixated on faces for an average of 18.92 seconds longer than those in the EC + Photo condition ( $p < .001$ ), and 13.58 seconds longer than individuals in the OC + Photo condition ( $p < .001$ ). The difference in attention to faces in the EC + Photo and OC + Photo conditions was nonsignificant ( $p = .065$ ).



### ***Attention to Text***

An independent samples t-test was conducted to examine differences in attention to the caption AOI between the EC + Photo and OC + Photo conditions, answering RQ2. This difference was not significant ( $t(72) = .103, p = .75$ ), indicating that individuals in both conditions spent roughly the same amount of time focused on the caption as opposed to the image.

### ***Visual Attention and Outcome Variables***

Regression models were created to test the relationship between attention to AOIs and state self-objectification and felt empowerment (Table 4.2-3). Contrary to the prediction in H4, the regression model using attention to the caption in the EC + Photo condition to predict participants' posttest felt empowerment scores, controlling for baseline AECL-24 scores, was not significant,  $\beta = .14, t(36) = 1.40, p = .17, r^2 = .06$ . Controlling for trait self-objectification, attention to self-reported high-anxiety body regions across all conditions with photos predicted state self-objectification levels ( $\beta = .26, t(104) = 2.48, p = .015$ ), whereas attention to low-anxiety body regions did not ( $\beta = .08, t(104) = .795, p = .429$ ) (Table 4.2-4). Upon further examination of the results, the Photo condition drove the pattern of the results, providing support for H5 in this condition but no other conditions.

## **Study 3.2 Discussion**

Years of media effects literature suggests a robust effect of exposure to objectifying imagery on women's self-objectification (Karsay et al., 2018) and body dissatisfaction (Grabe et al., 2008). This study adds to this body of literature by investigating how women visually process images that are framed by accompanying text as empowering or objectifying. This provides initial evidence of effects of visual and textual information on women's felt empowerment and body image after exposure to ETAs. Manuscripts that use objectification theory as an

explanation of results frequently discuss gaze in an abstract or theoretical way. The use of eye-tracking methods in this study contributes to a better understanding of visual attention as it relates to outcomes related to self-objectification, while also investigating the way that textual framing of ambiguous photos as empowering or objectifying affects the visual processing of models in photos.

The only conditions in this study that led to greater momentary feelings of empowerment were those that contained text without an image. As predicted, the results of this study indicated that visual content used in ETAs limited their effectiveness, if effectiveness is to be defined as a sense of empowerment among their audiences. The photos in this study reflect industry norms, and were rated in a pretest study as relatively empowering. Thus, they appear on the surface to be empowering but there was no evidence in this study that they produced feelings of empowerment in viewers.

Although it is appealing from a theoretical perspective to suggest that women in the EC + Photo condition reported lower felt empowerment because they were self-objectifying at higher levels than the EC condition, this was not supported by my data. Posttest state self-objectification was not significantly correlated with posttest felt empowerment in this condition. When looking at the sample as a whole there was a significant and negative relationship between felt empowerment and self-objectification, with participants who reported higher self-objectification typically reporting lower felt empowerment. The finding that state self-objectification was not higher in the EC + Photo condition, and that there was no significant relationship between felt empowerment and state self-objectification in the EC + Photo condition, suggests that objectification and empowerment are functioning relatively independently and not strongly

inversely related as one might suppose. The failure of the EC + Photo condition to increase felt empowerment may be due to another mechanism, which I will discuss momentarily.

Interestingly, there was no significant difference between felt empowerment after exposure to the EC condition than the OC condition. Greater felt empowerment in response to the empowerment text-only condition is in line with the predictions made at the start of the study, but the finding that objectifying text was the second highest on feelings of empowerment was unexpected. One possible explanation for this finding may be that beauty is highly valued in our society, especially for women (Fredrickson & Roberts, 1997), and thus the captions that provided women with suggestions about appearance improvement (e.g., “Making myself HOT”) were perceived as somewhat empowering as long as they were not paired with imagery. While this chapter presents an initial exploration of the relationship between felt empowerment and self-objectification, future work should more closely examine the relationship between feeling attractive and feeling empowered.

For the most part, women in this study exhibited similar self-objectification scores across conditions, with results indicating very few significant differences in pairwise comparisons. In fact, the only significant difference in state objectification was between the empowerment photos framed with objectification messages and those framed with empowerment messages. Whereas women in the OC + Photo condition exhibited the greatest state objectification of any group, women in the EC + Photo condition exhibited the least state objectification. This suggests that while the EC + Photo condition did not increase felt empowerment, the empowering caption may have prevented an increase in state objectification. This finding is contrary to my initial hypotheses, informed by DHCCST (Lang, 2014), which suggested that the visual image would override differences in textual messages.

Participants' eye movements were recorded while they viewed stimuli in the three conditions that contained a photo as part of the stimulus. I expected the most substantial differences to occur between the photo-only condition and the two captioned-photo conditions because the text competes with the photo for visual attention in the captioned-photo conditions. Participants viewed each photo for 20 seconds, and since those in the photo-only condition were not able to look at text, they naturally spent an average of 4.3 additional seconds per stimulus photo looking at the model. A more informative way to test differences in visual attention to the images is provided by comparing the conditions with both text and a photo. Contrary to my hypothesis, which suggested that photos with objectifying text would prompt greater attention to the models than photos with empowering text, participants in both conditions visually processed the models similarly. This was true both in terms of total fixation time on the models and percentage of time looking at the models' bodies independent of their faces. In other words, objectifying text did not prompt greater visual scrutiny of the model.

While visual processing of the photos was largely similar across conditions, a few other significant differences are worth highlighting. Unsurprisingly, participants in the photo-only condition spent more time looking at every part of the image in the Photo condition as a function of having no text to look at. In this condition, visual attention to the model was negatively correlated with feelings of empowerment. This suggests that exposure to the photo did not help women feel more empowered. Recent work indicates that thinness paired with visible muscularity has replaced thinness alone as the current body ideal (e.g., Boepple, Ata, Rum, & Thompson, 2016b; Boepple & Thompson, 2016; Bozsik et al., 2018). Many of the models in the photos were performing impressive athletic feats and demonstrating their physical competency

while still meeting conventional beauty standards; thus, although the photos were framed more as body-as-process rather than body-as-appearance they were still idealized.

Images that show women performing impressive athletic feats may serve to inspire and create awe, but they may also serve as a target for upward social comparison that contributes to feelings of inadequacy in the viewer, both in terms of competency and attractiveness. In the context of STEM role models for girls, Betz and Sekaquaptewa (2012) found that presenting girls with counter-stereotypic images of women who were both feminine and successful in STEM led to lower expectations of STEM success in stem-identified girls than neutral models, in part due to the perception that success in both areas was unattainable in the real world. It is possible that we are seeing a similar relationship in the current study with physical attractiveness and competency. This possibility should be examined in future research.

### **Study 3.2 Conclusion**

Ultimately, while empowering messages were effective at increasing felt empowerment when presented without a photo, neither the empowerment photos alone nor the combination of photos and empowering text were effective at increasing feelings of empowerment. The empowerment-themed textual framing of the images led to less self-objectification than objectification-themed framing, so in that regard it is an improvement on traditional advertising. At the same time, however, the presence of photos hindered feelings of empowerment compared to reading the messages alone. The empowerment-themed framing of the images also did not substantially change visual attention to the model as compared to objectification-themed framing, with participants in both the EC + Photo and OC + Photo conditions spending a similar amount of time looking at the model's body.

Future campaigns with the primary goal of empowering women should consider alternative visual themes that would more effectively increase felt empowerment among women, while remaining diligent to avoid both visual and textual objectification in their advertising. Study 3.2 provides initial evidence of the effects of empowerment-themed messages, but it is not without limitations. While visual attention is linked to cognitive attention (Just & Carpenter, 1980), and eye-tracking methods allow researchers to capture visual processing of messages, they do not allow us to know what viewers are thinking as they view the advertisements. Future work should continue to pair eye-tracking methods with survey measures that capture thought processes to probe deeper into the findings presented in this paper.

### **Study 3.3 Overview**

Recent studies have demonstrated that exposure to thin-ideal social media content is associated with decreased body satisfaction (see Holland & Tiggemann, 2016, for a review), and disclaimer statements have been proposed as an intervention. Study 3.3 used eye-tracking methods to explore the effect of disclaimer statements on visual processing of thin-ideal Instagram images. A sample of 181 U.S. female participants ages 18-35 were randomly assigned to view thin-ideal Instagram images paired with one of two caption types: a traditional comment that idealized the image (Idealized Comment condition), or a disclaimer comment that critiqued the image as unrealistic (Disclaimer Comment condition). Participants' eye movements were tracked during viewing. Following exposure, participants reported their anxiety about specific body regions, as well as their perceptions of social pressure for thinness. Posttest body anxiety did not differ based on experimental condition, nor did experimental condition lead to differences in perceived pressure for thinness. Results indicated some differences in message processing, with similar visual attention to the model across conditions but greater attention to the comment (i.e., caption) in the disclaimer condition. Attention to the model's thighs was associated with increased body anxiety about the thighs in both conditions, whereas attention to the model's waist was associated with increased body anxiety about the waist in the Idealized Comment condition but not the Disclaimer Comment condition.

### **Study 3.3 Introduction and Hypotheses**

As described in the Study 3.1 introduction, Instagram is a popular photo-sharing social networking site (Balakrishnan & Boorstin, 2017). Many individuals follow friends and acquaintances on Instagram, but the site affords the option to follow strangers and even celebrities. This has boosted the popularity of the site for both advertising businesses and aspiring models, plus a small sub-group of individuals termed “influencers” who are paid to produce content and are able to make a living through the popularity of their posts (Freberg, Graham, Mcgaughey, & Freberg, 2011).

Essena O’Neill, an aspiring model and social media influencer from Australia, gained notoriety for her Instagram content and then further recognition in November 2015 in response to her campaign to demonstrate that “social media was not real life” (Bromwich, 2015). Before leaving Instagram, O’Neill deleted approximately 2,000 of her photos and changed the captions of all remaining photos to express a critical media-literacy theme that reflected her assertion that social media promote unrealistic body and lifestyle ideals. In a candid and emotional video, O’Neill described how the photos were problematic for her health and well-being, denouncing social media as a toxic force. This action gained substantial public attention, and several other influencers echoed Essena’s sentiment that Instagram promoted unhealthy and unrealistic body standards (Saul, 2015).

Within Instagram, users can post content that contains a photo and a text caption, referred to in this study as a “comment” to remain consistent with terminology used in prior research (Fardouly & Holland, 2018). Photos and associated comments are visible to individuals who “follow” the user. There are a variety of filters available to retouch and enhance photos, and people using the site interact with others through a comment and “liking” system similar to



Facebook. Whereas Facebook provides the opportunity to post status updates comprising text, images, and video sharing, Instagram is a visual platform consisting mostly of uploaded photos and brief comments. These comments can vary in length, but typically provide information to supplement the photo. O'Neill intended her disclaimer comments to provide a critical media-literacy lens through which to interpret the photos.

As described above, Instagram allows users to follow celebrities as well as peers. A small number of studies have investigated the impact of exposure to peer versus celebrity images, with mixed findings. Specifically, cross-sectional research shows significant differences between peer and celebrity exposure whereas experimental research does not, although the specific variables of interest vary slightly between studies. Lup, Trub, and Rosenthal (2015) found support in a cross-sectional study for a moderated mediation model where following celebrities, but not friends, was associated with more problematic social comparisons on Instagram. These social comparisons in turn mediated the relationship between Instagram activity and depressive symptoms (Lup et al., 2015). In line with the suggestion that following celebrities is potentially more harmful than following peers, a cross-sectional survey by Fardouly et al. (2015) found that the relationship between Instagram activity and self-objectification was mediated by appearance comparisons to celebrities but not to friends, although they failed to find significant relationships between celebrity appearance comparison and body dissatisfaction or drive for thinness. In contrast to these cross-sectional findings, Brown and Tiggemann (2016) found similar outcomes following manipulated exposure to peer versus celebrity Instagram photos, with both conditions leading to increased negative mood and body dissatisfaction in comparison to travel photos.

Scholarly research supports Essena's intuition that social media promote body dissatisfaction among women. Within mass media, policymakers have explored disclaimers that

notify consumers of digital image editing as a possible solution to harmful effects of idealized photos. As of 2015, both France and Israel have policies in place that require retouched photos in advertisements to be accompanied by a disclaimer warning (Geuss, 2012; Samuel, 2015). While the use of disclaimers is a popular policy strategy, research has largely shown that the use of disclaimer labels in traditional media is ineffective at best and can even increase body dissatisfaction (Ata, Thompson, & Small, 2013; Bury, Tiggemann, & Slater, 2016; Harrison & Hefner, 2014; Paraskeva, Lewis-Smith, & Diedrichs, 2017; States, Bissell, 2006; Tiggemann, Brown, Zaccardo, & Thomas, 2017; Tiggemann, Slater, Bury, Hawkins, & Firth, 2013; Tiggemann, Slater, & Smyth, 2014).

In a review of media literacy interventions, Yager and O'Dea (2008) found that, compared to dissonance-based approaches, information-based cognitive interventions (i.e., disclaimer warnings) were the least successful intervention type for improving body satisfaction among college populations. Harrison and Hefner (2014) found that both female and male adolescents reported decreased body esteem and increased objectified body consciousness when they were told the images they were viewing had been retouched, compared to adolescents who had viewed the same images without a disclaimer. In a study using eye tracking to measure attention to Photoshopped disclaimer labels, Bury et al. (2014) found that although participants noticed disclaimer labels attached to advertisements, the presence of these warnings did not decrease post-viewing body dissatisfaction. Further, labels mentioning the retouching of specific body parts actually directed visual attention to these body parts (Bury et al., 2014).

In contrast to disclaimer labels in traditional media, which often simply state that a photo has been retouched or digitally altered (e.g., Selimbegovi & Chatard, 2015), many of the disclaimer comments used by O'Neill draw the viewer's attention to ways that societal ideals for

beauty are problematic and unhealthy. Meta-analyses show that exposure to traditional media leads to greater internalization of the thin-ideal, which in turn increases the risk of disordered eating (Grabe et al., 2008; López-Guimerà, Levine, Sánchez-carracedo, & Fauquet, 2010). Combatting internalization of the thin-ideal has been a proposed intervention strategy for reducing disordered eating, and meta-analyses of large-scale interventions have shown that dissonance-based interventions, which teach young women to critique the thin-ideal, are among the most effective at preventing disordered eating behaviors (Yager & O'Dea, 2008). Thus, exposure to the Disclaimer Comment condition has the potential to lower perceptions of sociocultural pressure for thinness.

Instagram comments emphasizing an attractive model's appearance have been shown to lead to greater body dissatisfaction than those that emphasize other photo attributes (Tiggemann & Barbato, 2018), but to date there is little research on the effectiveness of disclaimer comments in a social media context. To my knowledge, only one other study has examined the effectiveness of disclaimers in social media. In a recent study, Fardouly and Holland (2018) had female participants ages 18-25 view one of three stimuli: thin-ideal Instagram images without comments, thin-ideal Instagram images paired with disclaimer comments, or travel photos that did not contain a model. The results of this study indicated that the disclaimer photos were ineffective, as exposure to both sets of thin-ideal Instagram images produced higher body dissatisfaction than exposure to travel photos. The disclaimer comments did not have any effect on women's body satisfaction or mood, and the only significant difference between the two thin-ideal photo conditions was that participants exposed to the disclaimer caption reported less favorable views of the account owner. Together, this initial work suggests that Instagram comment content does not improve body dissatisfaction.

While the study by Fardouly and Holland (2018) provided initial evidence that disclaimers in social media are similar in their ineffectiveness to those in traditional media, it did not shed light on the visual processing that occurred as the photos were being viewed. The current study extends our knowledge of the effectiveness of disclaimer comments in the context of social media, providing a loose replication and extension of Fardouly and Holland (2018) by measuring the impact of exposure to disclaimer comments while also using eye tracking to examine visual processing. Eye tracking has been used to examine differences in attention to disclaimer warning labels in mass media (Bury et al., 2014), but scholars have yet to look at visual attention as it relates to disclaimers on social media. Instagram images differ from mass media images in part because viewers are led to presume that what they are viewing are in fact real images of real people—retouched, perhaps, but not fictional. Thus, research participants should view the thin-body ideals depicted in Instagram photos as relatively attainable given this presumption.

Finally, as described in Studies 3.1 and 3.2, research measuring visual processing of images via eye-tracking technology has indicated that social comparison processes related to body image may differ based on baseline body satisfaction, with body-satisfied individuals tending to selectively focus attention on self-identified “attractive” body regions, and body-dissatisfied individuals selectively attending to “unattractive” body regions when viewing photos of themselves and others (Gao et al., 2014; Glashouwer, Jonker, Thomassen, & de Jong, 2016; Greenberg, Reuman, Hartmann, Kasarskis, & Wilhelm, 2014; Hewig et al., 2008; Lykins, Ferris, & Graham, 2014;). These attentional differences may have implications on future body satisfaction as well; Smeets, Jansen, and Roefs (2011) induced a temporary preference for unattractive body parts in an experimental study, and found that selective attention to self-

reported unattractive body parts led to decreased ratings of body satisfaction. Taken together, these results indicate that individuals who struggle with overall body dissatisfaction may show preferential attention to high-anxiety body regions, and that stimuli that encourage upward social comparisons and a focus on high-anxiety body regions may in turn lower overall body satisfaction.

The use of eye-tracking methods allowed me to measure visual attention to both the comment and specific parts of the Instagram photo. In turn, I examined how attention to various regions of the photo related to body anxiety outcomes for these areas. Based on the literature presented above, I advanced the following hypotheses:

H1: Participants exposed to Instagram images in both conditions will report an increase in body anxiety from pretest to posttest.

H2: Posttest body anxiety will be higher for participants who view photos with idealized comments than for those who view the same photos with disclaimer comments.

H3: Women low in baseline body dissatisfaction will spend more time looking at body parts that they rate as low-anxiety than women who are high in baseline body dissatisfaction.

H4. Women high in overall body dissatisfaction will spend more time looking at body parts that they rated as high-anxiety than women low in overall body dissatisfaction.

RQ1: Will posttest perceived pressure for thinness in various social contexts (social media, media, peer, and family) differ based on comment condition?

RQ2: Will the amount of visual attention viewers dedicate to the model's face, body, and the comment differ by comment condition?

## **Study 3.3 Method**

### **Procedure**

Following Study 3.2, participants again watched a brief neutral video showing shapes moving around the screen. They were then randomly assigned to view 10 thin-ideal Instagram images with either disclaimer or idealized comments for 20 seconds each. Thus there were two conditions in this experiment (Idealized Comment  $N = 95$ ; Disclaimer Comment  $N = 94$ ). After viewing the stimuli, participants answered a series of questionnaires indicating their current body anxiety for a number of body regions and their perception of social pressure for thinness. Participants were thanked, compensated \$15 for their time, and debriefed.

### **Participants**

Of the 190 data recordings, 40 (21%) were flagged for a data quality issue in this module, which left 149 recordings that passed the initial quality control (Idealized Comment  $N = 75$ , Disclaimer Comment  $N = 74$ ). Participants who completed the study but did not pass eye-tracking quality metrics were omitted from analyses involving body anxiety, but included in analyses comparing body dissatisfaction and perceived pressure for thinness.

### **Measures**

#### ***Baseline Measures***

All baseline measures were taken 1 week prior to the in-lab session. Baseline body anxiety was measured using the PASTAS (Reed et al., 1991); perceived pressure for thinness was measured using The Sociocultural Attitudes Towards Appearance Questionnaire (*SATAQ-4*) (Schaefer et al., 2015); and body dissatisfaction was measured using the EDI-3 (Garner, 2004).

## ***Posttest Measures***

**Posttest Body Anxiety.** Following stimulus exposure, participants completed the PASTA scale (Reed et al., 1991) to indicate their *current* level of anxiety with 19 body parts, eight of which were repeated from the pretest measures. The additional 11 items included body regions such as hands, feet, and hair that are typically low-anxiety regions, and were included as distractor items to reduce suspicion. The leg AOI was excluded from analyses for which high- and low-anxiety areas were distinguished, as it largely duplicated the area in the thigh variable and also included the calf, which is a relatively low-anxiety body region for women. Response options ranged from 1 (*Not at all*) to 5 (*A great deal*). Scores of the 8 items of interest averaged 2.39 ( $SD = .89$ ) and showed excellent reliability, Cronbach's  $\alpha = .88$ .

**Posttest Sociocultural Attitudes Toward Appearance.** Participants then completed the 16-item SATAQ-4 (Schaefer et al., 2015) again to measure any changes in perceptions of societal pressure for thinness. For the SATAQ-4 post-stimulus exposure, average scores were as follows: peers,  $M = 2.02$ ,  $SD = 1.06$ ,  $\alpha = .91$ ; social media,  $M = 3.53$ ,  $SD = 1.17$ ,  $\alpha = .94$ ; media,  $M = 3.57$ ,  $SD = 1.14$ ,  $\alpha = .94$ ; and family,  $M = 2.36$ ,  $SD = 1.17$ ,  $\alpha = .89$ .

## **Stimulus Description**

Ten images were selected from O'Neill's Instagram account based on photo quality and the edited comment's exemplariness. These images included information to identify them as "Instagram posts" including O'Neill's Instagram handle, a "follow" button, a number of likes, the date of the post, and a place to "favorite" the post and add a comment. For each image, the photo was on the left and took up approximately 2/3 of the page, and the comment took up the remaining 1/3 of the screen on the right side. The size of each image was standardized, and all images were placed on a black backdrop. O'Neill was the only model shown in the photos. Aside

from a single photo that focused on her face, all photos displayed her legs to the area just above or below the knee. Photos were taken from angles that visually emphasized the model's thinness, particularly her arms, waist, and the gap between her thighs. The 10 photos used in both conditions were identical; only the comments were manipulated.

All comments from the Disclaimer Comment condition were created by O'Neill and pulled from edited photos associated with her account. Essena's original photo captions were inaccessible, as O'Neill deleted them prior to the onset of stimulus development. I re-created the spirit of these captions using captions of similar Instagram accounts, matching word counts of comments for each photo across the two conditions and making minor adjustments so that the comment made sense in the context of the photo. Photos in the Idealized Comment condition were paired with messages that romanticized the image, and often contained information about either diet, exercise, or daily routines. An example is the following:

*"Nothing beats waking up and going for a morning jog and a quick dip in the ocean! The sun was out and the world just feels right today. I'll never get over how beautiful the water is on days like today. Packing up to head back home tomorrow. Easy come, easy go, (except actually this was a hard goodbye worsened by the cold weather we're returning to in Los Angeles right now). Last dose of bikini for a while..."*

Comments in the Disclaimer Comment condition began with "NOT REAL LIFE" and drew attention to the ways in which the photos were unrealistic and/or objectifying. The disclaimer comment paired with the photo connected with the idealized comment above was the following:

*"NOT REAL LIFE" This is what I like to call a perfectly contrived candid shot. Nothing is candid about this. While yes going for a morning jog and ocean swim before school was fun, I felt the strong desire to pose with my thighs just apart #thighgap boobs pushed up #vsdoublepaddingtop and my face away because*



*obviously my body is my most likable asset. Like this photo for my efforts to convince you that I'm really really hot #celebrityconstruct"*

### **Participant Gaze Metrics**

General AOIs were set up to capture total fixation duration of gaze within the photo portion of the image, the text portion of the image, the comments, the model's face, and the entire model. Specific AOIs (when visible in the photo) included the model's hair, face, chest, breasts, arms, waist, hips/buttocks, upper thighs, and entire leg region (including the thighs) (Appendix D). An additional AOI was created by subtracting attention to the face AOI from the entire person AOI to capture attention to the model's body, including body-negative regions. A final AOI was created to capture total fixation duration to body-negative space, such as the area between the waist and the arms, as well as the gap between the model's upper thighs. Responses from the baseline PASTA scale (Reed et al., 1991) were used to designate attention to high-anxiety body regions for each participant. Specifically, scores of 1 (*Not at all*) or 2 (*A little*) were classified as low-anxiety regions, whereas scores of 3 (*A moderate amount*) to 5 (*Exceptionally*) were classified as high-anxiety regions. An index was also created measuring the proportion of time spent looking at these self-reported high-anxiety regions compared to the time spent looking at all classified body regions.

### **Data Analysis Strategy**

Participants were classified as "low" or "high" in trait body dissatisfaction according to whether their responses to the baseline body dissatisfaction measure were above or below the median score ( $Med = 3.56$ ). Baseline responses on the PASTA scale (Reed et al., 1991) were used to classify participants' individual body parts (face, stomach, hips, thighs, and legs) as low-anxiety versus high-anxiety, and visual attention to these regions was summed to create a composite measure for total attention to low/high-anxiety body regions. A series of t-tests were

used to test for differences in post-exposure body anxiety and visual attention between conditions. Another series of paired-samples t-tests were used to test for differences between baseline SATAQ scores and posttest SATAQ scores within each condition. Finally, a series of independent t-tests were used to estimate differences in SATAQ change scores between conditions. The relationship between visual attention and body anxiety was tested by tabulating correlations between visual attention to specific AOIs and post-exposure body anxiety for those regions.

### **Study 3.3 Results**

#### **Preliminary Analyses**

Univariate analyses of variance (ANOVAs) were conducted to confirm that random assignment was effective and that participants assigned to each condition did not differ systematically in terms of baseline body dissatisfaction,  $F(1, 186) = .01, p = .94$ ; age,  $F(1, 186) = 2.47, p = .12$ ; BMI,  $F(1, 185) = 2.29, p = .13$ ; race,  $F(1, 186) = 1.49, p = .23$ ; or income  $F(1, 185) = .10, p = .75$ . As none of these tests were significant, these variables were not included as covariates in further analyses.

In order to make sure that participation in Study 3.2, which took place just before this study, did not impact the results, I tested for carryover effects by using experimental condition in Study 3.2 as a predictor of body anxiety following exposure to the Instagram posts. Advertising condition assignment in Study 3.2 did not predict Study 3.3 posttest body anxiety ( $F(1, 186) = .287, p = .835$ ), nor did it predict scores on the SATAQ social media ( $F(1, 183) = .133, p = .941$ ), SATAQ media subscale ( $F(1, 183) = .136, p = .939$ ), SATAQ peer subscale ( $F(1, 183) = .626, p = .599$ ), or SATAQ family subscale ( $F(1, 183) = .701, p = .553$ ). This confirms that there was no carryover effect from the prior experimental manipulation.

There was no difference between conditions in the average number of high-anxiety body parts at baseline,  $F(1, 148) = 2.44, p = .121$ , although the distributions of specific scores differed slightly between conditions. In the Idealized Comment condition, sixteen (21.3%) participants reported having no high-anxiety body parts and 3 (4%) reported all 4 body regions as high-anxiety, whereas in the Disclaimer Comment condition, 27 (36.5%) participants reported having no high-anxiety parts and none rated all body regions as high-anxiety. To compensate for this, only participants who had at least one high-anxiety region at baseline measurement were included in the selective attention to body region analyses, leaving 59 participants in the Idealized Comment condition and 47 in the Disclaimer Comment condition.

## **Hypothesis Testing**

### ***Change in Body Anxiety***

A paired-samples t-test was used to compare baseline and posttest measures of body anxiety. This result was significant, indicating that, across the sample, body anxiety was greater after viewing the thin-ideal images than at the baseline survey,  $t(186) = 2.18, p = .031$ . This difference remained significant when examining only high-anxiety body regions (i.e., overweight, stomach, hips, buttocks, and upper thighs),  $t(186) = -2.06, p = .041$ .

Paired samples t-tests were then used to compare baseline and posttest body anxiety within each condition (Figure 4.3-1). Women in the Idealized Comment condition showed a significant increase in body anxiety after exposure,  $t(93) = 2.19, p = .031$ . This difference remained significant when examining only body regions that participants frequently expressed anxiety about in the PASTAS measure (i.e., weight, abdomen, hips, buttocks, and upper thighs), ( $M_{baseline} = 2.59, SD = .92, M_{posttest} = 2.80, SD = 1.08$ ), with body anxiety increasing .21 points following exposure;  $t(93) = -2.12, p = .037$ . Post-exposure body anxiety for the Disclaimer

Comment condition did not differ from baseline, either in terms of overall body anxiety  $t(91) = -.736, p = .464$ , or anxiety about body regions women are most frequently dissatisfied with,  $t(91) = -.59, p = .555$ . This finding provides support for Hypothesis 1 in the case of idealized comments but not disclaimer comments, suggesting that the disclaimer comments were at least partially effective.

### ***Posttest Body Anxiety Comparison***

To test Hypothesis 2, an ANCOVA model was created using condition as the predictor variable and posttest body anxiety as the dependent variable, controlling for baseline body anxiety. Baseline body anxiety was a significant predictor in the model,  $F(1, 183) = 150.12, p < .001, \eta_p^2 = .451$ . Contrary to Hypothesis 2, there was no significant difference in posttest body anxiety between conditions,  $F(1, 183) = 2.75, p = .099, \eta_p^2 = .015$ . For specific body regions, anxiety about weight was the only outcome that significantly differed between the groups after controlling for baseline weight anxiety, with individuals in the Idealized Comment condition reporting more weight anxiety post-viewing than individuals in the Disclaimer Comment condition (see Table 4.3-1 for a breakdown of individual body part comparisons by condition).

### ***Sociocultural Attitudes Towards Appearance Thinness***

To answer RQ1, a series of ANCOVA models were created using experimental condition as the predictor variable and perceived pressure for thinness as the dependent variable, controlling for baseline SATAQ scores. The sub-scale measuring perceptions of pressure from social media to be thin did not differ by condition ( $F(1, 183) = .27, p = .605, \eta_p^2 = .001$ ), nor were there significant differences between conditions in the media-pressure subscale ( $F(1, 183) = 1.70, p = .194, \eta_p^2 = .01$ ), the family-pressure subscale ( $F(1, 183) = .28, p = .596, \eta_p^2 = .002$ ), or the peer-pressure subscale ( $F(1, 183) = 2.72, p = .101, \eta_p^2 = .015$ ).

## **Eye-tracking Analyses**

### ***Attention to Comment***

Attention to the photo comment differed significantly between conditions  $t(147) = -3.99$ ,  $p < .001$ , with individuals in the Disclaimer Comment condition spending an additional 13.33 seconds on average looking at the comments.

### ***Attention to Model***

Participants in the Idealized Comment condition spent an average of 5.45 more seconds looking at the model than those in the Disclaimer Comment condition, but the difference between conditions was nonsignificant,  $t(147) = 1.93$ ,  $p = .056$ .

### ***Attention to Model's Body vs Face***

To calculate the proportion of time spent looking at the model's body versus her face, an index variable was created that divided the duration of time spent looking at the face by the duration of time spent looking at the entire model (not including the text or any background imagery). There was no significant difference between conditions, with individuals in both conditions spending roughly 70% of the time looking at her body and not her face; Idealized Comment condition:  $M = 69.73\%$ ,  $SD = .11$ ; Disclaimer Comment:  $M = 69.76\%$ ,  $SD = .13$ ;  $F(147) = -.01$ ,  $p = .99$ .

### ***Selective Attention to Baseline High-Anxiety Body Regions***

A one-way ANOVA was used to test differences by condition in visual attention to regions reported as high-anxiety in the baseline measure. Only participants who rated at least one body area as high-anxiety in the baseline measure were included in this analysis. There were no significant differences in attention to high-anxiety body regions by condition, either for total amount of time,  $t(104) = 1.00$ ,  $p = .319$ , or for the index measure comparing attention to high-anxiety regions to total attention time,  $t(101) = -.62$ ,  $p = .539$ . This indicates that comment type

did not change either the proportion or the total duration of time that individuals spent fixating on high-anxiety body regions.

### ***Baseline Body Dissatisfaction***

In support of Hypothesis 3, individuals who were more body-dissatisfied at baseline spent more time looking at baseline high-anxiety body regions ( $N = 63$ ,  $M = 9.93$ ,  $SD = 9.14$ ) than individuals who were less body-dissatisfied at baseline ( $N = 43$ ,  $M = 5.78$ ,  $SD = 5.22$ ),  $F(104) = -2.93$ ,  $p < .01$  (Figure 4.3-2). Compared to less dissatisfied individuals, more dissatisfied individuals spent less time looking at body regions that they reported as low-anxiety ( $F(144) = 2.82$ ,  $p < .01$ ; less-dissatisfied group,  $N = 79$ ,  $M = 17.78$ ,  $SD = 7.82$ ; more-dissatisfied group,  $N = 67$ ,  $M = 13.97$ ,  $SD = 8.53$ ). This finding suggests that more body-dissatisfied individuals may have missed opportunities for lateral or downward social comparisons.

### ***Visual Attention to Comments***

Table 4.3-2 displays total attention to each AOI by condition, as well as the corresponding body-part anxiety score from the posttest measure and a correlation between the two. Attention to the model's upper thighs was significantly correlated with increased posttest body anxiety for the upper thighs in both conditions (Idealized,  $r(78) = .25$ ,  $p = .01$ ; Disclaimer,  $r(73) = .27$ ,  $p = .01$ ), indicating that women who paid more attention to the model's thighs reported more anxiety about their thighs afterward, regardless of comment type. Correlation strength between attention to the model's thighs and body anxiety for this region did not differ between conditions,  $Z = -.13$ ,  $p = .90$ , indicating that attention to the thighs was similarly predictive of anxiety about the thighs in both conditions.

For individuals in the Idealized Comment condition, attention to the waist was significantly correlated with body anxiety for the abdomen in the posttest measure ( $r(78) = .36$ ,  $p < .001$ ), and attention to high-anxiety regions overall was significantly and positively correlated

with posttest anxiety about high-anxiety regions,  $r(78) = .25, p = .022$ . These relationships did not hold for women in the Disclaimer Comment condition, for whom attention to baseline low-anxiety regions was negatively correlated with posttest body anxiety for these regions. Unlike the Idealized Comment condition, there was no relationship between attention to the waist and posttest body anxiety for the abdomen among women in the Disclaimer Comment condition. There was a significant difference in coefficient strength between conditions for the stomach region,  $Z = 2.03, p = .042$ , with participants in the Idealized Comment condition demonstrating a stronger relationship between attention to the stomach and anxiety about the stomach ( $r(73) = .04, p = .36$ ) than participants in the Disclaimer Comment condition ( $r(78) = .36, p < .001$ ). Similarly, there was a significant relationship between attention to high-anxiety body regions and posttest anxiety for these regions (Idealized Comment,  $r(73) = .25, p = .02$ ; Disclaimer Comment,  $r(78) = .20, p = .09$ ). The correlations did not differ by condition,  $Z = .26, p = .79$ .

Taken together, these results suggest that comments critiquing the artificiality and unrealistic nature of highly stylized, thin-ideal Instagram images may have changed how women processed attention to the model's waist, which led to increased body anxiety about the waist in the Idealized Comment condition but not the Disclaimer Comment condition. The only relationship that demonstrated reductions in body anxiety was attention to low-anxiety regions for women in the Disclaimer Comment condition, with attention to these regions negatively correlating with posttest anxiety for the same body parts,  $r(73) = -.23, p = .023$ . While the relationship between attention to low-anxiety body regions and posttest anxiety for these regions did not reach statistical significance in the Idealized Comment condition ( $r(78) = -.16, p = .09$ ), the strength of the coefficient was not significantly different from that in the Disclaimer caption condition,  $Z = .36, p = .719$ .

### **Study 3.3 Discussion**

This study examined the impact of disclaimer versus idealized comments on women's body anxiety and perceived appearance pressure after exposure to thin-ideal Instagram images, proposing two main hypotheses in relation to the experimental manipulation: (H1) body anxiety would increase after exposure to thin-ideal media due to dominance of the visual message, regardless of comment condition; and (H2) body anxiety would be greater for women who saw idealized comments than disclaimer comments. Individuals in the Idealized Comment condition expressed a significant increase in body anxiety after stimulus exposure, supporting H1, but there was no change in body anxiety for women in the Disclaimer Comment condition so H1 was only partially supported. Importantly, there was no difference between conditions in posttest body anxiety, leading to the rejection of H2. To some extent, these results stand in contrast to Fardouly and Holland's (2018) conclusion that disclaimer warning labels are ineffective at reducing body dissatisfaction after viewing. I found that posttest body anxiety did not differ between conditions, which is in line with Fardouly and Holland's (2018) findings. However, comparison of baseline and posttest measures showed that participants who saw the same photos paired with idealized comments reported a significant increase in body anxiety, whereas those who saw disclaimer comments did not.

Study 3.3 differed from the study by Fardouly and Holland (2018) in a few notable ways. First, the current study compared disclaimer comments with idealized comments whereas Fardouly and Holland (2018) used photos without comments and compared them with a travel-photos condition. While both studies used comments and photographs taken from O'Neill's Instagram account, Fardouly and Holland measured body dissatisfaction post-exposure using visual analog scales (VAS). In this approach, participants indicate their current level of



agreement with a number of body-related attributes (e.g., fat, satisfied with facial appearance, satisfied with body size and shape) on a sliding scale. In contrast, my study measured body anxiety for each of several body parts instead of global body dissatisfaction. It is possible that the experience of anxiety is more potent than dissatisfaction and that differences in study findings were due to measurement differences. The items used by Fardouly and Holland placed more emphasis on thinness and weight, whereas the measures I used focused more on specific body parts than global impressions. Asking about individual body parts may not activate the same cognitions as asking about satisfaction with the body as a whole.

The finding that women in the Disclaimer Comment condition did not show the same increase in post-exposure body anxiety as those in the Idealized Comment condition is encouraging. Still, the significant increase in anxiety in the Idealized Comment condition was modest. When comparing the two conditions (Hypothesis 2), there was no difference in post-exposure body anxiety, which calls the overall impact of the disclaimer comments into question. To further emphasize the limits of the disclaimer comments, they did not reduce perceived social pressure for thinness from social media, media, peers, or family, either between conditions or before versus after exposure within condition. The particular comments used in this study critiqued the naturalness and spontaneity of the photos, as well as the importance our society places on beauty, but the captions did not challenge their idealness. Comments explicitly critiquing the idealness of the images might lead to a different outcome.

The eye-tracking results provide information about areas of the photos that drew participants' attention, as well as how their visual attention related to posttest body anxiety. Taken together, these results allow us to better understand how the messages might have been processed. The main difference in eye movements across conditions was greater attention to the

comment region of the photo for individuals in the Disclaimer Comment condition, suggesting that these disclaimer comments were noticed and processed more extensively by participants. Novel stimuli or those that create prediction error have been shown to draw visual attention (Horstmann & Herwig, 2016). If participants were surprised by the content of the captions in the Disclaimer Caption condition, this may have explained the greater visual interest.

There was no difference by condition in time spent looking at the model, either in terms of overall exposure or attention to specific body regions. As mentioned in other sections of this chapter, eye-tracking data only tell us where a person is looking, and do not allow us to understand the intention behind the gaze. Failing to find a difference in visual attention only indicates that we cannot attribute the difference in outcomes to time spent looking at different parts of the image; it does not eliminate the possibility that captions were processed differently in the minds of viewers. Women in the Disclaimer Comment condition may have still been drawn to look at body parts in the images, but may have thought about those images in a more critical way. This suggestion is in line with our findings that visual attention was similar across conditions, whereas body anxiety outcomes differed.

Overall, eye-tracking data in combination with self-report outcome measures suggest potential differences in cognitive, but not visual, processing of the models in the photos. The results of this study suggest that the disclaimer comments may have offered some protection against increases in body anxiety, as attention to self-reported high-anxiety regions and the waist led to greater body anxiety in the Idealized Comment condition but not the Disclaimer Comment condition. However, this difference cannot be attributed to visual attention alone, since overall visual attention to these regions was comparable between conditions.

Interestingly, for individuals in both conditions, attention to the model's upper thighs predicted more anxiety about participants' own upper thighs. Many of Essena's photos emphasize the negative space between her upper thighs when standing with her feet together, referred to as a "thigh gap." Thigh gaps are considered a desirable attribute in contemporary beauty culture (Leboeuf, 2019), and critical comments may not have been sufficient to ameliorate concerns about this region due to its prominence in the photo. While the comments in this study were manipulated to contain different textual messages, both conditions contained the same visual message: that the model in the photo was an illustration of a beauty ideal in line with conventional beauty standards. In other words, although women in the Disclaimer Comment condition were receiving messages that critiqued the idealized nature of the photographs, they were still being exposed to highly idealized imagery, and in this case the images may have been more influential than the text for this attribute.

As an alternative to disclaimer comments, recent experimental studies have found that social media interventions that alter the definition of idealness itself, such as no-makeup selfies and body positivity (#BoPo) posts that present an array of body types, effectively prevent increases in body dissatisfaction following exposure (Cohen, Fardouly, Newton-John, & Slater, 2019; Fardouly & Rapee, 2019). Future work should continue to explore the use of imagery that challenges the current definition of perfection in social media posts as an alternative to disclaimer labels for improving women's body satisfaction.

Finally, in line with prior scholarship examining visual processing of traditional ideal-body media models (Hewig et al., 2008; Janelle et al., 2003), this study indicates that individuals who were higher in body dissatisfaction at baseline visually processed the thin-ideal social media images in a way that was different from less dissatisfied individuals; namely, they focused more

on areas they rated as high-anxiety on their own body (thus creating opportunities for upward comparisons). In contrast, less dissatisfied individuals engaged in more avoidance of these areas. Both of these findings are consistent with prior research on differences in social comparison between body-satisfied and body-dissatisfied individuals in traditional media (Gao et al., 2014; Glashouwer et al., 2016; Greenberg et al., 2014; Hewig et al., 2008; Lykins et al., 2014; Smeets et al., 2011). This suggests that body dissatisfaction may influence visual processing of the photos, prompting individuals to focus on less affirming comparisons and more on comparisons that exacerbate dissatisfaction.

### **Study 3.3 Limitations and Future Directions**

This study provides an initial investigation of the effect of social media disclaimer comments on women's body anxiety, and as such, it has limitations. Namely, although the baseline measures of body anxiety were similar to the posttest measures, the measures used in the baseline test asked participants to report their trait-level body anxiety whereas the measures used after stimulus exposure asked about state-level body anxiety. This decision was made strategically to limit the priming that might occur from asking participants about state-level anxiety just prior to stimulus viewing, but it limits my ability to confirm that differences between the baseline and posttest measures were due to the experimental manipulation and not a small but meaningful difference in question wording. In addition, the words used to describe some of the body regions in the posttest measure differed slightly from their equivalents in the baseline measure (e.g., "stomach" in the baseline versus "abdomen" in the posttest). This was done to reduce suspicion about the study purpose; however, it limits my ability to definitively compare baseline measures with posttest measures. Future work should consider using identical measures,

or including control photos such as travel images for comparison, in place of baseline measurement.

Another challenging aspect of this study was matching comment content across conditions. The comments used in this study were matched for word count, but it is likely that the captions in the disclaimer comment were more novel to participants than those in the idealized comment condition, since the latter represent the types of comments usually paired with appearance-ideal Instagram imagery. Because of this, it may have taken participants longer to process the disclaimer captions than the idealized captions. Individual photos were displayed for a fixed amount of time before automatically advancing to the next photo; thus, attention to one part of the photo (the caption) necessarily means that there will be less attention to other parts of the photo (the model). It is possible that when self-pacing, as people typically do when viewing social media, participants would choose to spend more time looking at these photos overall. Standardizing the amount of time that participants spent on each photo allowed for more controlled comparisons, but it limits ecological validity. Future studies might consider allowing participants to self-pace through the stimuli to see if differences emerge in overall attention depending on comment type.

Additionally, several of the comments in the Disclaimer Comment condition referenced specific idealized body regions in their critique of the photo (5 photos, 8 body parts mentioned in total), whereas those in the idealized comment mentioned fewer parts (2 photos, 2 body parts referenced). This likely directed participants to visually focus on these areas when looking at the photos, a suggestion supported by work on disclaimer labels in a traditional media context (Bury et al., 2016). It is possible that the disclaimer comments were largely ineffective because they

drew visual attention to socially idealized body regions. A replication should remove any mention to body parts to see if the disclaimer comments work better in that case.

Finally, data for this study were collected between March of 2017 and August of 2018, a few years after Essena O’Neill made national headlines. Participants may have been familiar with her social media account prior to the time of data collection. If they were familiar with O’Neill prior to the study, it is possible that the disclaimer comments were no longer novel, and that they had already formed impressions about the model and her posts prior to the session. Familiarity with O’Neill was not measured in the current study, and thus I could not account for that potential effect. Future work should consider either measuring familiarity with the Instagram account, or placing the disclaimer comments on lesser-known social media accounts, as was done by Fardouly and Holland (2018).

### **Study 3.3 Conclusion**

Exposure to thin-ideal media, both mass and social, has been linked to increased body dissatisfaction in young adult women. Study 3.3 shows limited support for the suggestion that disclaimer labels can be an effective way to mitigate the harmful effects of these photos in a social media context. Specifically, while there was no significant difference in posttest body anxiety between conditions, individuals who saw thin-ideal photos paired with idealized comments reported increases in body anxiety at posttest whereas individuals in the disclaimer comment did not. While visual processing of the photos was largely the same across conditions, there seemed to be differences in cognitive processing. Specifically, attention to high-anxiety body regions and the model’s waist did not lead to increased body anxiety when participants had been exposed to the disclaimer comments. Future work should continue to examine the effectiveness of disclaimer labels as a way to counter the harmful effect of thin-ideal social

media posts, specifically seeking to understand differences in cognition during viewing as well as the types of disclaimers that would be most effective.

**Table 4.1-1***Eye-tracking average total fixation durations by body AOI region*

	<i>N</i>	<i>Mean</i>	<i>(SD)</i>	Min	Max	% of TFD
Person	157	15.96	(2.85)	5.84	19.78	100%
Face	157	5.18	(3.49)	0.00	12.90	31%
Hair	157	.69	(1.46)	0.00	7.50	5%
Chest	157	3.09	(1.54)	0.00	8.47	20%
Arms	157	.73	(0.86)	0.00	4.92	5%
Waist	157	1.51	(0.99)	0.00	4.32	7%
Hips	157	1.40	(1.03)	0.00	4.45	7%
Thighs	157	1.49	(1.42)	0.00	7.28	9%
Lower Legs	157	.59	(0.59)	0.00	3.36	4%
Shoes	157	.34	(0.43)	0.00	2.30	3%
Body Negative	157	.33	(0.51)	0.00	2.45	3%

*Note:* Percent of total fixation duration (TFD) represents the average time of recorded fixation durations in seconds allotted to each area of interest (AOI). The “Person” variable included all body regions.



**Table 4.1-2***Means, Standard Deviations, and Correlations for Key Variables in Study 3.1*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>M</i>	25.73	37.30	34.55	7.16	3.00	5.80	.31	3.52	3.39	3.12	24.48	.31	3.65	2.92	23.39
<i>SD</i>	50.29	70.78	65.92	4.21	3.01	2.37	.19	.97	1.02	1.00	5.54	.46	1.77	1.25	4.96
<i>n</i>	157	157	157	157	157	157	157	157	157	157	157	157	156	157	157
1. Instagram Exposure	--	.63**	.43**	-.11	.24**	-.02	-.06	.08	.18*	.20*	-.02	-.04	.08	-.08	-.06
2. Facebook Exposure		--	.30**	-.08	.06	.17*	-.09	.03	.01	-.01	.12	.07	-.06	.07	.12
3. TV Exposure			--	-.01	.11	-.06	-.06	.09	.09	.06	.07	.08	-.09	.15†	.24**
4. TFD Body Satisfied				--	-.54**	-.40**	.83**	-.37**	-.30**	-.32**	-.12	-.12	.05	.02	.03
5. TFD Body Dissatisfied					--	-.18*	-.28**	.52**	.42**	.48**	.05	.02	-.09	.04	-.03
6. TFD Unclassified						--	-.48**	-.10	-.04	-.04	.12	.18*	-.11	.01	.10
7. TFD % Face vs Person							--	-.14†	-.08	-.08	-.10	-.13	.09	-.02	-.05
8. Body Dissatisfaction								--	.51**	.52**	.35**	.09	-.14†	.14†	.16*
9. Drive for Thinness									--	.67**	.13	-.05	-.04	.01	-.09
10. PAC										--	.08	-.20	.05	-.03	-.05
11. BMI											--	-.08	-.33**	.18*	.18*
12. Race												--	.08	-.02	.08
13. Income													--	-.47**	-.41**
14. Education														--	.70**
15. Age															--

†*p*<.10, \**p*<.05, \*\**p*<.001.

*Note:* Media exposure variables represent daily reported time in minutes. Total Fixation Durations (TFD) are listed in seconds, and were calculated based on participant eye movements. PAC=Physical appearance comparison. Race, Income, and Education are categorical variables. Race/ethnicity coded white = 0, other = 1. Income coded 1 = \$30,000 or below, 2 = 30,000-50,000, 3 = 50,000-70,000, 4 = 100,000 – 200,000, 6 = 200,000 or above. Education coded 1=High school, 2= some college, 3= college degree, 4=some graduate school, 5=graduate degree.

**Table 4.1-3**

*Hierarchical Regression Testing Trait Body Dissatisfaction and Social Media Variables as Predictors of Visual Attention to High-Anxiety Body Regions*

	<i>B</i>	SE	$\beta$	$\Delta R^2$
Step 1				.272**
Trait Body Dissatisfaction	1.627	.21	.522**	
Step 2				.005
TV Use Frequency	.003	.003	.069	
Step 2				.046**
Instagram Use Frequency	.017	.005	.288**	
Facebook Use Frequency	-.006	.004	-.130	

*Note.* \*\* $p < .01$ .

**Table 4.1-4**

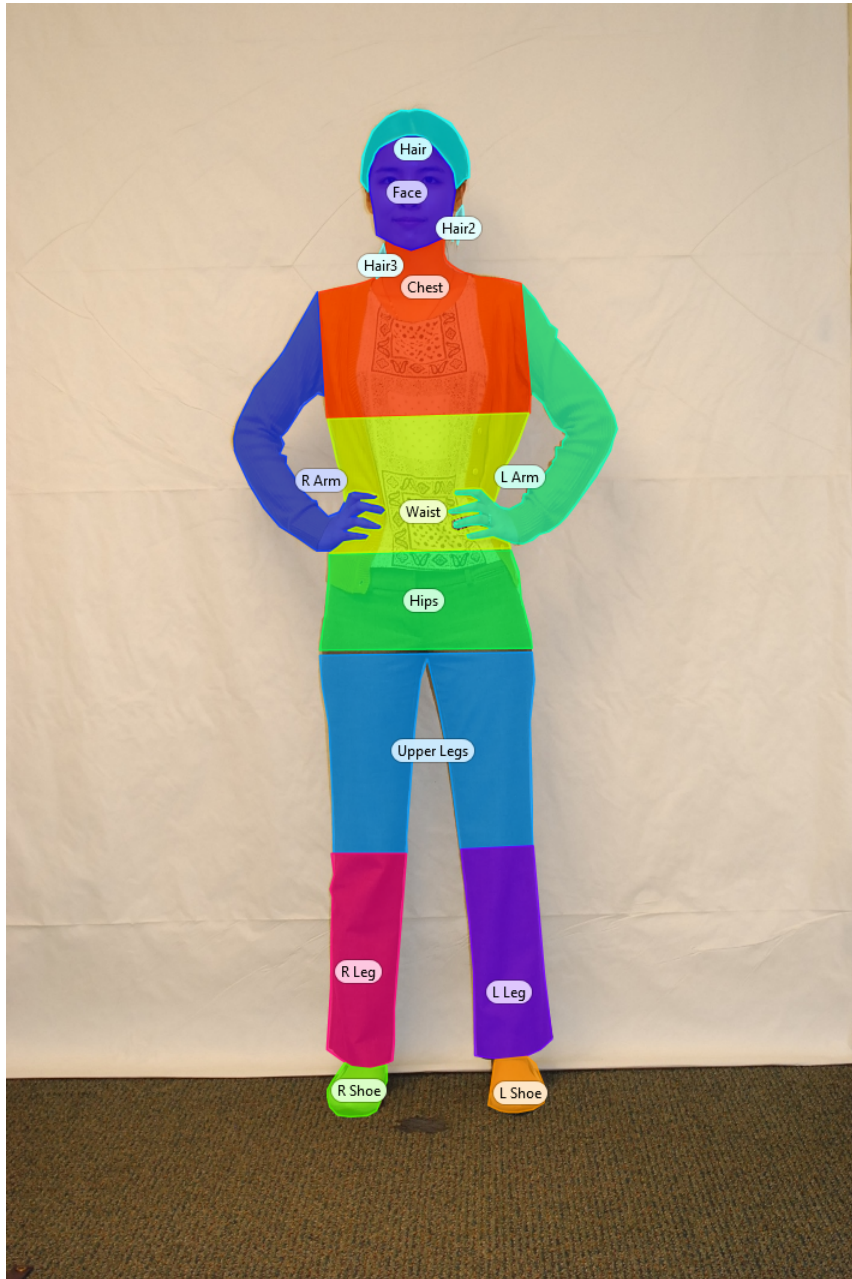
*Regression Coefficients, Indirect Effects, Standard Error, 95% Bias-Corrected Confidence Intervals, and Model Summary Information for the Serial Multiple Mediator Models Depicted in Figures 4.1-3 and 4.1-4*

Path	Model 1				Model 2			
	Instagram				Facebook			
	Coeff.	se	95% CI		Coeff.	se	95% CI	
			Lower	Upper			Lower	Upper
Total effect ( $c$ )	0.0143	0.0047	0.005	0.0235	0.0027	0.0034	-0.0041	0.0094
Direct effect ( $c_0$ )	0.0096	0.004	0.0018	0.0175	0.0022	0.0029	-0.0033	0.0078
$a_1$	0.0040	0.0016	0.0008	0.0071	-0.0001	0.0011	-0.0023	0.0022
$a_2$	-0.0006	0.0013	-0.0032	0.0021	0.0005	0.0009	-0.0013	0.0024
$d_{21}$	0.5099	0.0673	0.3769	0.6429	0.5046	0.0660	0.3743	0.6349
$b_1$	0.7297	0.2330	0.2694	1.1901	0.8403	0.2329	0.3801	1.3005
$b_2$	1.1914	0.2381	0.7210	1.6618	1.1635	0.2422	0.6850	1.6421
Indirect Effects								
$a_1b_1$	0.0029	0.0013	0.0007	0.0087	-0.0001	0.0008	-0.0016	0.0019
$a_2b_1$	-0.0007	0.0013	-0.0035	0.0017	0.0006	0.0010	-0.0014	0.0028
$a_1d_{21}b_2$	0.0024	0.0009	0.0008	0.0044	-0.0010	0.0006	-0.0013	0.0013
Total indirect effect	0.0046	0.002	0.0007	0.0087	0.0005	0.0013	-0.0021	0.0033
$R^2 = .0567$				$R^2 = .0040$				
$F(1, 155) = 9.311, p = .003^{**}$				$F(1, 155) = .620, p = .432$				

Note.  $*p < .05$ . Labeling of direct and indirect paths can be found in Figure 4.1-2 and Figure 4.1-3.

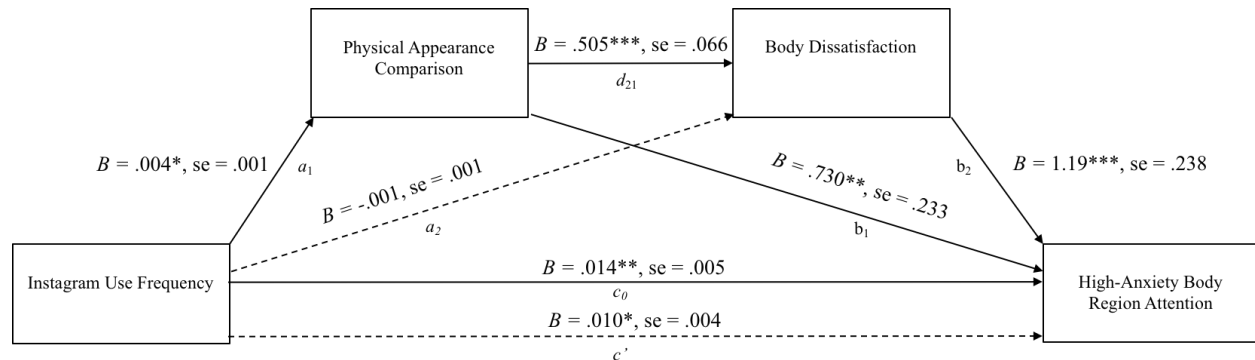
**Figure 4.1-1**

*Sample AOI Tagging for Self-Photo*



**Figure 4.1-2**

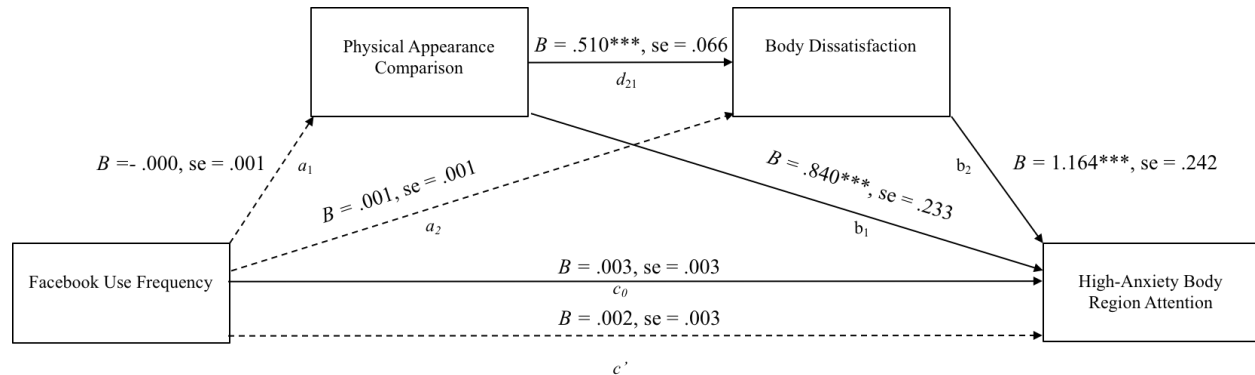
*Serial Mediation Model Examining Physical Appearance Comparison and Body Dissatisfaction as Mediators of the Relationship Between Instagram Use Frequency and Visual Attention to High-Anxiety Body Regions*



*Note.* The dotted line ( $c'$ ) indicates the direct effect of Instagram use frequency on visual attention to high-anxiety body regions. The solid line ( $c_0$ ) represents the total effect. All coefficients are unstandardized, 95% bias corrected confidence intervals based on 10,000 bootstrap samples.  $*p < .05$ ,  $**p < .01$ ,  $***p < .001$ .

**Figure 4.1-3**

*Serial Mediation Model Examining Physical Appearance Comparison and Body Dissatisfaction as Mediators on the Relationship Between Facebook Use Frequency and Visual Attention to High-Anxiety Body Regions*



*Note.* The dotted line ( $c'$ ) indicates the direct effect of Facebook use frequency on visual attention to high-anxiety body regions. The solid line ( $c_0$ ) represents the total effect. All coefficients are unstandardized, 95% bias corrected confidence intervals based on 10,000 bootstrap samples. \*\*\* $p < .001$ .

**Table 4.2-1***Explanation of Stimulus Materials for Each Condition in Study 3.2*

	Empowerment Caption	Objectification Caption	No Caption
Photo	EC + Photo <i>n</i> = 39	OC + Photo <i>n</i> = 36	Photo <i>n</i> = 36
No Photo	EC <i>n</i> = 36	OC <i>n</i> = 37	N/A

*Note.* Columns indicate textual content, whereas rows indicate image content.

**Table 4.2-2***State Self-Objectification and Posttest Felt Empowerment by Condition*

Condition	State SO		AECL		Correlation	
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>r</i>	<i>p</i>
Photo Only	1.38	(0.22)	27.64	(2.21)	-.28	.11
OC + Photo	1.47	(0.21)	27.76	(2.21)	-.25	.14
EC + Photo	0.90	(0.21)	24.42	(2.13)	-.13	.42
OC	1.24	(0.21)	29.42	(2.18)	.10	.56
EC	1.31	(0.22)	34.47	(2.22)	-.21	.22

*Note.* State self-objectification scores reflect posttest responses to the Twenty Statements Test, with higher numbers representing higher state SO. Felt empowerment scores represent posttest AECL-24 scores, controlling for baseline AECL-24 scores.

**Table 4.2-3**

*Descriptive Data for Eye Tracking and Correlations with Self-Objectification and Felt Empowerment*

		Eye Tracking		<i>r</i>	
		<i>M</i>	<i>SD</i>	State SO	Felt Empowerment
Person					
	Photo	124.61 <sub>a,b</sub>	25.09	.26	-.45**
	EC + Photo	79.21 <sub>a</sub>	22.52	-.06	.16
	OC + Photo	84.35 <sub>b</sub>	22.11	.25	-.27
	Total	95.70	30.76	.18 <sup>†</sup>	-.12
Text					
	Photo	---	---	---	---
	EC + Photo	35.89	12.45	-.22	.25
	OC + Photo	33.90	12.81	-.27	-.02
	Total	34.95	12.57	-.25*	.02
Face					
	Photo	46.95 <sub>a,b</sub>	14.36	.13	-.29 <sup>†</sup>
	EC + Photo	28.02 <sub>a,†</sub>	10.24	-.23	.31 <sup>†</sup>
	OC + Photo	33.37 <sub>b,†</sub>	12.08	.12	-.29 <sup>†</sup>
	Total	35.92	14.59	.10	-.08
% Person on Face					
	Photo	38%	0.10	.01	-.03
	EC + Photo	35% <sub>†</sub>	0.08	-.32*	.32 <sup>†</sup>
	OC + Photo	40% <sub>†</sub>	0.13	-.05	-.11
	Total	37%	0.10	-.05	.02
High-anxiety Regions					
	Photo	17.32 <sub>b</sub>	19.17	.47**	-.51**
	EC + Photo	12.44	9.58	.15	-.36*
	OC + Photo	7.85 <sub>b</sub>	9.14	.04	-.28
	Total	12.58	13.84	.28**	-.37**
Low-anxiety Regions					
	Photo	54.60 <sub>a,b</sub>	19.42	-.24	.21
	EC + Photo	34.33 <sub>a,†</sub>	15.36	-.15	.39*
	OC + Photo	42.10 <sub>b,†</sub>	16.74	.21	-.17
	Total	43.52	19.04	-.02	.12

*Note.* SO indicates self-objectification scores as measured by the TST. Felt empowerment scores were measured using the AECL-24 at posttest. Attention times represent the total fixation duration in seconds for each area of interest across the 10 images. The “time on face” percentage represents the proportion of the time spent looking at the model’s face vs total attention to the model. Letter indicate that the pairwise comparison across conditions significantly differed for that particular AOI ( $p < .05$ ). \* $p < .05$ , \*\* $p < .01$ .



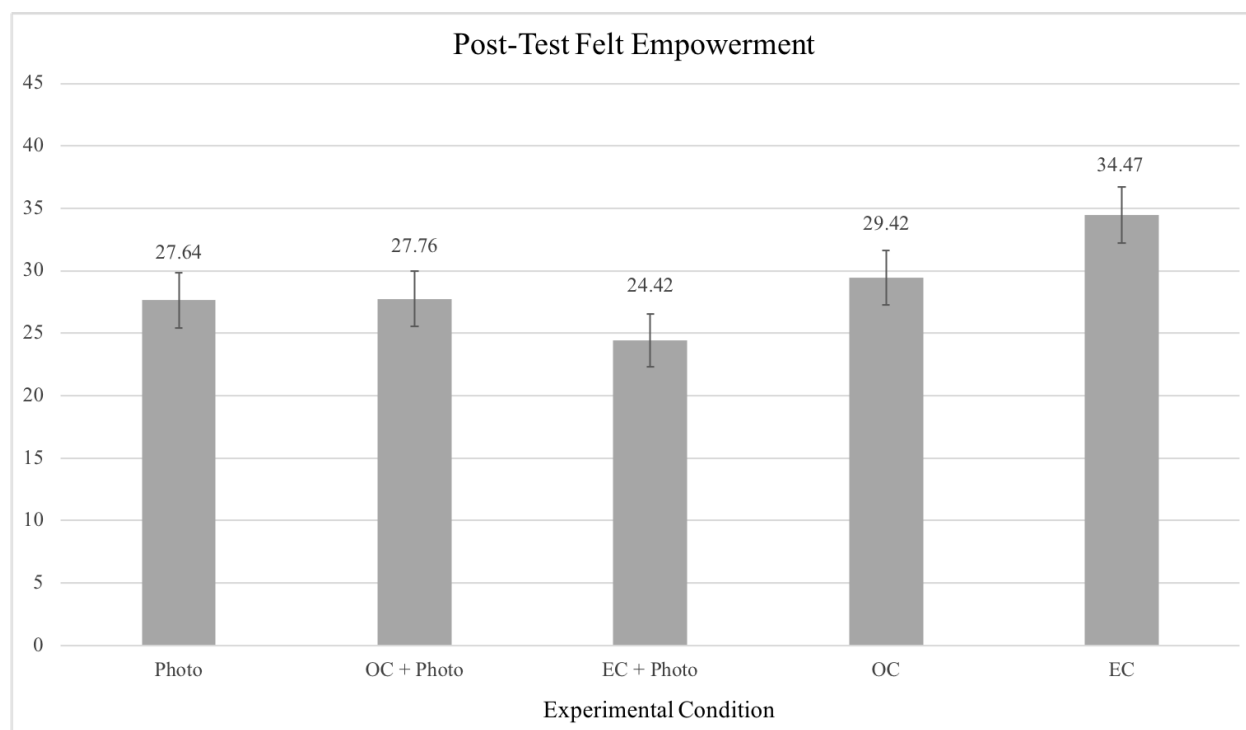
**Table 4.2-4***Hierarchical Regression Results for State Objectification*

Predictor	All Photo Conditions			Advertising Condition								
	$\Delta R^2$	$\beta$	$p$	Photo Only			EC + Photo			OC + Photo		
				$\Delta R^2$	$\beta$	$p$	$\Delta R^2$	$\beta$	$p$	$\Delta R^2$	$\beta$	$p$
Step 1	.058			.035			.011			.245		
Trait Objectification		.24*	.010		.188	.287		.106	.526		0.05**	.002
Step 2	.053			.188			.023			.018		
Low-anxiety Body Region TFD		.079	.429		.100	.660		-.101	.590		.152	.393
High-anxiety Body Region TFD		.260*	.015		0.55*	.034		.097	.602		.070	.687
Total $R^2$	.111			.223			.034			.263		
$n$	107			34			38			35		

*Note.* High-anxiety body regions were determined per participant using pretest measures on the PASTA scale, and scores represent the total fixation duration (TFD) for any body part within a high-anxiety region.

**Figure 4.2-1**

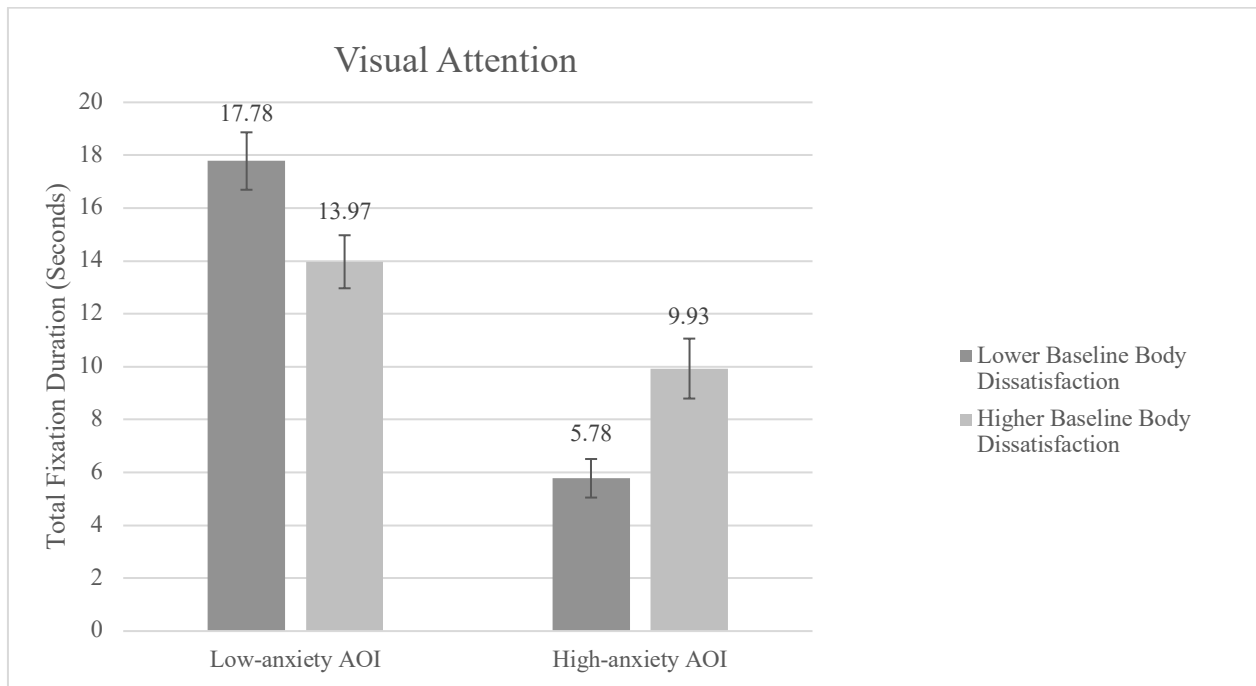
*Posttest Felt Empowerment Comparisons Between Conditions.*



*Note.* Felt empowerment was measuring using the 24-Item Affective Empowerment Adjective Checklist, with higher scores representing greater felt empowerment. Potential scores ranged from -72 to +72. Scores in the EC condition significantly differed from all conditions except for the OC condition. No other pairwise comparison was significant.

**Figure 4.3-1**

*Visual Attention to High- vs Low-Anxiety Regions for Participants in Both Conditions, Split by Baseline Body Dissatisfaction*



*Note.* All pairwise comparisons significantly differed from one another at the  $p < .01$  level.

**Table 4.3-1***Comparing Pretest and Posttest Scores for Body Anxiety in Each Condition*

Body Part	Condition	Baseline	F Value <sub>1</sub>	Posttest	F Value <sub>2</sub>	$\eta_p^2$
Total	Idealized (n = 94)	2.29 (.74)	0.07 ( $p = .79$ )	2.46 (.07)	1.92 ( $p = .17$ )	.010
	Disclaimer (n = 92)	2.28 (.89)		2.33 (.07)		
	Total (n = 186)	2.28 (.82)		2.39 (.89)		
Buttocks	Idealized (n = 93)	2.09 (1.07)	1.57 ( $p = .21$ )	2.33 (.11)	.99 ( $p = .32$ )	.005
	Disclaimer (n = 92)	2.30 (1.29)		2.18 (.11)		
	Total (n = 185)	2.19 (1.19)		2.26 (1.24)		
Hips	Idealized (n = 93)	2.27 (1.24)	0.78 ( $p = .38$ )	2.43 (.11)	.14 ( $p = .71$ )	.001
	Disclaimer (n = 92)	2.11 (1.24)		2.37 (.11)		
	Total (n = 185)	2.19 (1.23)		2.39 (1.32)		
Legs	Idealized (n = 93)	2.45 (1.24)	1.45 ( $p = .23$ )	2.65 (.11)	.53 ( $p = .47$ )	.003
	Disclaimer (n = 92)	2.23 (1.29)		2.53 (.11)		
	Total (n = 185)	2.34 (1.26)		2.59 (1.27)		
Stomach	Idealized (n = 93)	3.23 (1.26)	.00 ( $p = .99$ )	3.31 (.10)	1.62 ( $p = .21$ )	.016
	Critical (n = 92)	3.23 (1.29)		3.06 (.10)		
	Total (n = 185)	3.23 (1.27)		3.18 (1.26)		
Thighs	Idealized (n = 93)	2.68 (1.21)	1.76 ( $p = .19$ )	2.77 (.11)	.001 ( $p = .97$ )	.000
	Critical (n = 92)	2.43 (1.28)		2.76 (.11)		
	Total (n = 185)	2.56 (1.25)		2.76 (1.36)		
Weight	Idealized (n = 93)	2.73 (1.30)	.95 ( $p = .33$ )	3.16 (.11)	4.69 ( $p = .03^*$ )	.025
	Critical (n = 92)	2.92 (1.39)		2.84 (.11)		
	Total (n = 185)	2.83 (1.34)		2.99 (1.34)		

*Note.* F Value<sub>1</sub> shows the t-test results comparing baseline body anxiety at baseline between conditions for each body part, and F Value<sub>2</sub> indicates the t-test results for posttest body anxiety comparisons between condition for each body part, controlling for baseline measures. \* $p < .05$ .

**Table 4.3-2***Relationship Between Fixation Duration and Body Anxiety for Each Region*

	Condition	Fixation Duration (Seconds)		Posttest Body Anxiety		Correlation	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>r</i>	<i>p</i>
Caption	Idealized	53.92**	(24.01)	2.91	(1.18)	-.06	.63
	Disclaimer	67.81**	(27.62)	2.75	(1.10)	-.03	.83
	Total	60.57	(26.58)	2.83	(1.13)	-.06	.49
Person	Idealized	41.34	(19.86)	2.91	(1.18)	.09	.42
	Disclaimer	37.25	(18.35)	2.75	(1.10)	-.01	.91
	Total	39.36	(19.14)	2.83	(1.13)	.05	.52
Hair	Idealized	2.54	(1.80)	2.08	(1.18)	.13	.13
	Disclaimer	2.15	(2.34)	1.82	(1.03)	.08	.25
	Total	2.35	(2.08)	1.95	(1.11)	.11	.20
Face	Idealized	11.95	(5.90)	2.50	(1.11)	.09	.23
	Disclaimer	10.65	(6.56)	2.30	(1.15)	-.12	.16
	Total	11.32	(6.24)	2.41	(1.13)	-.01	.93
Arms	Idealized	4.15*	(2.41)	2.38	(1.20)	.10	.19
	Disclaimer	3.33*	(2.14)	2.21	(1.09)	-.06	.30
	Total	3.75	(2.31)	2.29	(1.15)	.00	.99
Waist	Idealized	5.93	(4.69)	3.33	(1.23)	.36**	< .001
	Disclaimer	5.40	(3.60)	3.10	(1.23)	.04	.36
	Total	5.67	(4.19)	3.22	(1.23)	.23**	< .001
Hips/Buttocks	Idealized	4.03	(2.92)	2.37	(1.23)	.09	.22
	Disclaimer	3.85	(2.55)	2.32	(1.16)	.02	.43
	Total	3.94	(2.74)	2.41	(1.34)	.06	.50
Thighs	Idealized	1.47	(1.81)	2.83	(1.35)	.25*	.01
	Disclaimer	1.23	(1.41)	2.73	(1.43)	.27*	.01
	Total	1.35	(1.63)	2.78	(1.38)	.26**	< .001
Legs	Idealized	1.87	(2.01)	2.69	(1.23)	.15	.09
	Disclaimer	1.61	(1.49)	2.48	(1.27)	.07	.29
	Total	1.75	(1.77)	2.58	1.25	.12	.14
High-Anxiety Composite	Idealized	8.43	(9.25)	3.50	(1.09)	.25*	.02
	Disclaimer	6.20	(5.78)	3.55	(1.08)	.20	.09
	Total	7.47	(7.98)	3.52	(1.08)	.23*	.02
Low-Anxiety Composite	Idealized	14.46	(8.20)	2.45	(1.00)	-.16	.09
	Disclaimer	14.20	(8.51)	2.29	(0.91)	-0.23*	.02
	Total	12.40	(8.11)	2.52	(0.97)	-.17	.07

*Note:* Fixation duration measure reported in seconds across the 10 images. An asterisk indicates significant differences between conditions in the fixation durations column and the posttest body anxiety column. An asterisk in the correlation column indicates that the total fixation duration significantly correlated with posttest body anxiety. Posttest body anxiety reported for the Caption and Model regions reflect reported posttest anxiety regarding “overall appearance.” \*  $p < .05$ , \*\*  $p < .01$ .

## **Chapter 5**

### **Overall Summary and Conclusion**

Collectively, the studies in this dissertation introduce a communication-based theoretical framework for evaluating felt empowerment in response to allegedly empowering media messages and images. The effect of exposure to objectifying imagery on women's body image has been established in prior research. However, objectification theory largely neglects to consider the relationship between objectification and empowerment, and the visual processing behind objectification as an outcome. This project advances the literature on media and body image by introducing eye-tracking methods as a way to examine the visual processing of objectifying imagery. By pairing self-report measures with eye-tracking data, I offer a new lens for examining the tensions between objectification and empowerment commonly discussed in feminist theory (Gill, 2003; Lamb & Peterson, 2012).

My primary goals at the onset of this project were a) to understand whether ETAs increased women's feelings of empowerment, and b) to explore the relationship between felt empowerment and self-objectification. As described in the preceding chapters, this project used a range of experimental designs to examine visual processing and effects of empowerment-themed media. Chapter 1 provided a theoretical foundation for understanding what empowerment encompasses—what we knew about it from prior literature, and the expected relationship to self-

objectification. Chapter 2 examined the mechanism of empowerment, using a lexical decision task to understand empowerment and objectification schemas in response to a range of advertising conditions. Chapter 3 addressed the measurement of felt empowerment, generating a context-flexible measure that can be used to measure feelings of empowerment in reaction to sociocultural messages like advertising. Finally, the eye-tracking studies in Chapter 4 linked visual processing of message factors (text and imagery) with self-report outcomes to understand visual processing of media messages and its links to psychological effects including objectification and felt empowerment. In this final chapter, I summarize the results of each study before discussing themes and collective findings across the dissertation as a whole. Following this, I discuss the overall implications of the findings and areas for future research.

### **Summary of Study Findings**

In Study 1, I used a lexical decision task (LDT) to measure the activation of empowerment and objectification schemas after exposure to a range of advertising types. Participants saw advertisements from conditions representing combinations of low/high empowerment and objectification themes. They then completed an LDT along with explicit measures of body awareness and perceived empowerment, which were used as a manipulation check. The results of the manipulation check indicated that the ETAs were perceived as significantly more empowering than the traditional beauty and control advertisements, and that ETA exposure led to more body awareness than the control condition, but less than the traditional beauty condition.

Interpreting the results from the implicit LDT measures in Study 1 is made difficult by the predicted increase in cognitive load associated with self-objectification. In contrast to the self-report items used for the manipulation check, which showed that perceived empowerment

was greater after exposure to ETAs, results of the LDT indicated that no group showed greater activation of empowerment schemas than the control group. This finding implies that the advertisements were ineffective at increasing activation of empowerment schemas. Both empowerment-relevant and objectification-relevant words were recognized faster than neutral words in all conditions, suggesting that empowerment and objectification schemas can be primed simultaneously. Individuals who saw traditional beauty advertisements were slower to respond to word trials in the LDT across word types, including neutral words. This may indicate increased cognitive load, which is consistent with the argument that self-objectification is cognitively taxing (Gay & Castano, 2010).

Study 2 described the development of the Affective Empowerment Checklist (AECL), a scale to measure self-reported felt empowerment. I tested three versions of the scale, each with a different number of items. Of the three versions, the 24-item scale demonstrated the best balance between concept completeness and ease of reporting. The AECL-24 demonstrated good reliability in both student and general samples, and predicted responses to other relevant constructs such as self-esteem, self-efficacy, assertiveness, and context-specific measures of empowerment. Endorsement of empowerment and disempowerment adjectives was negatively, but not perfectly, correlated. In other words, while participants tended to endorse words from one word group over the other, they did not exclusively endorse words from one word group. Thus, it is possible to feel both empowered and disempowered. This finding supports the use of both word types when evaluating participants' feelings of empowerment, and the decision to subtract disempowerment word averages from empowerment word averages to create a net score.

Felt empowerment is a fluid, continuous, and developmental process (Zimmerman, 2000). While positive scores on the AECL-24 represent relatively more felt empowerment than



disempowerment, and negative scores represent relatively more disempowerment than felt empowerment, it is inappropriate to use this score to label individuals as empowered or disempowered. As individuals experience much more endorsement of empowerment adjectives than disempowerment adjectives (more extreme positive scores) I would expect them to feel more empowered, but this is true whether the movement is from -20 to -10 or -5 to +5. Thus, instead of using a score of 0 as a tipping point, the scale should be used as a continuous measure.

Gaining feelings of empowerment is an incremental and developmental process (Zimmerman, 2000). There may be tipping points in which an individual would express “feeling empowered” but this is both person and context dependent. In this way, a comparison can be made to the experience of feeling tall. An individual who is of average height who walks into a room of individuals who are shorter than them will likely feel “tall” in that context. Similarly, an individual who is of average height that walks into a room of individuals who are very tall will likely not feel tall, even if they stay the same height as they would have been in the room of shorter individuals. Sudden increases in height, such as putting on a pair of high-heeled shoes can make individuals suddenly feel much taller. In parallel, exposure to empowering media may suddenly make individuals feel more empowered in a noticeable way. In sum, the change in felt empowerment that is sufficient to lead to behavioral change is different for each individual, and this experience is more related to personal and social context than reaching a specific measure on the scale.

Scores on the AECL-24 were most strongly correlated with scales measuring self-esteem and assertiveness, indicating that these two constructs may be central to felt empowerment. Some demographic differences emerged in felt empowerment based on gender, race/ethnicity, and family income, although there were discrepancies across sample groups. Gender differences

in felt empowerment emerged in the general sample but not the student sample, with women in the general sample reporting lower felt empowerment than men. In contrast, racial and SES differences emerged in the student sample, with reports of lower household income or belonging to a minority group predicting lower felt empowerment.

Race and gender were correlated in the general sample, indicating that participants who identified as female in this group were more likely to identify as a race/ethnicity other than white. Social identities are intersectional, and thus looking at gender and race in isolation of one another does not provide a good indication of an individual's lived experiences. It is hard to separate the impact of being female from the impact of belonging to a minority group, which could help to explain the differences in findings across the samples. Further, the lack of a gender difference in typical felt empowerment in the student sample could reflect inexperience with disempowering gender disparities in the work world, with which the older and more experienced women in the general sample would have been familiar.

Study 3 described the results of a series of eye-tracking studies examining the visual processing of media messages across a variety of platforms. In Study 3.1, the self-photo study, I made the argument that scholars studying social media and body dissatisfaction should consider self-evaluations when using social comparison theory. Prior research has indicated that greater social media activity, particularly engaging in photo-based behaviors, predicts body dissatisfaction (Cohen et al., 2017; Cohen, Newton-John, & Slater, 2018; Meier & Gray, 2013), which in turn has been shown to predict visual attention to self-identified unattractive regions (Glashouwer et al., 2016; Greenberg et al., 2014; Janelle et al., 2003; Jansen et al., 2005). In line with this, I found that participants with greater Instagram use frequency spent more time visually

focused on body regions that they reported as high-anxiety, with appearance comparison and body dissatisfaction serving as partial serial mediators.

Similar to cross-sectional findings from other scholars (Modica, 2019), neither Instagram nor Facebook use frequency predicted body dissatisfaction in this sample. Instead, Instagram use frequency predicted greater appearance comparison, which in turn predicted greater body dissatisfaction, which finally predicted visual attention. Interestingly, Facebook use frequency did not predict physical appearance comparison, body dissatisfaction, or visual attention. Instagram is a highly visual social media platform (Marengo et al., 2018), and the emphasis on aesthetic content and photo-based behaviors may encourage users to underestimate the appeal of their own appearance when making social comparisons.

Study 3.2 provided a multimodal framing examination of ETA effects. Whereas Study 1 measured the mechanisms associated with ETA exposure, Study 3.2 went a step further to examine message processing and the impact of message factors (text and visual). The results of Study 3.2 demonstrated that the captions used in ETAs increased women's empowerment when viewed in isolation, but not when paired with an image. Participants who saw an empowerment-themed caption reported greater felt empowerment at posttest than participants who saw the same text paired with imagery.

Using eye-tracking methods in the photo conditions of Study 3.2 allowed me to examine message processing, testing how visual attention related to self-reported outcomes of felt empowerment and self-objectification. Contrary to my hypotheses, the amount of visual attention paid to either the model or the text did not predict self-objectification or felt empowerment. Textual framing of the photo as objectifying or empowering did not change attention to photo regions, although participants who saw the same images paired with objectifying text (OC +

Photo condition) reported higher self-objectification than participants in the EC + Photo condition. The results of Study 3.2 as a whole suggest that the presence of the photo worked against the capacity of the empowerment-themed message to increase felt empowerment.

Study 3.3 examined the message processing of images framed with idealized or disclaimer comments. Prior research has repeatedly indicated that disclaimer captions are ineffective as an intervention strategy for body dissatisfaction following exposure to thin-ideal images (Ata et al., 2013; Bury et al., 2016; Frederick, Sandhu, Scott, & Akbari, 2016; Lewis, Pelled, & Tal-or, 2019; Selimbegovi & Chatard, 2015; Tiggemann et al., 2017), but little work has examined the effect of disclaimer-type comments in a social media context. Study 3.3 provided limited support for the idea that disclaimer labels can help mitigate the harmful effects of thin-ideal photos in a social media context. Individuals in the Idealized Comment condition reported an increase in body anxiety from baseline measurement to post-test measurement, whereas individuals in the Disclaimer Comment condition did not, but this increase was relatively small. The findings of this study indicated that body anxiety after stimulus exposure did not differ between the two conditions, and visual processing was similar. Thus, alternatives to disclaimer label interventions should be explored.

### **Thematic Discussion**

Two primary themes were explored across the studies presented in this dissertation: the effects of ETAs on felt empowerment and self-objectification, and the relationship between empowerment and self-objectification in response to media. For the remainder of this chapter, I explore each theme, examining takeaway conclusions informed by individual studies and all of the studies collectively.

### ***Theme 1: Effects of ETAs on Felt Empowerment and Self-Objectification***

In this section, I discuss the findings related to ETA effects on felt empowerment and self-objectification. This section also includes a discussion about visual processing and message factors. Both Study 1 and Study 3.2 examined the effects of exposure to ETAs on women's empowerment and self-objectification. In Study 1, activation of empowerment and objectification schemas were measured using a lexical decision task. In Study 3.2, felt empowerment was measured using the AECL-24, and self-objectification was measured using the Twenty Statements Task (Fredrickson et al., 1998). Both of these studies indicated that ETAs were largely ineffective at increasing women's feelings of empowerment, though findings related to self-objectification were mixed.

The single-item manipulation check used in Study 1 provided preliminary evidence that participants perceived the ETAs used in the video advertisements as empowering. Participants in both the Beauty ETA and General ETA condition reporting feeling more empowered after watching the advertisements when asked with a single-item Likert question. This perceived empowerment did not carry over to the lexical decision task results, however, with participants in the ETA conditions recognizing empowerment-relevant words similar rates to participants in the Beauty TRAD and General TRAD conditions. In further support of the suggestion that exposure to ETAs did not lead to greater felt empowerment, participants in Study 3.2 who were shown ambiguous photos with empowerment-themed captions did not report greater feelings of empowerment than participants in other conditions.

In my initial study (Couture Bue & Harrison, 2019), I did not measure felt empowerment, although I measured self-efficacy. Self-efficacy is a construct closely related to felt empowerment, as demonstrated in the Study 2 results. In this initial study (Couture Bue &

Harrison, 2019), which also used video stimuli similar to those used in Study 1 of this dissertation, I did not find that participants who saw beauty ETAs reported greater self-efficacy than those who saw traditional beauty or neutral advertisements. This finding, along with the findings of Study 1 and Study 3.2, suggest that both print and video ETAs as they are currently created are ineffective at increasing women's felt empowerment.

The finding that caption-only conditions did increase felt empowerment in Study 3.2 raises the question of why the images used in Study 3.2 were ineffective. As presented in Chapter 1 and the introduction to Study 1, my initial expectation was that objectifying content in the images compromised the empowerment potential of the advertisement. In Study 1, body awareness after exposure to ETAs was measured using a single-item Likert question. Body awareness in Study 1 was in a similar pattern to the results of my initial study (Couture Bue & Harrison, 2019), which demonstrated that ETAs led to more self-objectification than the control condition but less self-objectification than traditional beauty advertisements. Both my initial study (Couture Bue & Harrison, 2019) and Study 3.2 used the twenty statements test (Fredrickson et al., 1998) to measure state self-objectification. Interestingly, in Study 3.2 self-objectification was not significantly different in the photo-only condition compared to the empowerment caption condition; the only significant difference was between the photo framed with an empowerment-themed caption and the photo framed with an objectification-themed caption, with participants in the OC + Photo condition reporting significantly greater self-objectification. This suggests that the photo alone did not prompt greater self-objectification. While the results of Study 3.2 suggest that the image did, in fact, limit increases in felt empowerment, self-objectification does not seem to be the mechanism explaining the

ineffectiveness of the image, as posttest scores of felt empowerment and self-objectification were not correlated in this condition.

Theories such as Dynamic Human-Centered Communications System Theory (DHCCST) (Lang, 2014), and to some extent objectification theory (Fredrickson & Roberts, 1997), suggest that images may be more powerful than text. This dissertation provided some support for this, but not consistent support. Both Study 3.2 (advertising) and Study 3.3 (social media) examined how textual framing of an image could affect visual processing and outcomes. In both of these studies, participants demonstrated similar visual processing of the photos regardless of text condition, supporting the idea that the visual image overrode textual framing. In Study 3.3, attention to the model's thighs predicted an increase in body anxiety about the participant's own thighs, and post-test body anxiety scores did not significantly differ by condition, further supporting DHCCST. In contrast to the predictions of DHCCST, self-objectification differed between the EC + Photo framing and the OC + Photo framing conditions in Study 3.2, and attention to the model's waist led to different outcomes based on condition in Study 3.3. These mixed results indicate a more complicated relationship between text and image that should be explored further in future research.

The stimuli used in Study 1 and my initial study (Couture Bue & Harrison, 2019) used video advertisements that featured empowering narratives. These stimuli differed from the stimuli in Study 3.2, which used print images paired with textual captions. This distinction may be important in the context of self-objectification. Scholars studying self-objectification have made the distinction between representations of women's bodies that emphasize body-as-object, which relates to physical appearance, and body-as-process, which relates to body competency (Linder & Daniels, 2018; Mulgrew, McCulloch, Farren, Prichard, & Lim, 2018). While scholars

have used still images to convey body-as-process (e.g., Linder & Daniels, 2018), it is easier to convey body competency in moving images.

Research on whether framing an image as body-as-process improves body outcomes after exposure provides mixed results. A study by Alleva, Veldhuis, and Martijn (2016) found that priming participants to focus on body functionality before exposure to idealized images led to improved body image as compared to a control condition in which they described routes that they frequently travel. Other studies have shown that prompting participants to focus on body functionality improved immediate body image but did not protect against body dissatisfaction following exposure to thin-ideal media exposure (Mulgrew, Stalley, & Tiggemann, 2017). In fact, Mulgrew and Tiggemann (2018) found that priming attention toward body functionality actually produced worse outcomes than priming participants to focus on appearance. Other studies have shown that exposure to images of full-figured women improved body appreciation, but the framing of body functionality versus appearance did not have an effect (Williamson & Karazsia, 2018), thus future work is needed to explore non-objectifying image alternatives for women.

In sum, the findings about the effectiveness of ETAs in empowering women largely indicated that ETA exposure did not increase felt empowerment, though the results on whether or not they impacted women's self-objectification were mixed. The results of Study 1 indicated that imagery used in ETAs led to greater body awareness as compared to control advertisements, which could lead to problematic outcomes for women (Fredrickson et al., 1998; Quinn et al., 2006; Schaefer et al., 2018), though in Study 3.2 self-objectification scores were lowest in the EC + photo condition, the condition most representative of print ETAs. While the photo limited the potential for felt empowerment, it did not seem to be because of self-objectification, as there



was no significant relationship between felt empowerment and self-objectification in the EC + photo condition. Thus, it is likely that a mechanism other than self-objectification, such as social comparison to targets that were perceived as being unreachable, limited the potential of the ETA photos.

### ***Theme 2: Relationship Between Felt Empowerment and Self-Objectification***

When looking at empowerment theory and objectification theory independently, it seems that empowerment and objectification would be in opposition, with feelings of empowerment leading primarily to adaptive outcomes (e.g., Diener & Biswas-Diener, 2005; Livne & Rashkovits, 2018; Shogren, Lee, & Panko, 2017) and self-objectification leading primarily to maladaptive outcomes (e.g., Fredrickson, Roberts, Noll, Quinn, & Twenge, 1998; Harrison & Fredrickson, 2003; Quinn, Kallen, Twenge, & Fredrickson, 2006). The results of this dissertation project and the results of my first study on the topic (Couture Bue & Harrison, 2019) do not support this idea.

In Study 1, the results of the lexical decision task suggest that appearance and empowerment schemas can co-exist and be primed simultaneously. Further, self-reports of perceived empowerment and body awareness were not significantly correlated in the manipulation check used in Study 1. In Study 3.2, felt empowerment as measured by the AECL-24 and state self-objectification were negatively correlated across the sample in its entirety, but unrelated in individual conditions. Finally, in Couture Bue and Harrison (2019), participants who used more appearance-related words to describe themselves reported feeling more self-efficacy in the context of a speaking task. For this task, a greater focus on appearance seemed to make participants feel more equipped for the task (Couture Bue & Harrison, 2019).

Taken together, these results indicate a complicated relationship between bodies, appearance, and power. While the introduction sets up a clear (negative) relationship between felt empowerment and self-objectification, in reality, this relationship is more nuanced due to sociocultural values that reward physical beauty in women with access to resources (i.e., increased structural empowerment). We live in a culture that privileges some bodies and stigmatizes others. Specifically, light skin, youth, and a slim and muscular physique are currently privileged in our society, whereas obese or dark-skinned bodies are stigmatized (Hunter, 2007; Musher-Eizenman & Carels, 2009). In their foundational text introducing objectification theory, Fredrickson and Roberts (1997) argue that:

"...physical beauty can translate to power for women: Attractiveness functions as a prime currency for women's social and economic success. The value of this currency, however, may differ across subgroups of women. Arguably, for example, to be traded for social and economic power, a woman's beauty must appeal to the tastes of the dominant (White male) culture."

Thus, women who fit cultural beauty ideals are awarded privilege in ways that make it advantageous to self-objectify. For example, work on the halo effect has demonstrated that both women and men with attractive faces are judged as more talented (Kaplan, 1978), more intelligent (Musher-Eizenman, 2009), and more socially competent (Eagly, Ashmore, Makhijani, & Longo, 1991) than less attractive individuals with similar skill sets, whereas unattractive individuals are penalized (Griffin & Langlois, 2006). In contrast, overweight is stigmatized (Lewis, 1997; Puhl, Brownell, & Bias, 2001), and overweight individuals are less liked, attributed with negative personality traits, and perceived as less able than thinner individuals (Cross et al., 2017). These benefits of facial attractiveness may extend to the workplace, where facially attractive individuals are more likely to be hired (Marlowe, Schneider, & Nelson, 1996),

judged as competent (Dipboye, Fromkin, & Wiback, 1975), and well-paid (Hamermesh & Biddle, 1994) than less facially attractive individuals.

A recent study by Cross et al. (2017) examined the impact of weight bias and attractiveness bias on a range of personality traits. They had participants view photos in a 2 (weight: thin vs overweight) x 2 (facial attractiveness: attractive vs unattractive) design, finding evidence that both facial attractiveness and weight attractiveness led to more favorable evaluation of the 15 personality traits measured. Interestingly, while perceptions of attractiveness fully mediated the relationship between condition and personality characteristics in the facial attractiveness analysis, overweight was associated with more negative personality characteristics, even when the overweight was not judged as unattractive. This indicates that appearance stigma and biases impact our perceptions of others in a way that privileges some bodies over others. As such, it is not unreasonable to think that attractiveness could be a way to gain structural empowerment and access to resources.

The survey used in Study 2 of this dissertation to validate the Affective Empowerment Checklist (AECL) included questions about perceived structural privilege, including attractiveness, geography, gender, race/ethnicity, citizenship status, intelligence, sexual orientation, religion, and social class. For attractiveness, participants were given the following instructions:

"Think of this ladder as representing where people stand in our society. At the top of the ladder are the people whose physical attractiveness (beauty, body shape, etc.) is the most ideal, accepted, and valued in our society. At the bottom of the ladder are the people whose physical attractiveness is the least ideal, accepted, and valued in our society. The higher up you are on this ladder, the closer you are to the people at the very top and the lower you are, the closer you are to the bottom. Where would you put yourself on the ladder? Please place the slider beside the rung where you think you stand."

Scores between self-reported physical attractiveness and the AECL were significantly and positively correlated ( $r(363) = .41, p < .001$ ), with felt empowerment scores increasing as women perceived their bodies approaching the ideal. Perceived attractiveness was more strongly correlated with felt empowerment than any other indicator (Table 5-1). If we consider that physical appearance could be a legitimate path to structural empowerment for women, it makes sense that feeling more attractive would lead to greater feelings of empowerment. By extension, media messages that provide suggestions for improving appearance could also lead to greater feelings of empowerment.

Companies in the beauty industry profit from women's insecurities; messages that provide women with solutions for improving their appearance through product consumption are implicitly paired with the message that women's bodies need improving. In contrast to this, messages in the body positivity movement encourage women to love their bodies as they are. Exposure to both of these message types may both lead to greater felt empowerment if women are becoming more confident through appearance enhancement, but they may lead to different long-term consequences. Just as eating energy dense foods satisfies individuals in the short term, but quickly leaves them hungry for more, exposure to campaigns that promote feeling confident through consumption of beauty products or body changes may only be effective until participants are exposed to other idealized media or until they no longer feel their bodies are ideal. In contrast, body positivity messages may lead to longer-term feelings of empowerment, but may still create confidence from identity that is still associated with appearance and conforming to cultural ideals. As such, empowerment that comes from appearance is likely problematic.

Beauty ideals are a social construct, and the standard for what is beautiful changes over time. Even in the last decade, scholars have documented shifts from an exclusively thin ideal to a

thin and muscular ideal (Boepple et al., 2016; Bozsik et al., 2018). Other recent movements include a call for acceptance of a diverse range of body types as ideal; movements such as the body positivity (#bopo) movement encourage women of all body shapes, sizes, ages, and colors to see past cultural beauty ideals to love and accept their bodies as they are (Cohen et al., 2019). While movements such as these are a welcome step towards expanding cultural definitions of beauty, they still center around the idea that feeling beautiful is central to self-acceptance.

The potential to gain structural empowerment through a focus on appearance may lead some women to self-objectify, and media that make women feel like they have strategies for improving appearance may be perceived as empowering even if they increase self-objectification, as was demonstrated in this project. This may be particularly true for the samples used in Study 1 and Study 3, which were largely composed of college students. College students are at an age that is most ideal for current beauty standards, and are at the prime of their reproductive years. As such, objectification and empowerment may be especially correlated for this group. At the same time, self-objectification leads to an overall decrease in task performance (Fredrickson et al., 1998; Hebl, King, & Lin, 2004; Quinn et al., 2006). Thus, while self-objectification in circumstances in which women feel physically attractive may be accompanied by feelings of empowerment, performance on tasks that do not depend on observer judgments (such as the public speaking task used by Couture Bue and Harrison, 2019) may suffer in spite of these feelings.

### **Limitations and Future Directions**

When planning the advertising experiment in Chapter 4, my initial plan was to pair objectifying photos with either empowerment or objectifying captions. I came to two realizations while searching for imagery and captions to use as stimuli: First, I realized that it is challenging

to locate media images that do not objectify women in some way, particularly when the images are taken from advertising. Second, I found that while it was fairly intuitive to pair an objectifying caption with an ambiguously empowering photo, placing an empowerment-themed caption with a traditionally passive, sexually objectifying photo created an entirely different effect. Such pairings (see example below) came across to me, my advisors, and my team of research assistants as sarcastic and even comical. I noticed that it was much easier to objectify an "empowered" woman with text than to empower an objectified woman with text. This led me to choose ambiguously empowering photos that were not overtly objectifying. Photos used for ETAs in Chapter 4 reflected industry norms, and as such, they contained visual elements of both empowerment and objectification.



**Figure 5-1**

*Example of Empowerment-Themed Caption Paired with Highly Objectifying Image*

When designing Study 3.2, I also considered using video campaigns instead of still images, but chose to use still images due to photo-tagging limitations associated with eye-tracking studies. These still images are representative of print-based ETAs, but they are different from video ETAs in a few notable ways, including the ability to evoke emotion through music in

video advertisements, and the inability to show active, moving bodies in print campaigns. While not tested in this project, music may serve to enhance the emotions associated with empowerment-themed campaigns. Future work should explore the use of still versus moving imagery, text versus verbal empowerment messages, and the independent effect of music on felt empowerment.

A fundamental limitation of this dissertation is that the results primarily speak to media images that *did not* empower women, and provide little information about alternative images that would better support empowerment-themed text. The fact that objectification and empowerment did not correlate with each other also makes it challenging to identify the mechanism that limited the empowering potential of the visuals. Future work should aim to determine the types of photos of women that are best paired with empowering text to increase women's felt empowerment upon viewing them.

Finally, while the lexical decision task used in Study 1 was intended to provide simultaneous and comparable measurements of self-objectification and empowerment, it also introduced unforeseen confounds. Study 1 supplied evidence that objectifying advertising increases cognitive load, so implicit measures of self-objectification violate the assumption of implicit measurement (i.e., that schema activation will always be reflected in quicker response times). Because of this, implicit measures that rely on reaction times may not be suitable measures for self-objectification.

### **Concluding Thoughts**

This project explored the effects of empowerment-themed advertising imagery and language (both spoken and textual) on women's felt empowerment and self-objectification, demonstrating that the advertising images used in contemporary “empowerment” campaigns are

largely ineffective at empowering women. It also provided a way to quantify felt empowerment and, it is hoped, increased our understanding of visual processing of idealized media images and messages. As a practice implication, companies considering the use of ETAs in advertising campaigns should put more effort into their image development if their primary goal is, in fact, to empower women.

Felt empowerment is useful to individuals with adequate structural empowerment, as increases in felt empowerment can motivate them to take on challenges that they would not have attempted otherwise. Increases in felt empowerment can also be useful for individuals who lack structural empowerment, as feeling empowered may help them advocate for the resources they need. Ultimately though, individuals must be equipped with both felt empowerment and structural empowerment to create real change in power; either one alone is insufficient. As a word of caution, feeling empowered is largely an individual-level construct, but the burden of gaining power should not fall on disadvantaged groups. An individual who feels empowered but has no access to resources will likely only feel empowered in the short term, as inadequate resources make it difficult to achieve challenging goals. Creating felt empowerment is most impactful when structural resources are in place, and campaigns seeking to empower disadvantaged groups should pair empowering messages with access to structural empowerment to gain maximum impact.

While the captions tested in this project served to empower women, they were no longer effective when paired with the photos. The photos used in this project were largely of fit-ideal women in athletic contexts. Media messages seeking to empower women should explore the use of other imagery, including women of average attractiveness, or those who do not exemplify current beauty ideals. Body positivity messages and messages that help women become more



confident in their appearance may be empowering for women in the short term, but messages that focus on appearance they may have negative consequences associated with self-objectification in the long-term, similar to the outcomes associated with empowerment via self-sexualization (Liss et al., 2010). For this reason, those seeking to empower women should use caution before employing appearance-based messages. In conclusion, companies seeking to empower women through advertising should consider the implications of the imagery used in their campaigns, and consider alternatives to current practices if their primary goal is to empower women.

**Table 5-1**

*Zero-Order Correlation Table Showing Relationship Between Felt Empowerment and Aspects of Structural Empowerment (SE) in Study 2*

	1	2	3	4	5	6	7	8	9	10	11	12
<i>M</i>	31.02	2.65	6.79	6.29	6.76	6.85	8.04	7.02	7.59	6.10	6.24	6.18
<i>(SD)</i>	(22.96)	(.92)	(1.26)	(2.11)	(2.06)	(2.35)	(1.69)	(1.48)	(2.17)	(2.49)	(2.21)	(1.92)
1. AECL-24	--	.12*	.39**	.36**	.19**	.18**	.04	.33**	.20**	.16**	.32**	.41**
2. SE Life Events		--	.46**	.57**	.16**	.25**	.11*	.23**	.16**	.20**	.52**	.31**
3. SE Ladder Exercise			--	.73**	.58**	.63**	.54**	.59**	.58**	.50**	.76**	.61**
4. Geography				--	.31**	.35**	.22**	.38**	.25**	.26**	.73**	.48**
5. Gender					--	.29**	.31**	.30**	.27**	.14**	.33**	.27**
6. Race/Ethnicity						--	.48**	.26**	.29**	.16**	.37**	.21**
7. Citizenship Status							--	.28**	.34**	.11*	.23**	.13*
8. Intelligence								--	.29**	.18**	.40**	.38**
9. Sexual Orientation									--	.19**	.27**	.29**
10. Religion										1	.34**	.20**
11. Social Class											1	.50**
12. Attractiveness												1

\* $p < .01$ . \*\* $p < .001$ .

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## APPENDICES

### Appendix A:

#### AECL Instructions and Word List

Please indicate the extent to which you *typically* feel the following adjectives describe you.

	Not at All			A Moderate Amount			A Great Deal
	1	2	3	4	5	6	7
1. Defeated*							
2. Capable							
3. Weak*							
4. Incompetent*							
5. Strong							
6. Mighty							
7. Ineffective*							
8. Exploited*							
9. Useless*							
10. Secure							
11. Decisive							
12. Effective							
13. Leader							
14. Insecure*							
15. Commanding							
16. Timid*							
17. Inept*							
18. Able							
19. Subordinate*							
20. Assertive							
21. Inferior*							
22. Charismatic							
23. Feeble*							
24. Oppressed*							
25. Powerful							
26. Influential							
27. Confident							
28. Bold							
29. Delicate*							

### 30. Indecisive\*

Scores are calculated by adding up the total for disempowerment words and then subtracting this from the total score on empowerment words. Positive scores represent relatively higher endorsement of empowerment than disempowerment. Disempowerment words indicated with an asterisk.

## Appendix B:

### Lexical Decision Task Word List

**Table A-1**

*Full list of words used in the Lexical Decision Task (Study 2)*

Empowerment	Objectification	Neutral
Empowered	Attractive	Cloudless
Commanding	Beautiful	Cheerful
Strong	Blonde	Dazed
Leader	Flawless	Distant
Decisive	Freckled	Extensive
Independent	Glamorous	Honorary
Secure	Gorgeous	Humid
Skilled	Heavy	Instructional
Qualified	Hideous	Intangible
Bold	Loveliest	Irate
Assertive	Lovely	Ironic
Fierce	Overweight	Irrelevant
Free	Petite	Jittery
Effective	Pimpily	Linguistic
Confident	Polished	Ripe
Able	Pretty	Scary
Mighty	Shapeless	Sleepy
Influential	Slim	Smoothest
Impressive	Ugly	Specific
Dynamic	Fashionable	Spontaneous
Dominant	Curvy	Reflexive
Compelling	Breast	Wacky
Capable	Deformed	Sudden
Superior	Sexy	Vast



## Appendix C:

### Stimuli Used in Eye-Tracking Studies

**Figure A-1.**

*Photo 1: Sample Self-Photo for Study 3.1 (Front)*



**Figure A-2**

*Photo 2: Sample Self-Photo for Study 3.1 (Side)*



## Advertising Study Stimuli:

Figure A-3

*Stimuli Used in Study 3.2 EC Condition*



*'Even if it makes others  
uncomfortable,  
I WILL LOVE WHO I AM.'*

**#GirlsCan**  
CHANGE THE WORLD

I'M  
MAKING  
MYSELF  
STRONG

**'YOU ONLY REGRET THE THINGS  
YOU DON'T DO.'**  
DIANE VON FURSTENBERG  
*#ShineStrong*

Figure A-4

*Stimuli Used in Study 3.2 OC Condition*



iridescent new shades that  
stay luminous!  
OUTLAST HAIRCOLOR.

FLAWLESS, LIGHTWEIGHT MAKEUP  
THAT HOLDS,  
BEAUTIFUL ALL DAY LONG  
*#InstaFlawless*

I'M  
MAKING  
MYSELF  
*Hot*

**#ReadySet**  
GORGEOUS IN AN INSTANT

**Figure A-5**

*Stimuli Used in Study 3.2 Photo Condition*













**Figure A-6**

*Stimuli Used in Study 3.2 EC + Photo Condition*



When the world calls him Boss,  
& the world calls you bossy,  
**WHIP IT.**

When speaking his mind is  
persuasive & speaking  
your mind is pushy,  
**WHIP IT.**

Don't let labels hold you back.  
**BE STRONG AND SHINE**

*don't let LABELS hold you back.*  
**BE STRONG & SHINE.**  
**#WHIPIT**

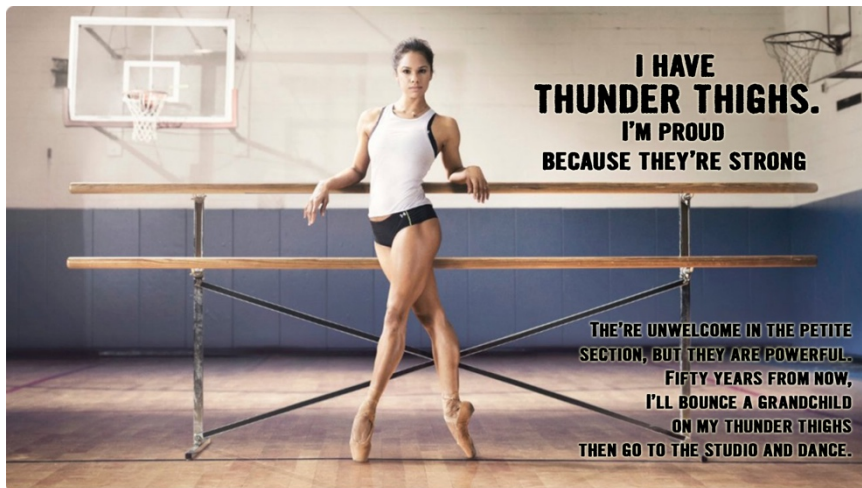
**I'M ADDICTED TO SPORTS**  
YOU COULD NEVER TELL THAT I WAS ONCE  
*an ordinary girl*

**AT FIRST IT WAS JUST FOR FUN.**  
**I'D RUN DURING RECESS**  
I'd run when I was at the beach,  
there was no way out  
ALL I CAN DO IS RUN, RUN, RUN





Pink? Not for me. Ruffles, no thanks.  
**I break rules. I prefer it modern.**  
Dare to Dance by Nike allows to  
custom design my shoes so I can dance with my own style.  
With these shoes, I can choose whatever works for me.  
Do It modern. Do It me. Do It Nike.



**I HAVE  
THUNDER THIGHS.**  
I'M PROUD  
BECAUSE THEY'RE STRONG

THEY'RE UNWELCOME IN THE PETITE  
SECTION, BUT THEY ARE POWERFUL.  
FIFTY YEARS FROM NOW,  
I'LL BOUNCE A GRANDCHILD  
ON MY THUNDER THIGHS  
THEN GO TO THE STUDIO AND DANCE.



**"I AM young, I AM free,  
I AM creative,  
I AM ME"**

**#GirlsCan**







## Figure A-7

### *Stimuli Used in Study 3.2 OC + Photo Condition*



The figure consists of three separate advertisements for CoverGirl products, arranged vertically. The top advertisement features a woman with long, dark, wavy hair, with text promoting 'COVERGIRL LIP PERFECTION'. The middle advertisement shows a woman in a boxing ring, with text promoting 'A BLAST of SHIMMER #SHINE'. The bottom advertisement features a woman in a black sports bra and patterned leggings, with text promoting 'GO TOPLESS!' and 'NO TOP COAT NEEDED. NEWOUTLAST STAY BRILLIANT GLOSS'.

It's a perfect collision of color & moisture. In a **SINGLE STROKE**, lips are enhanced with rich, rewarding color that lasts all day. **HOW PERFECT!**

There is such a thing as perfection. **COVERGIRL LIP PERFECTION**

*Lips* **SCULPTED** and defined. **A BLAST of SHIMMER**  
**#SHINE**

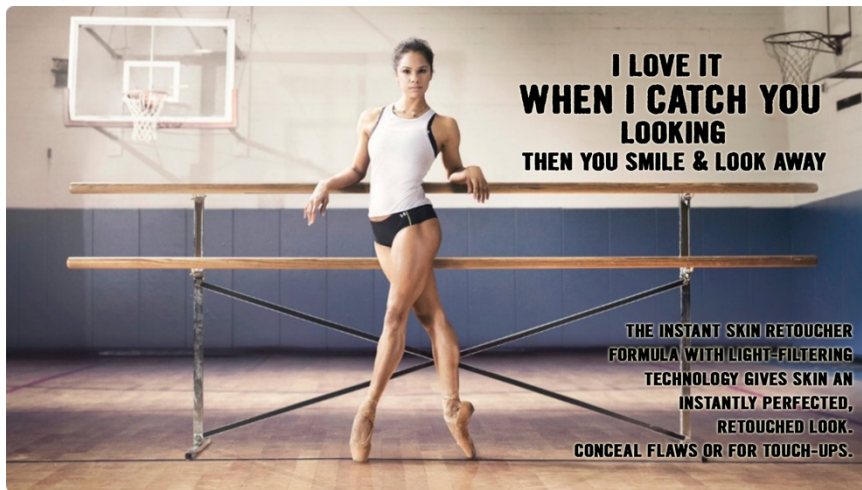
**GO TOPLESS!**  
AS LONG AS A WEEK OF *high gloss color!*

**NO TOP COAT NEEDED. NEWOUTLAST STAY BRILLIANT GLOSS**  
Nails gone wild! check out our new hot nailart at [www.youtube.com/covergirl](http://www.youtube.com/covergirl)  
easy, breezy, beautiful COVERGIRL





the colorful smoky eye + intense pencil liner?  
**now you're really smokin'!**  
 new liquiline blast + smoky shadowblast  
 Start with the colorful smoky eye. Then waterproof liquiline blast gives the intensity and staying power of a liquid with the ease of a pencil. Try all six smokin' combinations!



**I LOVE IT  
 WHEN I CATCH YOU  
 LOOKING  
 THEN YOU SMILE & LOOK AWAY**

THE INSTANT SKIN RETOUCHER  
 FORMULA WITH LIGHT-FILTERING  
 TECHNOLOGY GIVES SKIN AN  
 INSTANTLY PERFECTED,  
 RETOUCED LOOK.  
 CONCEAL FLAWS OR FOR TOUCH-UPS.



**LIPS** sculpted, **LIPS** defined  
**LIP** sculpting  
**LIPSTICK**

*#ShineBlast*

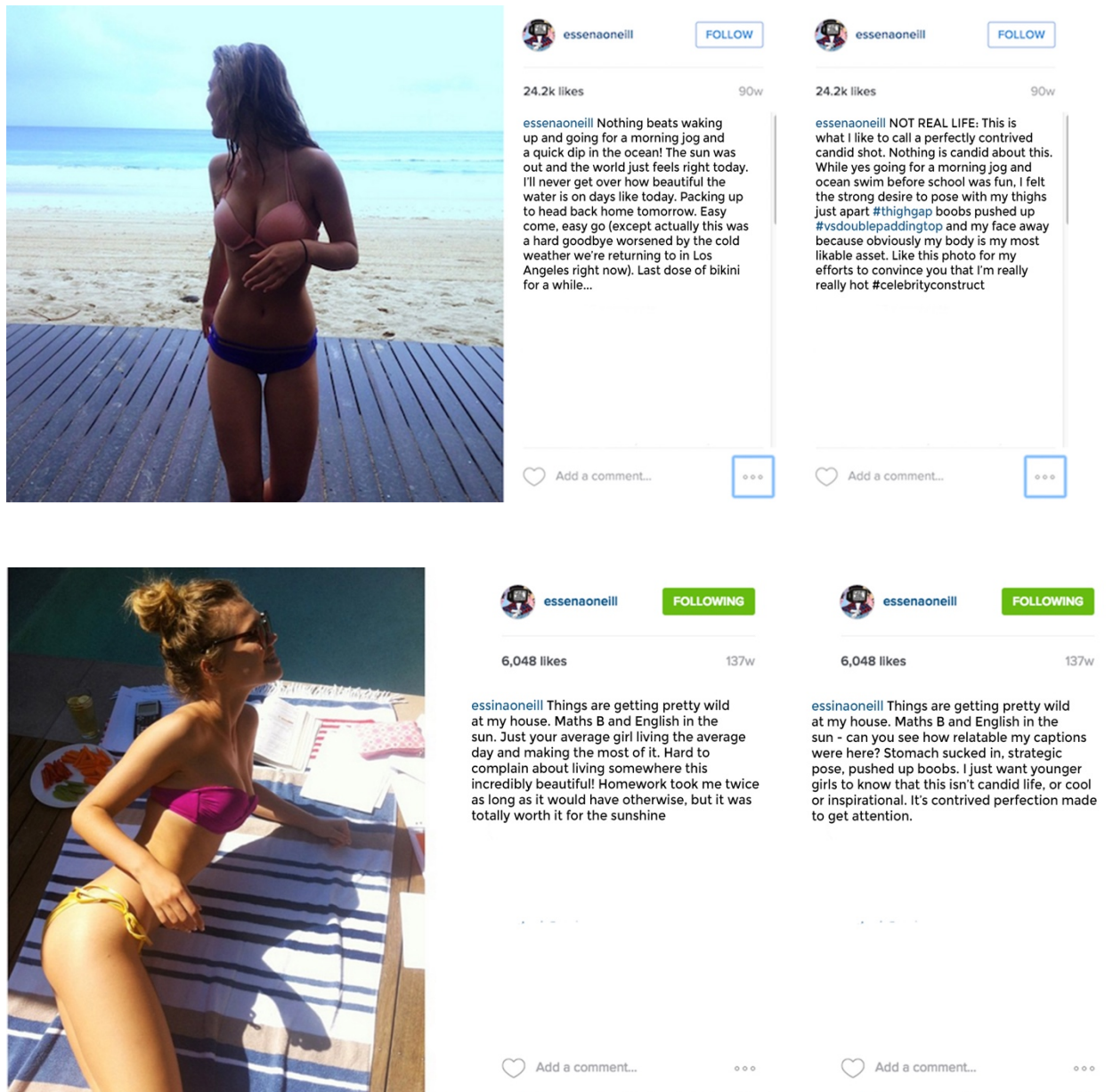







Figure A-8

Study 3.3 Stimuli








 **essenaoneill**

23.1k likes 77w

**essenaoneill** I ate sunshine for breakfast... You can find me at the corner of windswept and happy. Thanks to my little sister for capturing this moment! Beautiful day, beautiful beaches, beautiful memories. These are the moments to cherish always. #forever

 **essenaoneill**

23.1k likes 77w


**essenaoneill** NOT REAL LIFE - took over 100 pics in similar poses trying to make my stomach look good. Would have hardly eaten that day. Would have yelled at my little sister to keep taking them until I was somewhat proud of this. Yep so totally #goals



 **essenaoneill** [FOLLOW](#)

14.7k likes 90w


**essenaoneill** Oh hey IG it's been awhile (I'm moving AND was sick) so here's a close up of my face taken with the new iPhone portrait mode. Can't decide if I like or if it looks like a cheesy high school graduation headshot. What are your thoughts? Tell me in the captions below if you like it! Lashes @treatyourself\_studios

 **essenaoneill** [FOLLOW](#)

14.7k likes 90w

**essenaoneill** "Please like this photo. I put on makeup, curled my hair, tight dress, big uncomfortable jewellery... Took over 50 shots until I got one I thought you might like, and then edited this one selfie for ages on several apps- just so I could feel some social approval from you." THERE IS NOTHING REAL ABOUT THIS PHOTO. #celebrityconstruct




 **essenaoneill** [FOLLOW](#)

16.1k likes 92w

**essenaoneill** Take a moment to live in the sunshine. Soak up the beauty in your life. Life isn't perfect, but if you appreciate the small things everyday big things will happen. It's about short shorts, big hats, cute tops and being true to yourself. It's about creating your own style and not being afraid to shine. Wear the clothes that make you feel good in your skin and embrace the beauty within yourself. This outfit is one of my favorites because it's just so...me. Happy, quirky, and sweet but a little edgy. I have a passion for fashion (hah), and I love getting to share all these little moments with all of you. Thanks for following!

♡ Add a comment... ○○○

 **essenaoneill** [FOLLOW](#)

16.1k likes 92w

**essenaoneill** NOT REAL LIFE: paid for this photo. If you find yourself looking at "Instagram girls" and wishing your life was their's... Realise you only see what they want. If they tag a company 99% of the time it's paid. Nothing is wrong with supporting brands you love (for example I proudly would promote Eco sheets or a vegan meal in exchange for money as its business for a purpose to me). BUT this "" this has no purpose. No purpose in a forced smile, tiny clothes and being paid to look pretty. We are a generation told to consume and consume, with no thought of where it all comes from and where it all goes.

♡ Add a comment... ○○○



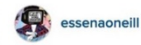
28k likes

75w

essenaoneill Just yo average girl that eats waaaay too much fruit and wears too many rings. Today I feasted on about 600 cal's worth of dried mango, then about 800 cal's worth of juicy oranges, and planning on just baking some potatoes in spices with rice for dinner, with some crispy lettuce. What are some of your favorite cheat meals? Share below! OHHHHH and before I forget, I'm planning on buying an easy to use, good quality and smallish vlogging camera this afternoon, thinking go pro...Any suggestions???

♡ Add a comment...

...



28k likes

75w

essenaoneill Was paid \$400 to post a dress. That's when I had maybe 150K followers, with half a million followers, I know of many online brands (with big budgets) that pay up to \$2000 per post. Nothing is wrong with accepting brand deals. I just think it should be known. This photo had no substance, it was not of ethical manufacturing (I was uneducated at the time). SOCIAL MEDIA IS NOT REAL is my point. Be aware what people promote, ask yourself, what's their intention behind the photo?

♡ Add a comment...

...



FOLLOW

16.1k likes

92w

essenaoneill Though all across the world we roam, there's no place quite like home sweet home <3



FOLLOW

16.1k likes

92w

essenaoneill Massive push up bra can distort your whole figure. I was 15 here. Don't be fooled.





31.3k likes

73w

**essenaoneill** LOVE THIS DRESS - This backless dress is one of my favorites! I feel so glamorous in it, and it hangs close in all the right places.  
MAKE IT YOUR FAVORITE TOO - [www.angelp perfectdresses.com](http://www.angelp perfectdresses.com)

♡ Add a comment...



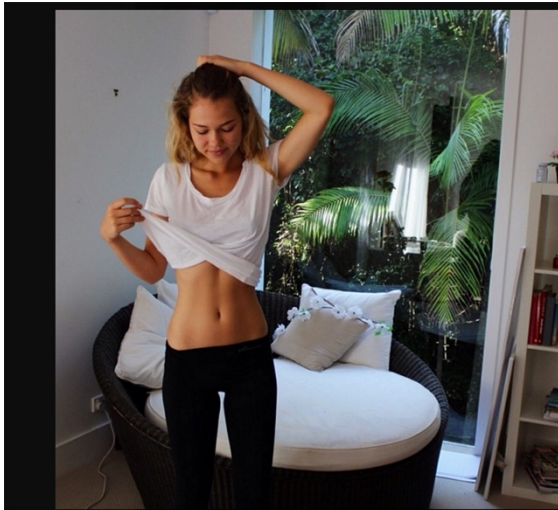
essenaoneill

31.3k likes

73w

**essenaoneill** NOT REAL LIFE - I didn't pay for the dress, took countless photos trying to look hot for Instagram, and the formal made me feel incredibly alone.  
BEHIND THE IMAGE COMING SOON - [www.letsbegamechangers.com](http://www.letsbegamechangers.com)

♡ Add a comment...



25.4k likes

79w

**essenaoneill** You gotta want it. More than animal style fries. It's not just about one workout, one meal...this is about eating right everyday. Small choices add up to make big differences.

♡ Add a comment...



essenaoneill

25.4k likes

79w

**essenaoneill** The only thing that made me feel good that day was this photo. How deeply depressing. Having a toned body is not all we as human beings are capable of.

♡ Add a comment...



FOLLOW

12.3k likes

114w

**essenaoneill** If you consider your workout clothes almost more important than your workout (like I do), highly suggest you visit @shopavocado\_activewear store in Venice Beach and scope it out ☺ They have the most comfortable workout clothes and will help you find exactly what you are looking for. Now I won't go anywhere else! Seriously, they helped me find this miracle of sportsbra and now I basically only take it off to wash it (gross, I know, but I basically live in this bra.  
(Address: 1348 Abbot Kenney Blvd, Venice CA)



essenaoneill

FOLLOW

12.3k likes

114w

**essenaoneill** Paid promotion of a tanning product. Only wore workout wear for the photo. Who does this inspire? To have to be tiny to be healthy? To have to be born into a genetically small frame and win the genetic lottery? To have to paint your body and face to look better for a photo, for the "real world". If our world is so real, why do we feel the need to change our outward appearances? Social expectations and social approval. There is more to the human race than looking "hot".

**Figure A-9**

*Study 3.2 AOI Tagging Example*



## **Appendix D:**

### **Procedure Protocol for Eye-Tracking Studies**

#### Contributors:

Lindsey Burnside

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Megan Tobin

Leigh Yeh

Pravalika Jarugula

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# RA Requirements during Data Collection

Each appointment requires only one RA, but the RA must be female. Because this study is about body image and advertising, RAs are asked to maintain a “neutral presence” during data collection to avoid priming “body awareness” and biasing the participant:

- **Mute colors**
  - No bright or neon-colored clothing
  - Makeup is generally okay, but nothing bright, dramatic, or trendy
- **Loose-fitting clothes that do not accent body shape**
  - Nothing tight to the body
  - Nothing low-cut or high-cut
  - No open-back shirts or crop-tops
  - No leggings, jeggings, ripped jeans, or yoga pants
- **No text or logos on clothing**
  - No logos generally (even U-M)
  - No sorority/fraternity or club/hobby/team gear (letters, symbols, slogans)
- **No non-essential accessories**
  - Prescription glasses are fine
  - Accessories worn for religious or sentimental purposes are fine
  - Generally remove these items
    - Sunglasses
    - Rings
    - Necklaces
    - Bracelets
    - Earrings

The goal is to minimize the impact of our personal style on the participant. As always, please exercise your judgement in meeting this goal. If you feel uncomfortable with these requirements, please inform a supervisor. RAs may choose to bring a change of clothes just for data collection times.

# Running a Participant - Script

## INTRODUCTION

*Location: First floor Lobby*

**Hi. I'm \_\_\_\_\_. Are you \_\_\_\_ [Participant First Name] \_\_\_\_? Are you here for the Fashion/Advertising and Social Media Study?**

*(HUM00124910)*

**The study room is downstairs, would you like me to show you the restroom before we begin?**

**Follow me to the study room.**

## OBTAINING CONSENT

*Location: Basement, Room 228 (Participant Room)*

**Please have a seat (RA should sit as well). Thank you for agreeing to participate in our study. This is a study that examines how we process media content such as advertisements and social media. In order to test this question, we will ask you to view some images while an eye tracker records your eye movements. We'll also have you look at pictures of yourself and complete some surveys.**

**This study should take about an hour to complete.**

**All of your responses are completely confidential, and you can choose to end the study at any time without any penalty. Please let me know if you want to stop the study or if you have any concerns. Do you have any questions?**

Go through the consent form with the participant, summarize the sections.

**Please fill out this informed consent form and let me know if you would like a copy.**

**(Give copy at end of study. Place signed consent in "signed consent" shelf, keep clipboard.)**

## POWER OFF ELECTRONICS

**Since we're using special equipment to track eye gaze, we ask our participant to turn off any electronic devices they are wearing to avoid interfering with the equipment. I'll remind you at the end of the study to turn everything back on, but could you power down your phone and remove any other electronic devices, like fitbits, smartwatches, and so on?**

*(Medical devices are fine. If they won't power down, then request they silence or go into airplane mode)*

*(Medical devices are fine. If they won't power down, then request they silence or go into airplane mode)*

## VISION CORRECTION

*(Make sure tech log is open and maximized before starting)*

**First, I have a few questions about your vision. We can look at the questions together on my computer.**

(fill in questions on tech log)

**Do you normally wear vision correction, such as glasses or contacts, on a typical day? If so, what kind do you wear most often?**

**Will you need to wear vision correction today, such as glasses or contacts? If so, what kind?**

*If bifocal/progressive/transition lenses: The eye tracker sometimes has trouble with that kind of glasses. Can you see the computer screen without wearing your glasses? Would you be willing to do the study without them on? You can keep them on until we get the computer portion of the study.*

(Turn off monitor)

## TAKING PICTURES

**Next, we'll take a couple photos of you. Only you and the researchers will see your photos. We need everyone to stand in the same way for the photos, so I'll give you instructions.**

*If wearing jacket/vest/loose fitting and easily removed clothing: Please remove your jacket for the photos. You can put it back on after.*

*If hair is down/loose or covering face: We need your hair to be back and out of your face for the photo and later for the eye tracker. I have some hair ties, pins, and headbands you can use if you need some.*

(Show/give participant mirror.)

**Now we will take photos of you from two angles, one facing front and one from the side. I'll read instructions to you for each picture.**

(Move participant chair so that it is out of the frame for pictures. Set up camera on the 3

black triangles. Ensure flash is open and SD card is in.)

**Give me just a minute to adjust the camera.**

*If participant asks about smiling: You can do whatever feels more natural for you. It's your choice.*

*\*NOTE: Do not give feedback on the photo itself, positive or negative. If the photo seems unflattering say "Oh, I think you might have blinked. Let's take it again."*

- Front pose instructions
  - Step on X
  - Feet shoulder-width apart, centered around X
  - Hands on top of hips
  - Face forward
  - Look into the camera

**Okay, I'll count to 3 before I take each photo. 1...2...3...**

Avoid affirmations (like "great") to signal that you've taken the picture. **Thanks, all set, alright, and okay**

- Side Pose instructions
    - Now turn 90 degrees to your left and face the wall
    - Hands straight at your sides against your legs
    - Feet together on top of the X
    - Look at the wall
- 1...2...3...**

**Thanks. Let me put the camera away.**

*[Move chair back. Put camera back in right corner. Remove SD card. Close door to room for privacy.]*

**START FILLER VIDEO**

**Thanks. Now we'll get ready to do the eye tracking portion of the study. If you're wearing any mascara, eyeliner, or eye shadow, I'll need you to take it off for this portion of the study, though you can put it back on when you're done. I have some makeup remover wipes if you need any and a mirror. Do you have any cosmetic allergies?**

***If yes: Please read the ingredient list of these makeup remover wipes. If you are allergic to any of these ingredients please let me know.***

Note if the participant has cosmetic allergies in the tech log. If they are allergic to something in the wipes, allow them to proceed without removing their makeup.

*If wearing glasses:* **The eye tracker does better with glasses that have been freshly cleaned. I have some eyeglasses cleaner and a microfiber cloth you can use.**

**To start, I'd like you to watch a neutral video for a couple minutes to rest your eyes before calibration. Please have a seat here while I start the video. It doesn't have any sound, so please wait for it to appear. While you're doing that, I'll rotate your photos and get them into the computer program.**

*Start the Filler Video:*

1. *Double-click the "Filler Video" from the desktop (orange cone).*
2. *Press F11 on the keyboard (top row, middle-right) -- full screen mode*
3. *Press Ctrl+H -- minimal interface mode*
4. *Press Alt+N -- move video to participant monitor*

## PREPARE PHOTOS

*While the participant is watching the video, upload pictures to desktop, edit them using the photo editing procedure, and upload them to Tobii Studio.*

## END FILLER VIDEO

**Thanks. I'm going to stop the video now. Please wait there. We can move on in a moment.**

*End the Filler Video:*

1. **Right-click** the orange cone in the taskbar
2. Click "close window"

## EYE TRACKER CALIBRATION

**Okay, now we will calibrate the eye tracker to your vision. We may need to adjust your chair so that the eye tracker can see your eyes, but it also needs to be a comfortable position for you for the rest of the study.**

Click red button labeled "Start Recording" at bottom of Tobii window.

A screen will pop up. In the 'New Participant' tab, name the recording with the participant number and an underscore (e.g., 101\_). Click continue. When the screen pops up, click Alt+N to send screen to participant screen.

Assist participant in adjusting position so both eyes are visible and small white triangle is in the green. Click Alt+N to send it back to your monitor.

Don't click 'Start' yet.

**In a moment, a red ball will move around the screen. I want you to follow it with just your**

**eyes. You can move your head a little, but not too much. We might need to do this a couple times, depending on how well the eye tracker does.**

Click ‘Start’ to begin calibration.

While calibration occurs, go to participant log and reveal their condition. Recalibrate points as necessary, but don’t exceed two recalibrations.

**\*NOTE:** if recalibration is necessary, make sure to emphasize that the *eyetracker* missed or messed up points. Not the participant.

Refer to Calibration Feedback on wall (also in the protocol).

Don’t click ‘Accept’ yet.

**Now, I will let the computer guide you through the study. Instructions will appear on the screen. At times you’ll be asked to use the keyboard and mouse, look at images and videos, and respond to surveys. You don’t need to stay perfectly still, but try not to move too much. Don’t lean on your hand, put your head down, or lean into the screen, for example.**

**Do you have any questions for me?**

**I will be sitting on the other side of this partition, ready to help if you need anything. In a moment, the computer will start.**

*Click Start Recording in Tobii Studio. Enter ‘y’ into the Participant log to reveal the participant condition. Enter the Participant’s ID number followed by an underscore and condition number (e.g., 101\_condition4). Select the correct condition under “Presentation Sequences” in Tobii Studio. Ensure the participant’s eyes are located in the correct position in the box. Click Start Recording. Minimize any other windows on your monitor.*

*[Don’t use the mouse or keyboard during data collection. It may affect the participant’s screen, especially when the participant is taking a survey. Instead, write any notes for the tech log down in the provided notebook. Also avoid making noises that could raise suspicion, i.e. no loud scribbling.]*

## **POST EXPERIMENT (Paid Pool)**

**Alright, now we’re all done. As a thank-you for participating, you’ll receive \$15 -- that’s \$5 for the survey you took at home and \$10 for your participation today. I can also offer you \$2 to help with any parking costs or transportation.**

*[Remove cash from lock-box. Complete payment receipt. If they do not accept the \$2 for parking, cross off the amount. Put receipt back in lock-box.]*

**Are there any belongings that you have left in the room? Remember to turn your phone and other devices back on.**

*[Walk participant to the elevator]*

POST EXPERIMENT (Communication Studies Subject Pool)

**Alright, now we're all done. You will receive a total of 1.5 credit hours for completing the study. Please allow 48 hours for credit to be granted.**

**Are there any belongings that you have left in the room? Remember to turn your phone and other devices back on.**

*[Walk participant to the elevator]*

# Photo Guide

## Rules for photos

1. Photo should capture all of the body (shoes to head should all be visible).
2. Photo should only capture the participant, white backdrop, floor, and black X.
  - a. It should not capture parts of the door, the wall to the side, or the desk.

## Participant Orientation

1. Participants should have photos of them in two different poses.
  - a. **Front Pose.** Participant is facing forward and centered on the black X. Feet should be shoulder width apart. Hands should be on hips. Look into the camera.
  - b. **Side pose.** Participant is facing towards the blank wall. Feet should be together on the black X. Hands should be straight at the sides against their legs. Look at the wall.

## Camera alignment

1. Tripod legs should be placed on the edges of the black triangle in front of the participant room.
2. Check to make sure photo conforms to rules using live preview.
  - a. Note: Actual photo taken has slightly larger dimensions than what is seen during the preview. Always check the photograph once it has been taken.
3. If needed, make adjustments to the tripod positioning so that the photograph adheres to the rules.
  - a. DO NOT change the camera angle and orientation or the tripod height unless absolutely necessary. You should be able to get a good photograph without making any of those changes.



## Photo editing

### Upload and rename photos from the SD card

1. Remove the SD card from the camera
2. Put the SD card in the Transcend SD card reader (USB device plugged into front of your computer)
3. Click Start, then Computer (right side)
4. Click "Removable Disk (E:)" on the left side of the window
5. Double-click the DCIM folder and 100NCD60 folder (or other latest folder by date)
6. Transfer the participant's photos from SD card to the Photos folder on the desktop by selecting the photos, copying, and pasting in Desktop→ Photos.

### Resize photos in Microsoft Office Picture Manager

7. Right-click the file and select Rename. Rename the file using the participant number and pose (e.g., 101 front, 101 side). Be consistent!
8. Right click the image and scroll down 8 rows to the Open With tab
9. Select open with Microsoft Office Picture Manager (First tab)
10. Right click the image and scroll down 5 rows to Edit Pictures
11. Select Rotate and Flip in the options menu that appears
12. Click Rotate right
13. Click the green back arrow at the top left of the options menu
14. Click Resize in the options menu
15. Click Percentage of original width X height:
16. Type in 55 into the box (The first dimension should be below 1980 and the second dimension should be below 1080)
17. Save the image in the Prepped folder inside the Photos folder using "Save As"

### Upload photos to Tobii Studio

18. Upload into Tobii Studio
  - a. In Tobii Studio, if necessary, click the lock symbol (top right) so that it is "unlocked." If a window pops up, click "yes."
  - b. Double-click the Participant Front element
  - c. DO NOT RENAME THE ELEMENT NAME
  - d. Click Browse...
  - e. Locate and select the participant's front image in the Prepped folder in the Photos folder on the desktop
  - f. Click Open
  - g. Click OK on the Image Element Setup window
  - h. Repeat this process for Participant Side element in Tobii Studio

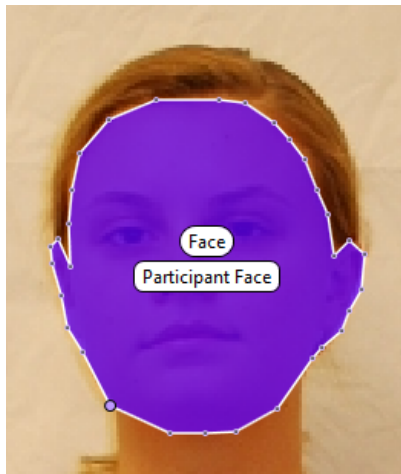
## Appendix E:

### Coding Instructions for Eye-Tracking Body AOIs

**Face:** Draw a polygon that includes the face, ears, and chin, but not the hair or neck.

#### Figure A-10

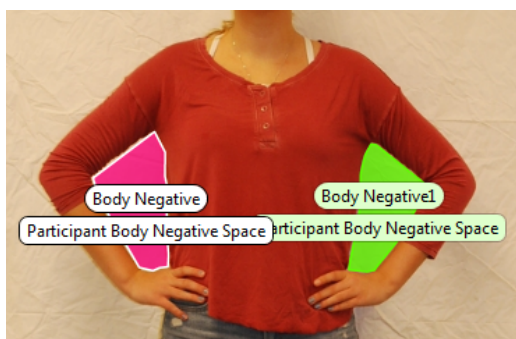
*Face AOI Tagging Example*



**Body negative space:** Space between the arms

#### Figure A-11

*Body Negative AOI Tagging Example*



**Person:** Entire outline of the participant, including the area between the arms and waist.

**Figure A-12**

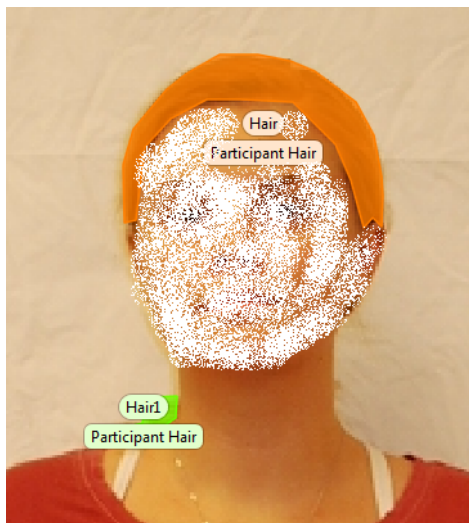
*Person AOI Tagging Example*



**Hair:** Area including hair (make sure not to overlap AOI with face or chest). If multiple regions, add a number after the AOI name as shown below.

**Figure A-13**

*Hair AOI Tagging Example*



**Chest:** from armpit up to shoulder, include neck region, and stop just below bust (including the entire breast area, and a small amount of space below).

**Figure A-14**

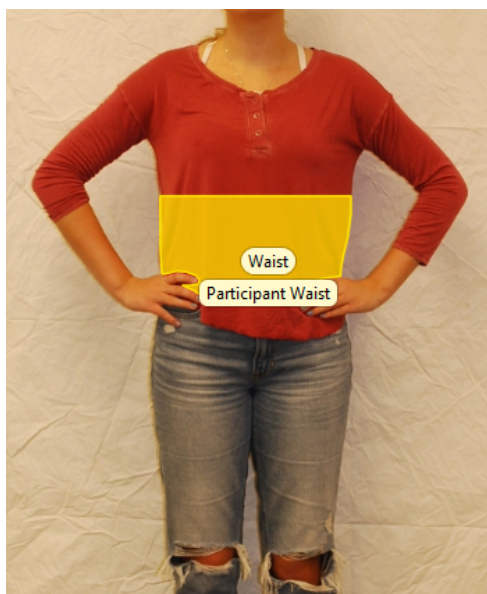
*Chest AOI Tagging Example*



**Waist:** start just below line for chest, and go to the top of the hip bone. You won't be able to see their hip bones in the photos, so it may not be an obvious starting point-- Hips can roughly be identified by the area where hands are placed, although it's often just a bit below. The waist should include the most narrow part (sometimes the widest part of participants with higher BMIs), and should stop where hips start to widen. Do not include area with hands in this AOI.

**Figure A-15**

*Waist AOI Tagging Example*



**Hips:** The hip area will extend from the bottom of the waist line (careful not to overlap), around the fingers (if necessary) and to the crotch of the pants (where the pant splits into two legs). You may need to adjust where the waist stops and where the crotch starts after the initial tagging.

**Figure A-16**

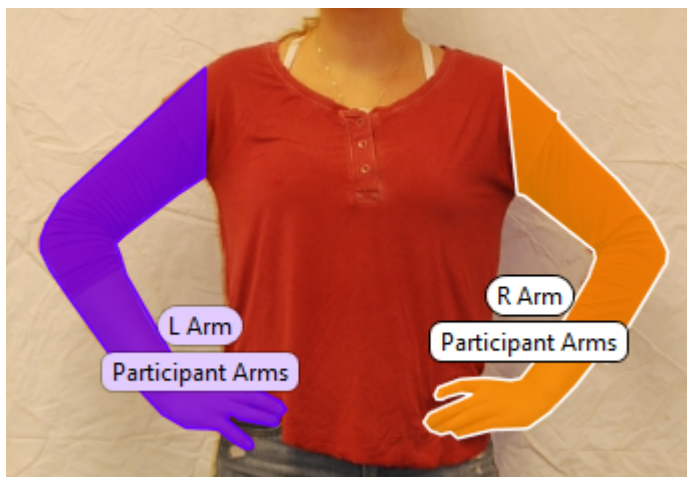
*Hips/Buttocks AOI Tagging Example*



**Arms:** Arms should start where the shoulder tagging line leaves off (careful not to have overlap). The arm includes the hand, and each arm will get its own label (L Arm, R Arm). “L Arm” left is the one on the left side of the photo (making it the participant’s right arm). When fingers are separated, please take the time to tag around fingers as best you can (see below). Again, please be sure that there isn’t overlap with the waist AOI tag.

**Figure A-17**

*Arm AOI Tagging Example*



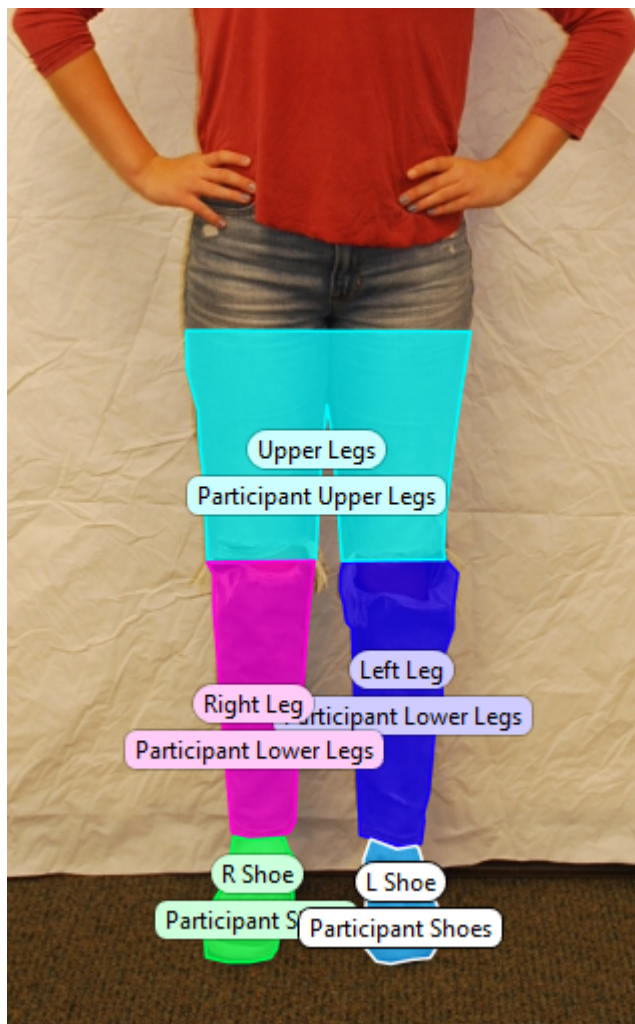
**Upper Legs:** The participant's upper legs will start at the bottom of the "hip AOI tag" (where the pants split into two legs) and will extend to the top of the knee area. The knee will be tagged as part of the lower leg.

**Lower Legs:** You will have 2 AOIs here (L Leg, R Leg). Just like the arms, the L Leg is the one on the left side of the photo (it's the participant's right leg, but we're tagging from your perspective). Stop just above the top of the shoe. This means that participants wearing boots will have smaller lower leg AOI areas than participants wearing sandals, but that's ok.

**Shoes:** Tag 2 AOIs for shoes (L Shoe, R Shoe). This should include any part of the body below where the "lower leg" tag stopped, which means that if the participant is wearing sandals there may be exposed skin showing.

**Figure A-18**

*Leg AOI Tagging Example*



## Appendix F:

### Scale Items Used in Each Study

#### STUDY 1 SCALES AND MEASURES

##### New General Self-Efficacy Scale

Compared to other people, I can do most tasks very well.  
Even when things are tough, I can perform quite well.  
I am confident that I can perform effectively on many different tasks.  
I believe I can succeed at most any endeavor to which I set my mind.  
I will be able to achieve most of the goals that I have set for myself.  
I will be able to successfully overcome many challenges.  
In general, I think that I can obtain outcomes that are important to me.  
When facing difficult tasks, I am certain that I will accomplish them.

##### Self-Objectification Questionnaire (Trait)

#### PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY:

We are interested in how people think about their bodies. The questions below identify 10 different body attributes. We would like you to *rank order* these body attributes from which has the *greatest impact* on your physical self-concept (rank this as a "1"), to that which has the *least impact* on your physical self-concept (rank this as a "10").

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

Please first consider all attributes simultaneously, and record your rank ordering by dragging the choices up or down in the list.

When considering your *physical self-concept*... (1 = greatest impact, 10 = lowest impact)

- \_\_\_\_\_ ...what rank do you assign to physical coordination?
- \_\_\_\_\_ ...what rank do you assign to health?
- \_\_\_\_\_ ...what rank do you assign to weight?
- \_\_\_\_\_ ...what rank do you assign to strength?
- \_\_\_\_\_ ...what rank do you assign to sex appeal?
- \_\_\_\_\_ ...what rank do you assign to physical attractiveness?
- \_\_\_\_\_ ...what rank do you assign to energy level (e.g., stamina)?
- \_\_\_\_\_ ...what rank do you assign to firm/sculpted muscles?
- \_\_\_\_\_ ...what rank do you assign to physical fitness level?
- \_\_\_\_\_ ...what rank do you assign to measurements (e.g., chest, waist, hips)?

Lexical Decision Task (144 word trials)

### **Explicit State Measures**

I felt empowered after watching these advertisements.

These advertisements made me aware of my physical appearance.

### **Demographics**

Age  
Mother education  
Father education  
Income  
Race  
Are you a feminist?  
Height/Weight



## STUDY 2

### Open-ended Questions:

What does it mean to be empowered?

Please list as many adjectives as you can think of that are related to the concept of empowerment.

Please list as many adjectives as you can think of that represent someone who is not empowered.

What is a video, advertisement, or other media message that you find especially empowering? In your response (a short paragraph in the space below) please including the title if you know it, as well as a brief description and the reasons that you found it to be empowering.

### Affective Empowerment Checklist (AECL)

Please indicate the extent to which you **typically feel** the following adjectives describe you.

Defeated	Decisive	Inferior
Capable	Effective	Charismatic
Weak	Leader	Feeble
Incompetent	Insecure	Oppressed
Strong	Commanding	Powerful
Mighty	Timid	Influential
Ineffective	Inept	Confident
Exploited	Able	Bold
Useless	Subordinate	Delicate
Secure	Assertive	Indecisive

Please indicate the extent to which you feel that the following adjectives **represent empowerment**. [same adjective list as prior scale]

Please indicate the extent to which you feel that the following adjectives **represent dis-empowerment**. [same adjective list as prior scale]

### Rosenberg Self-Esteem Questionnaire

On the whole, I am satisfied with myself.  
At times I think I am no good at all.  
I feel that I have a number of good qualities.  
I am able to do things as well as most other people.  
I feel that I do not have much to be proud of.  
I certainly feel useless at times.  
I feel that I am a person of worth.  
I wish I could have more respect for myself.

All in all, I am inclined to think that I am a failure.  
I take a positive attitude toward myself

### **Levenson IPC Scale (Locus of Control)**

The following series of questions relate to your self-concept and worldviews. As you answer, please take your time and be as honest as possible.

Whether or not I get to be a leader depends mostly on my ability.  
To a great extent my life is controlled by accidental happenings.  
I feel like what happens in my life is mostly determined by powerful people.  
Whether or not I get into a car accident depends mostly on how good a driver I am.  
When I make plans, I am almost certain to make them work.  
Often there is no chance of protecting my personal interest from bad luck happenings.  
When I get what I want, it's usually because I'm lucky.  
Although I might have good ability, I will not be given leadership responsibility without appealing to those in positions of power.  
How many friends I have depends on how nice a person I am.  
I have often found that what is going to happen will happen.  
My life is chiefly controlled by powerful others.  
Whether or not I get into a car accident is mostly a matter of luck.  
People like myself have very little chance of protecting our personal interests when they conflict with those of strong pressure groups.  
It's not always wise for me to plan too far ahead because many things turn out to be a matter of good or bad fortune.  
Getting what I want requires pleasing those people above me.  
Whether or not I get to be a leader depends on whether I'm lucky enough to be in the right place at the right time.  
If important people were to decide they didn't like me, I probably wouldn't make many friends.  
I can pretty much determine what will happen in my life.  
I am usually able to protect my personal interests.  
Whether or not I get into a car accident depends mostly on the other driver.  
When I get what I want, it's usually because I worked hard for it.  
In order to have my plans work, I make sure that they fit in with the desires of people who have power over me.  
My life is determined by my own actions.  
It's chiefly a matter of fate whether or not I have a few friends or many friends.

### **Simple Rathus Assertiveness Scale**

Most people stand up for themselves more than I do.  
At times I have not made or gone on dates because of my shyness.  
When I am eating out and the food I am served is not cooked the way I like it, I complain to the person serving it.  
I am careful not to hurt other people's feelings, even when I feel hurt.

If a person serving in a store has gone to a lot of trouble to show me something, which I do not really like, I have a hard time saying "no".  
When I am asked to do something, I always want to know why.  
There are times when I look for a good strong argument.  
I try as hard to get ahead in life as most people like me do.  
To be honest, people often get the better of me.  
I enjoy meeting and talking with people for the first time.  
I often don't know what to say to good-looking people of the opposite sex.  
I do not like making phone calls to businesses or companies.  
I would rather apply for jobs by writing letters than by going to talk to the people.  
I feel silly if I return things I don't like to the store that I bought them from.  
If a close relative that I liked were upsetting me, I would hide my feelings rather than say that I was upset.  
I have sometimes not asked questions for fear of sounding stupid.  
During an argument I am sometimes afraid that I will get so upset that I will shake all over.  
If a famous person was talking in a crowd and I thought he or she was wrong, I would get up and say what I thought.  
I don't argue over prices with people selling things.  
When I do something important or good, I try to let others know about it.  
I am open and honest about my feelings.  
If someone has been telling false and bad stories about me, I see him/her as soon as possible to "have a talk" about it.  
I often have a hard time saying "no".  
I tend not to show my feelings rather than upsetting others.  
I complain about poor service when I am eating out or in other places.  
When someone says I have done very well, I sometimes just don't know what to say.  
If a couple near me in a theater were talking rather loudly, I would ask them to be quiet or to go somewhere else and talk.  
Anyone trying to push ahead of me in a line is in for a good battle.  
I am quick to say what I think.  
There are times when I just can't say anything.

### **Life Orientation Test-Revised (Optimism)**

In uncertain times, I usually expect the best.  
If something can go wrong for me, it will.  
I'm always optimistic about my future.  
I hardly ever expect things to go my way.  
I rarely count on good things to happen to me.  
Overall, I expect more good things to happen to me than bad.

### **Grit-S (Perseverance of Effort Subscale)**

I have achieved a goal that took years of work.  
I have overcome setbacks to conquer an important challenge.  
I finish whatever I begin.  
Setbacks don't discourage me.

I am a hard worker.  
I am diligent.

### **Defeat Scale**

For the next set of questions, please consider your experiences in the last seven days as you respond.

I feel that I have not made it in life.  
I feel that I am a successful person.  
I feel defeated by life.  
I feel that I am basically a winner.  
I feel that I have lost my standing in the world.  
I feel that life has treated me like a punchbag.  
I feel powerless.  
I feel that my confidence has been knocked out of me.  
I feel that I am able to deal with whatever life throws at me.  
I feel that I have sunk to the bottom of the ladder.  
I feel completely knocked out of action.  
I feel that I am one of life's losers.  
I feel that I have given up.  
I feel down and out.  
I feel that I have lost important battles in life.  
I feel powerless.  
I feel that there is no fight left in me.

### **Brief Hopelessness Scale**

The following statements will help us understand your self-concept and worldview. Please take your time responding and remember to be as honest as possible.

All I see ahead of me are bad things, not good things.  
There's no use in really trying to get something I want because I probably won't get it.  
I might as well give up because I can't make things better for myself.  
I don't have good luck now and there's no reason to think I will when I get older.  
I never get what I want, so it's dumb to want anything.  
I don't expect to live a very long life.

### **Trait Robustness of Self Confidence Inventory (Resiliency)**

A bad result in competition has a very negative effect on my self-confidence.  
My self-confidence goes up and down a lot.  
Negative feedback from others does not affect my level of self-confidence.  
If I perform poorly, my confidence is not badly affected.  
My self-confidence is stable; it does not vary much at all.  
My self-confidence is not greatly affected by the outcome of competition.

If I make a mistake it has quite a large detrimental effect on my self-confidence.  
My self-confidence remains stable regardless of fluctuations in my fitness level.

### **New General Self-Efficacy Scale**

Compared to other people, I can do most tasks very well.  
Even when things are tough, I can perform quite well.  
I am confident that I can perform effectively on many different tasks.  
I believe I can succeed at most any endeavor to which I set my mind.  
I will be able to achieve most of the goals that I have set for myself.  
I will be able to successfully overcome many challenges.  
In general, I think that I can obtain outcomes that are important to me.  
When facing difficult tasks, I am certain that I will accomplish them.

### **Workplace Empowerment Scale**

The following series of statements relate to your experience in the workplace. Please reflect on your experiences as a student, or in your most recent workplace.

The work I do is very important to me.  
My job activities are personally meaningful to me.  
The work I do is meaningful to me.  
I am confident about my abilities to do my job.  
I am self-assured about my capabilities to perform my work activities.  
I have mastered the skills necessary for my job.  
I have significant autonomy in determining how I do my job.  
I can decide on my own how to go about doing my work.  
I have considerable opportunity for independence and freedom in how I do my job.  
My impact on what happens in my department is large.  
I have a great deal of control over what happens in my department.  
I have a significant influence over what happens in my department.

### **Sociopolitical Control Scale-R**

The following statements reflect your experiences in social settings. Please choose the extent to which you agree/disagree with the statements.  
I am often a leader in groups.  
I would prefer to be a leader rather than a follower.  
I would rather have a leadership role when I'm involved in a group project.  
I can usually organize people to get things done.  
Other people usually follow my ideas.  
I find it very easy to talk in front of a group.  
There are plenty of ways for people like me to have a say in what our government does.  
I like to work on solving a problem myself rather than wait and see if someone else will deal with it.

I enjoy political participation because I want to have as much say in running the government as possible.

I like trying new things that are challenging to me.

I feel like I have a pretty good understanding of the important political issues which confront our society.

A person like me can really understand what's going on with government and politics.

It makes a difference who I vote for because whoever gets elected will represent my interests.

It is important to me that I actively participate in local issues.

People like me are generally well qualified to participate in political activity and decision making in our country.

Most public officials would listen to me.

A good many local elections are important to vote in.

### **Enjoyment of Sexualization Scale**

It is important to me that (men/women) are attracted to me.

I feel proud when (men/women) compliment the way I look.

I want (men/women) to look at me.

I love to feel sexy.

I like showing off my body.

I feel complimented when (men/women) whistle at me.

When I wear revealing clothing, I feel sexy and in control.

I feel empowered when I look beautiful/handsome.

### **Perceived Privilege**

The following questions relate to your perceptions of personal privilege. For these questions, you will be asked to read a short paragraph, and then you will place yourself on a "ladder". The higher up you are on this ladder, the closer you are to the people at the very top and the lower you are, the closer you are to the bottom.

#### **Geography**

Think of this ladder as representing where people stand in our society. At the top of the ladder are the people who grew up in the ideal place (i.e., city, town, rural area) that had the best resources to help them identify and attain their higher education and career goals. At the bottom of the ladder are the people who grew up in the worst place (i.e., city, town, rural area) that had the worst resources to help them identify and attain their higher education and career goals. The higher up you are on this ladder, the closer you are to the people at the very top and the lower you are, the closer you are to the bottom. Where would you put yourself on the ladder? Please place the slider beside the rung where you think you stand.

#### **Gender**

Think of this ladder as representing where people stand in our society. At the top of the ladder are the people whose gender is the most accepted and valued in our society. At the bottom of the ladder are the people whose gender is the least accepted and valued in our society. The higher up you are on this ladder, the closer you are to the people at the very top and the lower you are, the

closer you are to the bottom. Where would you put yourself on the ladder? Please place the slider beside the rung where you think you stand.

### **Race/Ethnicity**

Think of this ladder as representing where people stand in our society. At the top of the ladder are the people whose race and ethnicity are the most understood, accepted and valued in our society. At the bottom of the ladder are the people whose race and ethnicity are the least understood, accepted and valued in our society. The higher up you are on this ladder, the closer you are to the people at the very top and the lower you are, the closer you are to the bottom. Where would you put yourself on the ladder? Please place the slider beside the rung where you think you stand.

### **Citizenship Status**

Think of this ladder as representing where people stand in our society. At the top of the ladder are the people whose citizenship status (e.g. US citizen, non-US citizen) is the most understood, accepted and valued in our society. At the bottom of the ladder are the people whose citizenship status is the least understood, accepted or valued in our society. The higher up you are on this ladder, the closer you are to the people at the very top and the lower you are, the closer you are to the bottom. Where would you put yourself on the ladder? Please place the slider beside the rung where you think you stand.

### **Intelligence**

Think of this ladder as representing where people stand in our society. At the top of the ladder are the people whose intelligence level is the most ideal and valued in our society. At the bottom of the ladder are those people whose intelligence level is the least ideal and valued in our society. The higher up you are on this ladder, the closer you are to the people at the very top and the lower you are, the closer you are to the bottom. Where would you put yourself on the ladder? Please place the slider beside the rung where you think you stand.

### **Sexual Orientation**

Think of this ladder as representing where people stand in our society. At the top of the ladder are the people whose sexual orientation is the most understood, accepted and valued in our society. At the bottom of the ladder are the people whose sexual orientation is the least understood, accepted and valued in our society. The higher up you are on this ladder, the closer you are to the people at the very top and the lower you are, the closer you are to the bottom. Where would you put yourself on the ladder? Please place the slider beside the rung where you think you stand.

### **Religion**

Think of this ladder as representing where people stand in our society. At the top of the ladder are the people whose religious beliefs are the most understood, accepted and valued in our society. At the bottom of the ladder are the people whose religious beliefs are the least understood, accepted and valued in our society. The higher up you are on this ladder, the closer you are to the people at the very top and the lower you are, the closer you are to the bottom. Where would you put yourself on the ladder? Please place the slider beside the rung where you think you stand.

### **Social Class**

Think of this ladder as representing where people stand in our society. At the top of the ladder are the people whose social class (income level, occupation and education level) is the most ideal, accepted, and valued in our society. At the bottom of the ladder are the people whose social class is the least ideal, accepted and valued in our society. The higher up you are on this ladder, the closer you are to the people at the very top and the lower you are, the closer you are to the bottom. Where would you put yourself on the ladder? Please place the slider beside the rung where you think you stand.

### **Attractiveness**

Think of this ladder as representing where people stand in our society. At the top of the ladder are the people whose physical attractiveness (beauty, body shape, etc.) is the most ideal, accepted, and valued in our society. At the bottom of the ladder are the people whose physical attractiveness is the least ideal, accepted and valued in our society. The higher up you are on this ladder, the closer you are to the people at the very top and the lower you are, the closer you are to the bottom. Where would you put yourself on the ladder? Please place the slider beside the rung where you think you stand.

### **DFP Privilege Scale**

I have been/am a member of a country club

I am at least a second-generation member of my sorority/fraternity.

My parent(s) often hosted parties that were primarily for business associates.

The women in my family have traditionally been in sororities.

The men in my family have traditionally been in fraternities.

We had multiple residences at the same time when I was growing up (e.g., a main house and a lake house, two homes in different areas of the country, and so on).

My parent(s) were/are on the school board.

I was expected to contribute to the family income when I was able to make money.

My family did not own their own home.

My parent(s) did not have a retirement fund.

I had to use public transportation to get to the places I needed to go when I was growing up.

There were times when I was growing up that my parent(s) were unemployed and looking for work.

### **Offline/Online Political Activism (Qualtrics Sample Only)**

We have listed below some offline activities that you yourself, may or may not have engaged in in the past 14 days, regarding **a political campaign or a candidate**.

In the past 30 days, how often have you participated in the following activities in-person (offline)?

Attended a public hearing, town hall meeting, or city council meeting



Called or mailed a public official or politician  
Physically posted or distributed a political sign, banner, button or bumper sticker  
Attended a political event for a candidate  
Participated in a political demonstration or protest  
Volunteered for a political campaign  
Signed a petition about a political issue, topic or candidate  
Donated money to a political party, candidate or political action committee in-person or by mail

We have listed below some online activities that you yourself, may or may not have engaged in in the past 30 days, regarding a **political campaign or a candidate**.

In the past 30 days, how often have you participated in the following activities online?

Donated money to a political party, candidate or political action committee online  
Clicked on a link to join a political group online  
“Signed” an online petition about a political issue, topic or candidate  
Contacted a public official or politician online  
Posted my political view or opinions online  
Volunteered for a politician or political party online

We have listed below some offline activities that you may or may not have engaged in in the past 30 days, regarding a social cause or civic group.

In the past 30 days, how often have you participated in the following activities in-person (offline)?

Volunteered to support a social cause or civic group  
Physically posted or distributed a sign, leaflet or button for a social cause or civic group  
Participated in a demonstration, protest, or march for a social cause or civic group  
Donated money or goods to support a social cause or civic group  
Volunteered to help individuals in need  
Committed a random act of kindness  
Provided money or donations to help individuals in need  
Physically participated in a project to improve your neighborhood  
Attended a meeting to discuss neighborhood problems  
Purchased a product or service in-person, because I agree with the social or political values advocated by the company  
Avoided or boycotted a product or service in-person, because I disagree with the social or political values advocated by the company

We have listed below some offline activities that you may or may not have engaged in in the past 30 days, regarding a social cause or civic group.

In the past 30 days, how often have you participated in the following activities online?

**Donated money to support a civic group or social cause online**

Provided money or donations to help individuals in need  
Donated money to help others through a “crowdfunding” platform (e.g. Kiva or GoFundMe)  
Clicked on a link to join a social cause or civic group online  
“Signed” an online petition for a social cause  
Participated in an online fundraising challenge to help others (e.g. ice-bucket challenge)  
Made changes to your avatar or profile picture in response to a significant social event (e.g. natural disaster, passage of gay marriage)  
Attempted to persuade others to support a social cause online  
Posted my views or opinions about social issues online  
Volunteered to support a social cause or civic group online  
Purchased a product or service online to express agreement with the social or political values advocated by the company  
Avoided or boycotted a product or service online to express disagreement with the social or political values advocated by the company

### **Demographics**

Age  
Gender identification  
Race/Ethnicity  
Height  
Weight  
Annual household income  
Political Orientation  
Investment in Politics  
Narcissism

### **Additional comments**

Thank you so much for participating in our study! Are there any comments or concerns that you would like to share with us?

### STUDY 3 PRETEST (7+ DAYS PRIOR)

#### Affective Empowerment Checklist (AECL)

Please indicate the extent to which you **typically feel** the following adjectives describe you.

Defeated	Decisive	Inferior
Capable	Effective	Charismatic
Weak	Leader	Feeble
Incompetent	Insecure	Oppressed
Strong	Commanding	Powerful
Mighty	Timid	Influential
Ineffective	Inept	Confident
Exploited	Able	Bold
Useless	Subordinate	Delicate
Secure	Assertive	Indecisive

#### New General Self-Efficacy Scale

Compared to other people, I can do most tasks very well.  
Even when things are tough, I can perform quite well.  
I am confident that I can perform effectively on many different tasks.  
I believe I can succeed at most any endeavor to which I set my mind.  
I will be able to achieve most of the goals that I have set for myself.  
I will be able to successfully overcome many challenges.  
In general, I think that I can obtain outcomes that are important to me.  
When facing difficult tasks, I am certain that I will accomplish them.

#### Self-Objectification Questionnaire (Trait)

#### PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY:

We are interested in how people think about their bodies. The questions below identify 10 different body attributes. We would like you to *rank order* these body attributes from which has the *greatest impact* on your physical self-concept (rank this as a "1"), to that which has the *least impact* on your physical self-concept (rank this as a "10").

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

Please first consider all attributes simultaneously, and record your rank ordering by dragging the choices up or down in the list.

When considering your *physical self-concept*... (1 = greatest impact, 10 = lowest impact)

- \_\_\_\_\_ ...what rank do you assign to physical coordination?
- \_\_\_\_\_ ...what rank do you assign to health?
- \_\_\_\_\_ ...what rank do you assign to weight?
- \_\_\_\_\_ ...what rank do you assign to strength?
- \_\_\_\_\_ ...what rank do you assign to sex appeal?
- \_\_\_\_\_ ...what rank do you assign to physical attractiveness?
- \_\_\_\_\_ ...what rank do you assign to energy level (e.g., stamina)?
- \_\_\_\_\_ ...what rank do you assign to firm/sculpted muscles?
- \_\_\_\_\_ ...what rank do you assign to physical fitness level?
- \_\_\_\_\_ ...what rank do you assign to measurements (e.g., chest, waist, hips)?

### **Drive for Thinness Subscale EDI-3**

I eat sweets and carbohydrates without feeling nervous.  
I think about dieting.  
I feel extremely guilty after overeating.  
I am terrified of gaining weight.  
I exaggerate or magnify the importance of weight.  
I am preoccupied with the desire to be thinner.  
If I gain a pound, I worry I will keep gaining.

### **Personal Appearance State Trait Anxiety (PASTA) Scale**

In general, I feel *anxious, tense, or nervous about*:

The extent to which I look overweight	My ears
My thighs	My lips
My buttocks	My wrists
My hips	My hands
My stomach	My forehead
My legs	My neck
My waist	My chin
My muscle tone	My feet

### **Personal Appearance Comparison Scale Revised (PAC-R)**

When I'm out in public, I compare my physical appearance to the appearance of others.  
When I meet a new person (same sex), I compare my body size to his/her body size.  
When I'm at work or school, I compare my body shape to the body shape of others.  
When I'm out in public, I compare my body fat to the body fat of others.  
When I'm shopping for clothes, I compare my weight to the weight of others.  
When I'm at a party, I compare my body shape to the body shape of others.  
When I'm with a group of friends, I compare my weight to the weight of others.  
When I'm out in public, I compare my body size to the body size of others.

When I'm with a group of friends, I compare my body size to the body size of others.  
When I'm eating at a restaurant, I compare my body fat to the body fat of others.  
When I'm at the gym, I compare my physical appearance to the appearance of others.

### **Sociocultural Attitudes Towards Appearance Questionnaire SATAQ-4**

Please read each of the following items carefully and indicate the number that best reflects your agreement with the statement.

Answer the following questions with relevance to your Peers (include: close friends, classmates, other social contacts):

My peers encourage me to get thinner.  
I feel pressure from my peers to improve my appearance.  
I feel pressure from my peers to look in better shape.  
I get pressure from my peers to decrease my level of body fat.

Answer the following questions with relevance to Social Media (include: Facebook, Instagram, SnapChat, Twitter, etc.):

I feel pressure from social media to look in better shape.  
I feel pressure from social media to look thinner.  
I feel pressure from social media to improve my appearance.  
I feel pressure from social media to decrease my level of body fat.

Answer the following questions with relevance to the Media (include: television, magazines, the Internet, movies, Billboards, and advertisements):

I feel pressure from the media to look in better shape.  
I feel pressure from the media to look thinner.  
I feel pressure from the media to improve my appearance.  
I feel pressure from the media to decrease my level of body fat.

Answer the following questions with relevance to your Family (include: parents, brothers, sisters, relatives):

I feel pressure from family members to look thinner.  
I feel pressure from my family members to improve my appearance  
Family members encourage me to decrease my level of body fat.  
Family members encourage me to get in better shape.

### **Body Dissatisfaction Subscale EDI-3**

I think that my stomach is too big.  
I think that my thighs are too large.  
I think that my stomach is just the right size.

I feel satisfied with the shape of my body.  
I like the shape of my buttocks.  
I think my hips are too big.  
I think that my thighs are just the right size.  
I think my buttocks are too large.  
I think that my hips are just the right size.

### **Enjoyment of Sexualization**

Please indicate the extent to which you disagree/agree with the following statements.

It is important to me that men are attracted to me.  
I feel proud when men compliment the way I look.  
I want men to look at me.  
I love to feel sexy.  
I like showing off my body.  
I feel complimented when men whistle at me.  
When I wear revealing clothing, I feel sexy and in control.  
I feel empowered when I look beautiful/handsome.

### **General Media Exposure**

[response options 0 min, 15 min, 30 min, 1 hr, 2 hrs, 3 hrs, 4 hrs, 5+ hrs]

Now we're interested in how much time you spend on the following activities. If you don't know the answer, give your best estimate.

TELEVISION (Not Digitally Recorded TV): About how many minutes or hours do you usually watch television with commercials:

On a typical **weekday** (Monday through Friday):

In the morning, before working hours  
During work hours to before dinner  
From dinnertime to bedtime

On a typical **weekend day** (Saturday or Sunday):

In the morning, before working hours  
During work hours to before dinner  
From dinnertime to bedtime

DVR (digitally recorded TV without commercials): About how many minutes or hours do you usually watch:

On a typical **weekday** (Monday through Friday):

In the morning, before working hours  
During work hours to before dinner  
From dinnertime to bedtime

On a typical **weekend day** (Saturday or Sunday):

In the morning, before working hours  
During work hours to before dinner  
From dinnertime to bedtime

VIDEO GAMES (including console, handheld, computer, etc.): About how many minutes or hours do you usually spend playing:

On a typical **weekday** (Monday through Friday):

In the morning, before working hours  
During work hours to before dinner  
From dinnertime to bedtime

On a typical **weekend day** (Saturday or Sunday):

In the morning, before working hours  
During work hours to before dinner  
From dinnertime to bedtime

INSTAGRAM: About how many minutes or hours do you usually spend using Instagram:

On a typical **weekday** (Monday through Friday):

In the morning, before working hours  
During work hours to before dinner  
From dinnertime to bedtime

On a typical **weekend day** (Saturday or Sunday):

In the morning, before working hours  
During work hours to before dinner  
From dinnertime to bedtime

FACEBOOK: About how many minutes or hours do you usually spend using:

On a typical **weekday** (Monday through Friday):

In the morning, before working hours  
During work hours to before dinner  
From dinnertime to bedtime

On a typical **weekend day** (Saturday or Sunday):

In the morning, before working hours

During work hours to before dinner

From dinnertime to bedtime

### **Objectified Media Exposure Index**

How often do you read the following magazines?

[Never, A few times yearly, A few times monthly, A few times weekly, Daily]

Better Homes and Gardens	Every Day with Rachael Ray	Eating Well
Good Housekeeping	Golf Digest	Motor Trend
Family Circle	Money	Bloomberg Businessweek
People	TV Guide	Field & Stream
Women's Day	Guideposts	Teen Vogue
National Geographic	Bon Appetite	Marie Clair
Sports Illustrated	Prevention	Food & Family
Time	Entertainment Weekly	Boys' Life
Reader's Digest	Women's Health	This Old House
Cosmopolitan	Self	Midwest Living
Southern Living	Rolling Stone	Travel + Leisure
Taste of Home	Golf Magazine	American Hunter
Shape	WebMD	GQ
O, The Oprah Magazine	Country Living	Food & Wine
Glamour	Health	Maxim
Parents	HGTV Magazine	Forbes
Redbook	All Recipes	First for Women
ESPN The Magazine	Ebony	Women's World
American Rifleman	Sunset	Reminisce
Family Fun	Vanity Fair	Dr. Oz The Good Life
Martha Stewart Living	Vogue	Wired
Real Simple	Car and Driver	Scouting
American Baby	Popular Mechanics	Traditional Home
Seventeen	Allure	Ser Padres
The American Legion	The Family Handyman	Fortune
Magazine	Where	People Style Watch
Us Weekly	Weight Watchers	Architctural Digest
Men's Health	Elle	House Beautiful
Smithsonian	Popular Science	Conde Nast Traveler
Cooking Light	Essence	Where GuestBook
Food Network Magazine	Birds & Blooms	Fast Company
InStyle	The New Yorker	

How often do you watch the following TV shows?

Game of Thrones (HBO)

The Walking Dead (AMC)

Pretty Little Liars (ABC)



Westworld (HBO)  
 The Flash (CW)  
 The Big Bang Theory (CBS)  
 Stranger Things (Netflix)  
 Grey's Anatomy (ABC)  
 Friends (NBC)  
 House of Cards (Netflix)  
 The X-Files (Fox)  
 NFL Saturday Night Football  
 Modern Family (ABC)  
 Grey's Anatomy (ABC)  
 Fear the Walking Dead (AMC)  
 Scandal (ABC)  
 How to Get Away with Murder (ABC)  
 The Voice (NBC)  
 Blindspot (NBC)  
 American Horror Story (Fox)  
 NCIS (CBS)  
 American Idol (Fox)  
 Criminal Minds (CBS)  
 The Bachelor (ABC)  
 The Goldbergs (ABC)  
 Survivor (CBS)  
 Chicago Fire (NBC)  
 Black-ish (ABC)  
 The Blacklist (NBC)  
 Scorpion (CBS)  
 Law & Order: SVU  
 The Bachelorette (ABC)  
 Life in Pieces (CBS)  
 Into the Badlands (AMC)  
 Chicago PD (NBC)  
 Quantico (ABC)  
 Lucifer (Fox)

Chicago Med (NBC)  
 Supergirl (CBS)  
 NCIS: New Orleans (CBS)  
 Gotham (Fox)  
 Little Big Shots (NBC)  
 Limitless (CBS)  
 2 Broke Girls (CBS)  
 Shades of Blue (NBC)  
 Once Upon a Time (ABC)  
 Mom (CBS)  
 Family Guy (Fox)  
 Heros Reborn (NBC)  
 The Flash (The CW)  
 Dancing with the Stars (ABC)  
 The Simpsons (Fox)  
 Marvel's Agents of S.H.I.E.L.D. (ABC)  
 NCIS: Los Angeles (CBS)  
 Better Call Saul (AMC)  
 Superstore (NBC)  
 Mike & Molly (CBS)  
 Scream Queens (Fox)  
 Code Black (CBS)  
 Castle (ABC)  
 Fresh off the Boat (ABC)  
 Angel from Hell (CBS)  
 Love & Hip Hop Atlanta (VH1)  
 Criminal Minds: Beyond Borders (CBS)  
 New Girl (Fox)  
 The Muppets (ABC)  
 60 Minutes (CBS)  
 Hawaii Five-O (CBS)  
 Masterchef Junior (Fox)

Real Housewives of Atlanta (Bravo)  
 Last Man Standing (ABC)  
 Elementary (CBS)  
 Rosewood (Fox)  
 Nashville (ABC)  
 Teen Mom II (MTV)  
 Best Time Ever with Neil Patrick Harris (NBC)  
 Bones (Fox)  
 The Amazing Race (CBS)  
 Saturday Night Football (ABC)  
 Hell's Kitchen (Fox)  
 South Park (Comedy Central)  
 Grimm (NBC)  
 The Catch (ABC)  
 American Crime (ABC)  
 Madam Secretary (CBS)  
 Wayward Pines (Fox)  
 Preacher (AMC)  
 Arrow (The CW)  
 The Biggest Loser (NBC)  
 Blood & Oil (ABC)  
 CSI: Cyber (CBS)  
 Dr. Ken (ABC)  
 The Mysteries of Laura (NBC)  
 Person of Interest (CBS)  
 The Real O'Neals (ABC)  
 Empire (Fox)  
 Blue Bloods (CBS)  
 Madam Secretary  
 Downton Abbey (PBS)  
 The Good Wife (CBS)

## **Demographics**

Age  
 Height  
 Weight  
 Race/Ethnicity  
 Household Income  
 Role in family income  
 Education

## POST STUDY 3.2

### Twenty Statements Test (TST)

There are twenty numbered blanks on the page below. Please write twenty answers to the simple question “Who am I?” in these blanks. Just give twenty different answers to this question; answer as if you were giving the answers to yourself- not someone else. Write your answers in the order that they occur to you. Don’t worry about logic or “importance.” WHO AM I?

### Affective Empowerment Checklist (AECL)

Please indicate the extent to which you **currently feel** the following adjectives describe you.

Defeated	Decisive	Inferior
Capable	Effective	Charismatic
Weak	Leader	Feeble
Incompetent	Insecure	Oppressed
Strong	Commanding	Powerful
Mighty	Timid	Influential
Ineffective	Inept	Confident
Exploited	Able	Bold
Useless	Subordinate	Delicate
Secure	Assertive	Indecisive

### POST-STUDY 3

#### **Personal Appearance State Trait Anxiety Scale (PASTA)**

Hair	Feet
Eyes	Hips
Nose	Upper Thighs
Mouth	Legs
Teeth	Abdomen
Complexion	Buttocks
Overall face	Height
Shoulders	Weight
Hands	Overall appearance
Arms	

#### **Sociocultural Attitudes Towards Appearance Questionnaire SATAQ-4**

Please read each of the following items carefully and indicate the number that best reflects your agreement with the statement.

Answer the following questions with relevance to your Peers (include: close friends, classmates, other social contacts):

My peers encourage me to get thinner.  
I feel pressure from my peers to improve my appearance.  
I feel pressure from my peers to look in better shape.  
I get pressure from my peers to decrease my level of body fat.

Answer the following questions with relevance to Social Media (include: Facebook, Instagram, SnapChat, Twitter, etc.):

I feel pressure from social media to look in better shape.  
I feel pressure from social media to look thinner.  
I feel pressure from social media to improve my appearance.  
I feel pressure from social media to decrease my level of body fat.

Answer the following questions with relevance to the Media (include: television, magazines, the Internet, movies, Billboards, and advertisements):

I feel pressure from the media to look in better shape.  
I feel pressure from the media to look thinner.  
I feel pressure from the media to improve my appearance.  
I feel pressure from the media to decrease my level of body fat.

Answer the following questions with relevance to your Family (include: parents, brothers, sisters, relatives):

I feel pressure from family members to look thinner.  
I feel pressure from my family members to improve my appearance  
Family members encourage me to decrease my level of body fat.  
Family members encourage me to get in better shape.

## OBJECTIFIED MEDIA EXPOSURE INDEX

(Independent Sample)

For the first set of questions, we are interested in learning how sexually objectifying the most popular magazines and TV shows are.

*Sexual objectification has been conceptualized as the separating of a person's body, body parts, or sexual functions from his or her identity, or reducing an individual to the status of an object or mere instrument.*

Do you feel confident that you understand what we mean by sexual objectification? (yes/no)

Great! Please click the "next" button when you are ready to begin the survey.

Please only respond for Magazines and TV shows that you are familiar with. If you are unfamiliar with an item or aren't sure how to respond, please choose the response labeled "never seen/don't know."

How frequently is objectifying content present in the following magazines?

How frequently is objectifying content present in the following magazines?

[Never (0) 1 2 3 4 5 6 7 8 9 Always (10) Don't Know]

Better Homes and Gardens	Us Weekly	Vogue
Good Housekeeping	Men's Health	Car and Driver
Family Circle	Smithsonian	Popular Mechanics
People	Cooking Light	Allure
Women's Day	Food Network Magazine	The Family Handyman
National Geographic	InStyle	Where
Sports Illustrated	Every Day with Rachael Ray	Weight Watchers
Time	Golf Digest	Elle
Reader's Digest	Money	Popular Science
Cosmopolitan	TV Guide	Essence
Southern Living	Guideposts	Birds & Blooms
Taste of Home	Bon Appetite	The New Yorker
Shape	Prevention	Eating Well
O, The Oprah Magazine	Entertainment Weekly	Motor Trend
Glamour	Women's Health	Bloomberg Businessweek
Parents	Self	Field & Stream
Redbook	Rolling Stone	Teen Vogue
ESPN The Magazine	Golf Magazine	Marie Claire
American Rifleman	WebMD	Food & Family
Family Fun	Country Living	Boys' Life
Martha Stewart Living	Health	This Old House
Real Simple	HGTV Magazine	Midwest Living
American Baby	All Recipes	Travel + Leisure
Seventeen	Ebony	American Hunter
The American Legion	Sunset	GQ
Magazine	Vanity Fair	Food & Wine

Maxim  
Forbes  
First for Women  
Women's World  
Reminisce  
Dr. Oz The Good Life

Wired  
Scouting  
Traditional Home  
Ser Padres  
Fortune  
People Style Watch

Architectural Digest  
House Beautiful  
Conde Nast Traveler  
Where GuestBook  
Fast Company

How frequently is objectifying content present in the following TV Shows?  
[Never (0) 1 2 3 4 5 6 7 8 9 Always (10) Don't Know]

Game of Thrones (HBO)  
The Walking Dead (AMC)  
Pretty Little Liars (ABC)  
Westworld (HBO)  
The Flash (CW)  
The Big Bang Theory (CBS)  
Stranger Things (Netflix)  
Grey's Anatomy (ABC)  
Friends (NBC)  
House of Cards (Netflix)  
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The Goldbergs (ABC)  
Survivor (CBS)  
Chicago Fire (NBC)  
Black-ish (ABC)  
The Blacklist (NBC)  
Scorpion (CBS)  
Law & Order: SVU  
The Bachelorette (ABC)  
Life in Pieces (CBS)  
Into the Badlands (AMC)  
Chicago PD (NBC)  
Quantico (ABC)  
Lucifer (Fox)  
Chicago Med (NBC)

Supergirl (CBS)  
NCIS: New Orleans (CBS)  
Gotham (Fox)  
Little Big Shots (NBC)  
Limitless (CBS)  
2 Broke Girls (CBS)  
Shades of Blue (NBC)  
Once Upon a Time (ABC)  
Mom (CBS)  
Family Guy (Fox)  
Heros Reborn (NBC)  
The Flash (The CW)  
Dancing with the Stars (ABC)  
The Simpsons (Fox)  
Marvel's Agents of S.H.I.E.L.D. (ABC)  
NCIS: Los Angeles (CBS)  
Better Call Saul (AMC)  
Superstore (NBC)  
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Code Black (CBS)  
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Angel from Hell (CBS)  
Love & Hip Hop Atlanta (VH1)  
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Hawaii Five-O (CBS)  
Masterchef Junior (Fox)  
Real Housewives of Atlanta (Bravo)  
Last Man Standing (ABC)  
Elementary (CBS)  
Rosewood (Fox)

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Wayward Pines (Fox)  
Preacher (AMC)  
Arrow (The CW)  
The Biggest Loser (NBC)  
Blood & Oil (ABC)  
CSI: Cyber (CBS)  
Dr. Ken (ABC)  
The Mysteries of Laura (NBC)  
Person of Interest (CBS)  
The Real O'Neals (ABC)  
Empire (Fox)  
Blue Bloods (CBS)  
Madam Secretary  
Downton Abbey (PBS)  
The Good Wife (CBS)

How often do you read the following magazines?

[Never, A few times yearly, A few times monthly, A few times weekly, Daily]

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Women's Day	Guideposts	Teen Vogue
National Geographic	Bon Appetite	Marie Clair
Sports Illustrated	Prevention	Food & Family
Time	Entertainment Weekly	Boys' Life
Reader's Digest	Women's Health	This Old House
Cosmopolitan	Self	Midwest Living
Southern Living	Rolling Stone	Travel + Leisure
Taste of Home	Golf Magazine	American Hunter
Shape	WebMD	GQ
O, The Oprah Magazine	Country Living	Food & Wine
Glamour	Health	Maxim
Parents	HGTV Magazine	Forbes
Redbook	All Recipes	First for Women
ESPN The Magazine	Ebony	Women's World
American Rifleman	Sunset	Reminisce
Family Fun	Vanity Fair	Dr. Oz The Good Life
Martha Stewart Living	Vogue	Wired
Real Simple	Car and Driver	Scouting
American Baby	Popular Mechanics	Traditional Home
Seventeen	Allure	Ser Padres
The American Legion	The Family Handyman	Fortune
Magazine	Where	People Style Watch
Us Weekly	Weight Watchers	Architectural Digest
Men's Health	Elle	House Beautiful
Smithsonian	Popular Science	Conde Nast Traveler
Cooking Light	Essence	Where GuestBook
Food Network Magazine	Birds & Blooms	Fast Company
InStyle	The New Yorker	

How often do you watch the following TV shows?

[Never, A few times yearly, A few times monthly, A few times weekly, Daily]

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The Walking Dead (AMC)	Modern Family (ABC)	American Idol (Fox)
Pretty Little Liars (ABC)	Grey's Anatomy (ABC)	Criminal Minds (CBS)
Westworld (HBO)	Fear the Walking Dead	The Bachelor (ABC)
The Flash (CW)	(AMC)	The Goldbergs (ABC)
The Big Bang Theory (CBS)	Scandal (ABC)	Survivor (CBS)
Stranger Things (Netflix)	How to Get Away with	Chicago Fire (NBC)
Grey's Anatomy (ABC)	Murder (ABC)	Black-ish (ABC)
Friends (NBC)	The Voice (NBC)	The Blacklist (NBC)
House of Cards (Netflix)	Blindspot (NBC)	Scorpion (CBS)
The X-Files (Fox)	American Horror Story (Fox)	Law & Order: SVU

The Bachelorette (ABC)  
Life in Pieces (CBS)  
Into the Badlands (AMC)  
Chicago PD (NBC)  
Quantico (ABC)  
Lucifer (Fox)  
Chicago Med (NBC)  
Supergirl (CBS)  
NCIS: New Orleans (CBS)  
Gotham (Fox)  
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Shades of Blue (NBC)  
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(ABC)  
The Simpsons (Fox)  
Marvel's Agents of  
S.H.I.E.L.D. (ABC)  
NCIS: Los Angeles (CBS)  
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Angel from Hell (CBS)  
Love & Hip Hop Atlanta  
(VH1)  
Criminal Minds: Beyond  
Borders (CBS)  
New Girl (Fox)  
The Muppets (ABC)  
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Bones (Fox)

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